

Monthly Current Affairs

August - 2020

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POLITY

Issues and challenges pertaining to the federal structure

1. Jurisdictional conflict in the running of Delhi

- » Prelims: Article 239AA and special provisions for the UT of Delhi.
- » Mains: Principle of collaborative federalism and harmonious functioning

Context:

Delhi riot cases:

- The Delhi government's move to appoint prosecutors for conducting the Delhi riot cases in the High Court has been annulled by the Lt. Governor.
- The Lt. Governor referred the issue under Provision Article 239AA (4) to the President stating that there is a difference of opinion between him and the government over this matter.
- In the meantime the Lt. Governor appointed all the prosecutors whose names were submitted by the Delhi Police and thus the State government's list was rejected.

Background:

Articles 239AA:

- Article 239AA of the Constitution of India granted Special Status to Delhi among Union Territories (UTs) in the year 1991 through 69th constitutional amendment by the Parliament.
- It provided a Legislative Assembly and a Council of Ministers responsible to such an assembly. Delhi was named as National Capital Region (NCT) of Delhi.
- As per Article 239AA – Public Order, Police & Land in NCT of Delhi fall within the domain and control of the Central Government which shall have the power to make laws on these matters. For remaining matters of State List or Concurrent List, in so far as any such matter is applicable to UTs, the Legislative Assembly shall have power to make laws for NCT of Delhi.
- As per Article 239AA (4) in the case of a difference of opinion between the Lt. Governor and his Ministers on any matter, the Lt. Governor shall refer it to the President for decision and act according to that decision. In the meantime, if the Lt. Governor thinks that the matter is urgent he can take immediate action on his own.

Government of NCT of Delhi vs. Union of India (2018):

- The Constitution Bench of the Supreme Court in the Government of NCT of Delhi vs. Union of India (2018) dealt with the issue of jurisdictional conflicts between the government of NCT and the Lieutenant Governor (representative of the Union Government).

- The Supreme Court was called upon to determine the extent of powers of the Lieutenant Governor of Delhi.
- The constitutional bench made the following observations:

Representative government for Delhi:

- Based on the argument that if the elected Government of Delhi could not usher in policies and laws over which the Delhi Legislative Assembly has powers to legislate for the NCT of Delhi, then it would ender democratic and representative form of government ineffective in Delhi, the SC ruled that the Lt. Governor is bound to act on the aid and advice of the Council of Ministers except in respect of 'Land', 'Public Order' and the 'Police'.

Executive power with states:

- The Court had held that though the Parliament can legislate for Delhi on any matter in the State List and the Concurrent List (Article 239AA (3)(a)) but the executive power in relation to Delhi except the 'Police', 'Land' and 'Public Orders' vests only in the State government headed by the Chief Minister (Article 239AA (4)).
- It held that the executive power of the Union does not extend to any of the matters which come within the jurisdiction of the Delhi Assembly.

Special status of Delhi:

- The judgment also noted that Delhi being a special category Union Territory there is the need to ensure the harmonious functioning of the Delhi government and the Lt. Governor.

Powers of the Lt. Governor:

- In case of a difference of opinion between the Lt. Governor and the State government, the Lt. Governor can refer a decision taken by the Council of Ministers to the President.
- The Supreme Court had observed that the powers conferred on the Lt. Governor to refer any matter to the president under provision of the Article 239AA (4) did not mean every matter and stated that such power should be used sparingly keeping in mind the standards of Constitutional trust and morality, the principles of collaborative federalism and the concept of Constitutional balance.
- The President is the highest Constitutional authority and his decision should be sought only on constitutionally important issues.

Harmonious functioning:

- The Supreme Court holds that the special Constitutional scheme adopted for the NCT of Delhi requires the Council of Ministers as the representatives of the people and the Lt. Governor as the nominee of the President to function in harmony within the Constitutional parameters.

Concerns:

- There are concerns that the act of the Lt. Governor to refer to the President the issue of appointment of prosecutors has not been in consonance with the principles enunciated in the Supreme Court's 2018 ruling.

Administrative issue:

- Despite the provision available for the Lt. Governor to refer an issue to the President, The Lt. Governor cannot refer routine administrative matters. The Court too had directed the Lt. Governor not to refer to the President, normal administrative matters.
- Reference of the appointment of Prosecutors by the Lt. Governor to the President seems to be a negation of these principles.

Overruling executive powers of state:

- The Lt. Governor cannot totally override the executive decisions of the State government. The Union Government via the Lt. Governor is not empowered to exercise executive authority on a matter which comes within the exclusive jurisdiction of the State government like the appointment of Prosecutors.
- As per the Supreme Court, the appointment of prosecutors is exclusively within the purview of the State government.

Against collaborative federalism:

- The Lt. Governor's action might lead to another flash point in the relations between the Delhi government and the Lt. Governor and go against the constitutional principles of collaborative federalism.

Limitation of the judgment:

- One major limitation of the judgment has been the fact that the judgment failed to clearly delineate the issues in respect of which the Lt. Governor can refer a decision taken by the Council of Ministers to the President in the event of a difference of opinion between the Lt. Governor and the State government.
- If a Lt. Governor, for example, wants to frustrate the efforts of the government, he can declare that there is a difference of opinion on any issue decided by the elected government and refer it to the President. In the meantime, the Lt. Governor stating that the matter is urgent can take immediate action on his own. The State government will be totally helpless in such a situation.

Devolution of powers and finances to the local levels

2. Arunachal groups push for 6th Schedule status

- » Prelims: Sixth schedule states, Provisions.
- » Mains: Need for special status to tribal areas under sixth schedule

Context:

- Political parties and community-based groups are demanding for Arunachal Pradesh to be brought under the ambit of the Sixth Schedule or Article 371 (A) of the Constitution.
- Consequently the Arunachal Pradesh government formed a nine-member committee to discuss the issue of creation of two autonomous councils in the State.

Details:

- There is a demand for two autonomous councils in Arunachal Pradesh.
 - * Mon Autonomous Council (MAC) comprising Tawang, West Kameng and parts of East Kameng districts
 - * Patkai Autonomous Council (PAC) comprising Tirap, Changlang and Longding districts.
- Arunachal Pradesh is currently under the 5th Schedule.

6th Schedule:

- The Sixth Schedule consists of provisions for the administration of tribal areas according to Article 244 of the Indian Constitution.
- The Schedule currently includes 10 autonomous district councils (ADCs) in four northeastern States — Assam, Meghalaya, Mizoram and Tripura.
- Along with ADCs, the Sixth Schedule also provides for separate Regional Councils for each area constituted as an autonomous region.

Difference between 5th and 6th schedule status:

- Arunachal Pradesh is under the Fifth Schedule that does not provide special rights for the indigenous communities, unlike the Sixth Schedule.
- While executive powers of the union extend in scheduled areas with respect to their administration in the 5th Schedule; the 6th Schedule offers greater autonomy for the region.
- While the 5th schedule envisages the creation of Tribal Advisory Council, the 6th Schedule provides for District Councils and Regional Councils with certain legislative and judicial powers.

Functioning of the Indian Judiciary

3. Criminal contempt

- » Prelims: Types of contempt, article 129 and 215 of the Indian constitution

- » Mains: Rationale for contempt law and associated concerns

Context:

- Criminal contempt proceedings against lawyer-activist Prashant Bhushan.

Background:

- Mr. Prashant Bhushan, had recently put out a tweet with a photograph where he criticised the current Chief Justice of India (CJI), S.A. Bobde for riding an expensive motorcycle at a time when the Court is under lockdown.
- A three Judge Bench of the Supreme Court of India, headed by Justice Arun Mishra, took suo motu notice of the tweet and issued notice of contempt of Court to Mr. Bhushan. Mr. Prashant Bhushan's actions were considered undermining the dignity and authority of the Institution of Supreme Court in general, and the office of the Chief Justice of India.
- The Bench has also taken note of earlier tweets by Mr. Bhushan in which he was seen criticizing the previous 4 CJIs. Another citation of contempt has been listed against Mr. Bhushan based on a 2009 statement where he alleged that half of India's last 16 Chief Justices were corrupt.

Types of contempt in India:

- Civil Contempt: As per the Contempt of Courts Act of 1971, civil contempt has been defined as wilful disobedience to any judgment, decree, direction, order, writ or other processes of a court or wilful breach of an undertaking given to a court.
- Criminal Contempt: As per the Contempt of Courts Act of 1971, criminal contempt has been defined as the publication (whether by words, spoken or written, or by signs, or by visible representation, or otherwise) of any matter or the doing of any other act whatsoever which:
 - * Scandalises or tends to scandalise, or lowers or tends to lower the authority of, any court, or
 - * Prejudices, or interferes or tends to interfere with the due course of any judicial proceeding, or
 - * Interferes or tends to interfere with, or obstructs or tends to obstruct, the administration of justice in any other manner.

Origin of the contempt law:

- India derives the provision of criminal contempt from the English system.

- The King of England used to deliver judgments himself and the need to uphold the authority of the King led to the provision of "respecting the authority and dignity of the court". In contemporary times, when the judges look after the administration of justice, the law intended to maintain a sense of respect around the judiciary system.
- Contempt of court is the offence of being disobedient to or disrespectful towards a court of law and its officers in the form of behaviour that opposes or defies the authority, justice and dignity of the court.

Basis for contempt of court

- There were pre-Independence laws of contempt in India.
- When the Constitution was adopted, contempt of court was made one of the restrictions on freedom of speech and expression.
- Separately, Article 129 of the Constitution conferred on the Supreme Court, the power to punish contempt of itself.
 - * Article 215 conferred a corresponding power on the High Courts.
 - * Statutory backing to this power is provided by the Contempt of Courts Act, 1971.

Punishment for contempt of court

- A contempt of court may be punished with simple imprisonment for a term which may extend to six months, or with fine which may extend to two thousand rupees, or with both

Exemptions:

- The defences available to a contemnor are engrafted in section 3 to 8 in the Contempt of Courts Act, 1971. Sections 3 to 7 specify the acts which would not be contempt. These include the following:
 - * Fair and accurate reporting of judicial proceedings will not amount to contempt of court.
 - * Any fair criticism on the merits of a judicial order after a case is heard and disposed of is not contempt.
 - * Truth is also a valid defence against a contempt charge, if it was in public interest and was invoked in a genuine manner.

Argument in favour of contempt law:

- Contempt of court, as a concept, seeks to protect judicial institutions from motivated attacks and unwarranted criticism, and as a legal mechanism to punish those who lower its authority.
- The provision of criminal contempt helps prevent attempts to scandalise the judiciary as well as interference in the administration of justice and overt threats to judges.
- The contempt provision insulates the Judiciary from unfair attacks and prevents a sudden fall in the judiciary's reputation in the public eye.

- The objective for contempt law is to safeguard the interests of the public. If the authority of the Court is diminished and public confidence in the administration of justice is weakened, then the judicial system and its ability to dispense justice are adversely impacted thus affecting the citizenry indirectly.

Arguments against the contempt law:

Asynchronous law:

- The law for criminal contempt is completely asynchronous with the modern democratic system which recognises freedom of speech and expression as a fundamental right.
- The contempt law may be trampling upon civil liberties of the people.
- The extreme deference to judges does not augur well for the idea of a democracy.

Lack of judicial accountability:

- The provision of criminal contempt is often used to prevent any criticism of the judiciary. This is an indication of the judiciary's unwillingness to suffer any kind of criticism, regardless of how true the criticism may be.
- The fear of contempt proceedings restrains much of the media and the public from a more rigorous examination of the functioning of the judiciary.

International practice:

- The criminal contempt law has become practically obsolete in most foreign democracies.
 - * Canada evaluates the applicability of criminal contempt to real, substantial and immediate dangers to the administration.
 - * The U.S. courts no longer use the law of contempt in response to comments on judges or legal matters.
 - * The U.K. Law Commission in a 2012 report recommended the abolition of the law of contempt. In England the legal position on contempt law has evolved. There has been a perceptible change in the attitude of the judiciary in deciding against the use of contempt proceedings for comments on them.

Mulgaonkar principles:

- S Mulgaonkar v Unknown (1978) is a case that led to a landmark ruling on the subject of contempt. By a 2:1 majority, the Supreme Court held Mulgaonkar, then editor of The Indian Express, not guilty of contempt although the same Bench had initiated the proceedings.
- Justices P Kailasam and Krishna Iyer formed the majority going against then Chief Justice of India M H Beg.
- Justice Iyer's counsel of caution in exercising the contempt jurisdiction came to be called the Mulgaonkar principles.

- Justice Iyer had held that the Court would act with seriousness and severity where justice is jeopardized by a gross and/or unfounded attack on the judges, where the attack is calculated to obstruct or destroy the judicial process, however the court must also be willing to ignore comments which would affect the judicial process as such.
- He argued in favour of harmonising the constitutional values of free criticism by the press and the need to uphold the dignity of the judges.

Concerns:

High usage:

- The definition of criminal contempt in India is extremely wide, and can be easily invoked.
- It was only in 2006, through an amendment to the Contempt of Courts Act that truth and good faith were recognised as valid defences in the criminal contempt cases. Despite this, there have been numerous previous instances in India where the judiciary has used the criminal contempt law to punish people, despite truth and good faith raised as defences.

Timing of the proceedings:

- COVID-19 has brought forth a standstill of the Judiciary which has been dealing with a large volume of cases already.
- There are many urgent and pressing issues which desperately needs the Supreme Court's attention.
- It is disappointing that instead of taking up matters of absolute urgency in these difficult times, the Supreme Court chose to take note of social media comments on the judiciary.

Wrong approach:

- The Supreme Court may be harming its own reputation and credibility through the contempt proceedings.
- It would be wrong to believe that silencing criticism will harbour respect for the judiciary. On the contrary, efforts to prevent free speech will only worsen the situation further by engendering resentment and suspicion of the judiciary.
- The judiciary needs to base their authority and dignity on public confidence rather than seeking to cover it under the law of contempt.

Way forward:

Evaluate the need for the law:

- There is the need for an evaluation of the necessity for retaining the law of contempt in these contemporary times.
 - * Across international jurisdictions, a far more liberal view is taken with respect to criminal contempt.
- Though it is important to curb unsubstantiated criticism of the judiciary and self-serving comments on mainstream and social media, there is also the need to use the contempt law sparingly, and avoid the impression that it is being used to stifle free speech.

- Contempt of court is a powerful tool which is to be exercised reasonably.

Evaluating the provisions of the law:

- Besides needing to revisit the need for a law on criminal contempt, even the test for contempt needs to be evaluated. Such a test should evaluate whether the contemptuous remarks in question actually obstruct the Court from functioning.
- There may be the need to revisit select clauses in the contempt law like that part of contempt law that criminalises anything that “scandalises or tends to scandalise” the judiciary or “lowers the court’s authority”.
- Notably, the SC has decided to study the context of charges against judges.
 - * The Supreme Court has decided to launch a detailed examination into the circumstances under which a person can make public allegations of corruption against the judiciary.
 - * The Bench framed the two questions while hearing a contempt case initiated against advocate Prashant Bhushan.
 - » In what circumstances can such statements [on judicial corruption] be made?
 - » Under what circumstances can these allegations be made public?

Judicial accountability:

- The contempt law should not be allowed to be used as a means to prevent any and all criticism of the Judiciary.
- The judiciary is well advised to give space for publicly voiced criticism and strident questioning of the court’s ways and decisions. The judiciary should appear to be concerned about accountability.
- There is the urgent need to usher in judicial accountability by examining the serious allegations through impartial and transparent probes

Recent developments:

Judgment:

- The Supreme Court punished civil rights lawyer Prashant Bhushan with a fine of Rs. 1 for committing criminal contempt by scandalizing the court.
- The judgment pointed to the existence of an internal mechanism to deal with grievances against judges.
 - * The 1992 judgment in the removal of Justice V. Ramaswami, a Supreme Court judge, had laid down the procedure to deal with allegations against a sitting judge.
 - » The judge had to be given a fair opportunity to be heard before an inquiry committee formed under the Judges Inquiry Act of 1968.

- » The judgment had limited the inquiry process against a judge to be done within a tight and limited circle of high judicial functionaries and parliamentarians.
- » The dominating spirit of the 1992 judgment was to preserve the right, interest and dignity of the judge, which is commensurate with the dignity of all the institutions and functionaries involved in the process.

Filing of review plea and writ petition:

- Advocate Prashant Bhushan filed a review petition in the Supreme Court against its decision finding him guilty of criminal contempt.
 - * The review is a limited and rare remedy against a Supreme Court verdict.
 - * The two grounds for review are apparent errors in the judgment and factual or legal mistakes.
- Besides the review plea, a writ petition has also been filed in the Supreme Court challenging the lack of an “intra-court appeal” mechanism against a judgment in a suo motu contempt case under Article 129 of the Constitution. The writ petition calls for a declaration upholding the right of appeal of a person found guilty of contempt.
 - * While persons convicted in ordinary criminal matters get a second chance to appeal against a judgment, a person convicted by the Supreme Court in suo motu contempt proceedings are not entitled to another opportunity by way of an appeal and cannot file an appeal and has to accept the verdict unquestioningly.

Arguments made:

- The argument made against the current practice is that it would grant unlimited and arbitrary powers to the judge of the Supreme Court.
- The petition calls for certain safeguards to protect the liberty of the contemnor. It calls for a provision of an intra-court appeal in such cases wherein the review proceedings on a finding of guilt in a contempt case should be heard by a different Bench in open court.
- The petition argues that such a provision would reduce the chances of arbitrary, vengeful and high-handed decisions.

International Commission of jurists’ observations:

- The International Commission of Jurists (ICJ) has stated that the civil rights lawyer Prashant Bhushan’s conviction for criminal contempt of court by the Supreme Court seemed to be inconsistent with the freedom of expression law guaranteed by the International Covenant on Civil and Political Rights.
- It added that the judgment risked having a “chilling effect on the exercise of protected freedom of expression in India”.

- "While some restrictions of freedom of expression are permitted by international standards, a particularly wide scope must be preserved for debate and discussion about such matters as the role of the judiciary, access to justice, and democracy, by members of the public, including through public commentary on the courts", it stated.

Indian constitution = provisions

4. 'Consider more languages in govt.says SC

- » Prelims: Schedule 8 of the Indian constitution, official languages act, 1963, Article 343
- » Mains: Need for inclusion of more languages in governance

Context:

- Chief Justice of India has suggested that the government should consider amending the Official Languages Act of 1963 to include more vernacular languages in governance without just being confined to just Hindi and English.

Background:

- The court was hearing an appeal filed by the Union of India challenging the legality of a Delhi High Court judgment to translate the draft Environment Impact Assessment (EIA) notification of 2020 into all 22 vernacular languages in the Eighth Schedule of the Constitution.
- The high court had allowed the plea holding that EIA notification should be translated and published in all the scheduled languages.

Details:

- Scheduled languages are those languages that are listed in the 8th Schedule of the Constitution and are given official recognition and encouragement by the Central Government.
- However, all official communication and publication of rules and notifications by the Central Government are in Hindi and English.
 - * As per Article 343 of the Constitution, the official language of the Union is Hindi along with English.
 - * Further, section 3 of the Official Languages Act states that Hindi and English shall be used for resolutions, general orders, rules, notifications, administrative or other reports made by the Central Government or any of its ministries or departments.

8th Schedule of the Constitution:

- The Eighth Schedule of the Constitution consists of 22 languages.
- Of these languages, 14 were initially included in the Constitution.

- The Sindhi language was added in 1967.
- Thereafter, three more languages viz., Konkani, Manipuri and Nepali were included in 1992.
- Subsequently, Bodo, Dogri, Maithili and Santhali were added in 2004.

Government policies and interventions

5. National Recruitment Agency

- » Prelims: Provisions regarding NRA
- » Mains: Significance of centralized recruitment system

Context:

- The Union Cabinet has approved the creation of a National Recruitment Agency (NRA) for conducting a Common Eligibility Test (CET) for various government jobs.

Details:

- The proposed NRA would conduct a preliminary examination, the Common Eligibility Test, for recruitment to Group B and C (non-technical) vacancies in the Central Government. Currently, these posts are being filled through different examinations.
- Initially three of the over 20 Central government recruitment agencies including the Railway Recruitment Board, the Staff Selection Commission and the Institute of Banking Personnel Selection would be brought under the NRA and subsequently all other government recruitment agencies would also be brought under the ambit of the NRA.
- The exam would be held online in 12 languages initially with plans to add all languages in the Eighth Schedule of the Constitution over time.
 - * As per Articles 344(1) and 351 of the Indian Constitution, the eighth schedule recognizes 22 languages.
- Based on the screening done at the CET score level, final selection for recruitment shall be made through separate specialised Tiers (II, III etc) of examinations, which shall be conducted by the respective recruitment agencies.

Significance:

- It is envisioned that the NRA would be a specialist body bringing state-of-the-art technology and best practices to the field of Central Government recruitment.
- The move is expected to benefit crores of young people who apply for government jobs every year. This would require the applicants to clear one preliminary screening examination as against multiple exams currently. This would help reduce the pressure on the students as well as the need to pay multiple exam

fees.

- * Candidates would have the facility of registering on a common portal and give a choice of centres. Based on availability, they would be allotted examination centres.
- * The ultimate aim is to reach a stage wherein candidates can schedule their own tests at centres of their choice.
- Given that the test score could also be used by State governments could help reduce state expenditure on the conducting of multiple exams.
- A single eligibility test would significantly reduce the recruitment cycle.
- Given that the private sector would also be allowed to use the test as a reference for employment functions in the future would aid employment avenues for the students.

People in news

6. G.C. Murmu takes charge as new CAG

- Former Jammu & Kashmir (J&K) Lieutenant-Governor (L-G), Girish Chandra Murmu has taken charge as the new Comptroller and Auditor General (CAG).
- The Comptroller and Auditor General (CAG) was sworn in by the President.

Important Supreme Court Judgments

7. Maneka Gandhi Case

Case Summary – Maneka Gandhi (Petitioners) V Union of India (Respondents)

- The landmark ruling in Maneka Gandhi versus Union of India, which stands as a bulwark of the Right of Personal Liberty granted by Article 21 of the Constitution, started when the passport of the petitioner in this case, was impounded by the authorities under the provisions of the Passport Act. This arbitrary act of impounding the passport eventually led to the pronouncement of a unanimous decision by a seven-judge bench of the apex court comprising M.H. Beg (CJI), Y.V. Chandrachud, V.R. Krishna Iyer, P.N. Bhagwati, N.L. Untwalia, S. Murtaza Fazal Ali and P.S. Kailasam.

Brief background

- The petitioner Maneka Gandhi's passport was issued on 1st June 1976 as per the Passport Act of 1967. On 2nd July 1977, the Regional Passport Office (New Delhi) ordered her to surrender her passport. The petitioner was also not given any reason for this arbitrary and unilateral decision of the External Affairs Ministry, citing public interest.

- The petitioner approached the Supreme Court by invoking its writ jurisdiction and contending that the State's act of impounding her passport was a direct assault on her Right of Personal Liberty as guaranteed by Article 21. It is pertinent to mention that the Supreme Court in Satwant Singh Sawhney v. Ramarathnam held that right to travel abroad is well within the ambit of Article 21, although the extent to which the Passport Act diluted this particular right was unclear.

Issues Before the Court

- Are the provisions under Articles 21, 14 and 19 connected with each other or are they mutually exclusive?
- Should the procedure established by law be tested for reasonability which in this case was the procedure laid down by the Passport Act of 1967?
- If the right to travel outside the country is a part of Article 21 or not?
- Is a legislative law that snatches away the right to life reasonable?

Arguments of the petitioners:

- Through the administrative order that seized the passport on 4th July 1977, the State has infringed upon the Petitioner's Fundamental Rights of freedom of speech & expression, right to life & personal liberty, right to travel abroad and the right to freedom of movement.
- The provisions given in Articles 14, 19 & 21 should be read together and aren't mutually exclusive. Only a cumulative reading and subsequent interpretation will lead to the observance of principles of natural justice and the true spirit of constitutionalism.
- India might not have adopted the American concept of the "due process of law", nevertheless, the procedure established by law should be fair and just, reasonable, and not be arbitrary.
- Section 10(3)(c) of the Passport Act violates Article 21 insofar as it violates the right to life & personal liberty guaranteed by this Article.
- Audi Altrem Partem i.e. the opportunity of being heard is invariably acknowledged as a vital component of the principles of natural justice. Even if these principles of natural justice are not expressly mentioned in any of the provisions of the Constitution, the idea behind the spirit of Fundamental Rights embodies the very crux of these principles.

Contentions of the respondents:

- The respondent stated before the court that the passport was confiscated since the petitioner had to appear before a government committee for a hearing.
- The respondent asserted that the word 'law' under Article 21 can't be understood as reflected in the fundamental rules of natural justice, emphasising the principle laid down in the A K Gopalan case.

- Article 21 contains the phrase “procedure established by law” & such procedure does not have to pass the test of reasonability and need not necessarily be in consonance with the Articles 14 & 19.
- The framers of our Constitution had long debates on the American “due process of law” versus the British “procedure established by law”. The marked absence of the due process of law from the provisions of the Indian Constitution clearly indicates the constitution-makers’ intentions.

Maneka Gandhi Case Judgement

- This immensely important judgment was delivered on 25th January 1978 and it altered the landscape of the Indian Constitution. This judgment widened Article 21’s scope immensely and it realized the goal of making India a welfare state, as assured in the Preamble. The unanimous judgement was given by a 7-judge bench.

Conclusion

- The judgment’s most important feature was the interlinking it laid down between the provisions of Articles 19, 14 and 21. Through this link, the supreme court made these provisions inseparable and into a single entity. Now, any procedure has to meet all the requirements mentioned under these three articles to be held valid. As a result, this judgement enlarged the scope of personal liberty significantly and preserved the fundamental & constitutional right to life.

- This judgement, apart from protecting citizens from the unchallenged actions of the Executive, also preserved the sanctity of parliamentary law, when it refused to strike down the 1967 Act’s Sections 10(3) (c) and 10(5).
- The judgement paved the way for the Apex Court to bring into the ambit of Article 21 other important rights like Right to Clean Water, Right to clean Air, Right to freedom from Noise Pollution, Standard Education, Speedy Trial, Fair Trial, Right to Livelihood, Legal Aid, Right to Food, Right to Clean Environment, Right to Medical Care, etc.

8. Indra Sawhney Case -

Case Summary – Indra Sawhney v Union of India & Ors

- Affirmative action, which is commonly referred to in India as reservation, was an earnest attempt by the framers of the Constitution to bring in socio-economic equality in Indian society, particularly, the reservation in matters of Public Employment as provided in Article 16 of the Constitution.
- The framers of the Constitution were aware and conscious of the lack of homogeneity of the Indian Society, and apart from the differences in religion, culture, language, etc. there existed people who were in comparison weaker than others – economically, socially and culturally. To ameliorate the conditions of weaker and backward classes, and to make them at par with the other sections of society, the Constitution gave us a mechanism to safeguard the Backward Classes and Scheduled Castes.

- As such, provision for reservation was adopted in the Constitution. Reservation to the socially and economically deprived people as such is not a new concept enshrined in the Indian Constitution, but, has been in existence in the pre-constitutional era as well. It is important to mention here the reservation granted by the former princely state of Mysore on the recommendations of the committee set up in the year 1918. The demand for some kind of affirmative action had also been taken up before by people like Jyotibha Phule and others, and the British did give reservation to some of these classes but their motives were always suspect. Over the years reservation has become more of a political tool than an earnest attempt to establish an egalitarian society.
- A landmark in the issue of reservation was the judgement pronounced in *Indra Sawhney v Union Of India & Ors* by the Supreme Court. What follows is an attempt to summarise this important judgment.
- In the year 1979, the then Prime Minister Shri Morarji Desai appointed the second Backward Classes Commission under Article 340 of the Constitution.
 - * The Commission was headed by B.P. Mandal and its mandate was to investigate the status of socially and educationally backward classes in India.
 - * When the Commission finally submitted its report in 1980, it recommended a reservation of 27 percent in government jobs for these castes.
 - * The collapse of the Janata Party government complicated matters and the recommendations of the report could not be implemented.
 - * There wasn't much progress in this respect for several years until Janata Dal regained power in 1989 and decided to implement the recommendations of the report and reserved 27 percent of the seats for socially backward classes.
 - * This was followed by reservation and anti-reservation protests in large parts of the country some of which led to riots.
 - * When the government action was challenged before the Supreme Court by way of a writ petition, the then Prime Minister P V Narasimha Rao brought in another order which increased the reservation limit to 37 percent while including economically, socially and educationally backward classes as well. The five-judge bench referred the matter to a nine-judge bench.

Issues Before the Court

- The court further framed issues, the adjudication of which was essential to deal with the situation at hand, some of these issues were:
 - * Whether caste on its own constitutes a different class and whether economic criteria could by itself be the determinant of a class.
 - * Whether Article 16(4) was an exception to Article 16(1) and is exhaustive in itself of the rights of reservation.

- * Does Article 16(4) allow classification of 'Backward Classes' into Backward Classes and Most Backward Classes or permit classification among them based on economic or other considerations.

Contentions of the petitioners:

- The advocates for the petitioners led by Nani Palkhiwala argued that reservation further provoked the evil of the caste system and this evil will hamper India's march towards being a welfare state. They further argued that if the reservation was continued it will replace standard with sub-standard and meritocracy with mediocrity. Petitioners also alleged that the Mandal report was in essence trying to rewrite the Constitution.

Contentions of the respondents:

- The respondent State said that the report merely gives the backward classes a means to fulfil their just claims. They argued that the report was a continuation of the first minorities commission which also recommended affirmative action to right the wrongs that backward classes have faced for centuries together.

The court in its judgement laid down the following rules

- Backward classes under Article 16(4) cannot be identified on the basis of economic criteria but the caste system also needs to be considered.
- Article 16(4) is not an exception to clause 1 but an instance of classification as envisaged by clause 1.
- Backward classes in article 16(4) were different from the socially and educationally backward mentioned in Article 15(4).
- The concept of a creamy layer was laid down and it was directed that such a creamy layer be excluded while identifying backward classes.
- Article 16(4) does allow the classification of backward classes into backward and more backward.
- Reservation shall not exceed 50 percent, moreover, reservation in promotions shall not be allowed.
- Any new disputes regarding criteria were to be raised in the Supreme Court only.

After Indra Sawhney case

- A number of developments in the reservation have taken place after the Indra Sawhney case. The Parliament responded by enacting the 77th Amendment to the Constitution by adding clause [4A] to Article 16 in 1995, by virtue of which powers are conferred to the State to reserve seats in favour of SC & ST in promotions in Public Services if communities are not adequately represented in public employment. The Supreme Court upheld the validity of Article 16(4A) in *M. Nagaraj Vs Union of India* 2006, and it has laid three requirements:
 - * SC & ST should be socially and educationally backward.
 - * No adequate representation for SC and ST in public employment.

* It shall not affect the over efficiency in the administration.

- A number of state governments enacted the law in consequence of the 77th Amendment of the Constitution e.g., Karnataka Extension of Consequential Seniority to Government Servants Promoted on the Basis of Reservation (to the posts in Civil Services of the State), 2018 was enacted by the State of Karnataka, and Supreme Court upheld its validity in 2019.
- Earlier in BK Pavitra Case, Karnataka Determination of Seniority of the Government Servants Promoted on the Basis of the Reservation Act, 2002 was held to be unconstitutional on the ground that the State had not undertaken to determine 'inadequacy of representation', 'backwardness' and the impact on overall efficiency before passing the law.
- It is also pertinent to mention here that the apex court has also said that, there is no fundamental right which inheres in an individual to claim reservation in promotions, in the recent judgment of Mukesh Kumar V State of Uttarakhand which was pronounced in February 2020.

Conclusion

- The court in the Indra Sawhney case tried to come up with a solution that is reasonable and strikes a fine balance between the society and rights of the backward classes. Removing economic criteria as the sole determinant of classification was also a step in the right direction as was the exclusion of the creamy layer who had already benefitted enough from affirmative action. The Court ruling may have been considerate but subsequent amendments by successive governments to fiddle with the reservation criteria further established the fact that reservation above all had now well and truly become about vote-bank politics more than anything else. In the almost three decades after this landmark ruling, the anti-reservation voices have started gathering momentum but the lawmakers should remind themselves of the duties the framers have given them through the means of the Constitution. The reservation phenomenon has certainly helped in uplifting the backward classes but there is a long way to go before all historical wrongs are set right.

ECONOMY

Indian Economy and issues relating to growth and development

1. World Bank's forecast for India

- » Prelims: Reports by the World Bank
- » Mains: Risks in the Indian economy

Context:

- World Bank's India Development Update.

Background:

- The World Bank, had previously in May 2020, projected that the Indian economy would contract by 3.2% in the current fiscal year and would only rebound slowly in the next financial year.

Details:

- In the light of the emerging challenges to the Indian economy, The World Bank has indicated that it may further lower the GDP projections for India in its revised outlook.
- The World Bank notes the following risks for India:
 - * The unabated spread of the corona virus in India is a cause of concern. India continues to record the highest number of daily cases in the world.
 - * Deterioration in the global outlook owing to the economic impact of the pandemic.
 - * Strain projected in the financial sector. The consumption and investment slowdown would only further compound the distress in the financial sector and financial markets.
 - * India's fiscal deficit is projected to rise to 6.6% of GDP in FY21 crossing the threshold set by the FRBM act. It is expected to remain high even in the following year at around 5.5%.

Way forward:

- The World Bank calls for critical reforms in key areas such as health, labour, land, skills and finance to help tide the crisis brought forth by the COVID-19 pandemic.

Indian Economy and issues relating to growth and development

2. Economic Impact of the pandemic and corrective measures

- » Prelims: MGNREGS, Economic terminologies
- » Mains: Measures required to overcome the economic impact of the COVID pandemic

Economic impact of the pandemic:

- India entered the COVID-19 crisis in a precarious position, with slowing growth, rising unemployment and a strained financial system. The epidemic has made it more painful.
- The COVID-19 pandemic and the subsequent regulations have had adverse impacts on livelihoods and the larger economy. The economic impact of COVID-19 is expected to be bigger than the health impact itself.
- The global economy is expected to experience one of its worst years in history and Indian economy is expected to contract significantly for the first time in many decades.
- Economic contraction does not just imply a decrease in GDP numbers but marks a reversal of years of progress.
 - * The economic contraction will lead to a significant number among the weaker sections of the society slipping back into poverty.
 - * Many enterprises may be forced to shut down.
 - * Severe unemployment may lead to wastage of the Human resource of an entire generation.
 - * The economic contraction and the subsequent shortage of financial resources will adversely impact the state's ability to feed and educate the children.
 - * The impact of an economic contraction would be especially severe on the poor and the vulnerable sections.
- There is also the underlying sentiment of fear, uncertainty and insecurity prevalent in people, firms and institutions.

Way forward:

- The slowdown in economic activity is a function of both external factors such as the lockdown and behavioural changes of people and enterprises, driven by fear and calls for definitive and urgent steps to revive the economy back to good health.
- The key to revive India's economy would be to inject confidence back in the entire ecosystem involving the people (consumers), entrepreneurs and the bankers.
- The path to a sustained recovery is to improve confidence and sentiments in society, using economic tools of fiscal and monetary policies.

Cash support:

- The record number of people demanding work under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) programme at minimum wages despite the robust agricultural activity seems to be indicative of the extreme duress among India's poor.
- Despite the additional budgetary allocation for the MGNREGA programme it may not be enough and there is the need for direct cash assistance for the poor.
 - * India is perhaps the only large democracy that has not provided direct cash assistance of a significant amount during the COVID-19 crisis.
- Money in the hands of people can provide an immediate sense of security and confidence for the poor.
- The apprehension that providing large cash assistance may deter people from returning to the workforce when needed and starve industry of labour is unfounded. The experience in other economies like the U.S. point otherwise as despite extensive government aid to the unemployed, people were still looking for work.

Addressing financial system challenges:

- There is the need to restore confidence in the financial system.
- COVID-19 assistance measures undertaken by the Reserve Bank of India (RBI) and the government such as interest rate reductions, credit guarantee and liquidity enhancement schemes though are welcome steps may prove to be ineffective since banks are not confident of lending.
- The revival of the health of the banking sector must apart for involving steps such as capital infusion and disinvestment of public sector banks must also involve allowing institutions such as the RBI, public sector banks, bankruptcy boards, securities and insurance regulators to function freely and professionally.

Restoring confidence among investors:

- Entrepreneurs must feel confident of reopening and making investments.
- The confidence among people to spend and among bankers to lend will induce confidence in the private sector to reopen and invest.
- Restoring confidence among businesses with greater access to capital will help them invest and create jobs. Providing credit guarantee schemes for corporates would prove helpful in this direction.

Guarding against hasty decisions:

- The article argues against knee-jerk reactions such as protection of Indian industry through trade restrictions. This would not be able to catalyse economic activity immediately and also would mark a dangerous reversal of established industrial policy that has generated enormous economic gains over the last three decades.

Ensuring financial resources:

- Improving capital adequacy of banks and providing credit guarantee schemes for corporates would require significant financial resources.
- Given that the government is facing major shortfall in revenues and that new avenues for tax revenues are not feasible in the short term, higher borrowing by the government is inevitable.
- The government cannot afford to be too fiscally restrained in these distressing times.
- India can make full use of loan programmes of international institutions such as the International Monetary Fund and the World Bank.
- Deficit monetisation by the RBI, which involves printing money, must only be used as the last resort when all other options are exhausted

Indian Economy and issues relating to growth and development

3. Attracting the FDI leaving China

- » Prelims: FDI and FPI, Government initiatives
- » Mains: SWOT analysis with respect to India's attractiveness for Foreign investments

Context:

- India is being projected as an alternative destination for foreign investments leaving China.

Background:

- The U.S.-China trade war has led to a scenario where U.S. companies are planning to shut their manufacturing bases in China and are looking to shift it to other countries.
- India is looking to become an alternative supply source and investment destination to China.

Challenges:

- Despite the strong messaging from the U.S. administration, fewer U.S. companies than predicted might quit China. Companies focused on the Chinese domestic market rather than as a base for exports will likely remain in China given China's huge domestic market potential.
- The companies that do leave China have a variety of other options to choose from. There are now many more competitor investment destinations, both within and outside of Asia.

Weaknesses:

- The lack of an established industrial base and expertise unlike China is a weakness for India in attracting foreign investments.
 - * The large and robust manufacturing infrastructure and higher skill level in China allows innovations to move quickly from prototype to product.

- Lack of strategic planning. Domestic political compulsions and the need for inclusive development have to be balanced with the economic growth objective. This often does not yield an optimal solution.
 - * China's specialised industrial zones are massive, collocating companies, factories, logistics, and even research and universities. This ensures better synergy between the correlated sectors.
 - * The Special economic zones envisaged by India are too small and involve too many locations.
- Protective economic policies that seemingly disadvantage foreign investors to protect domestic industries and players do not augur well to attract foreign investments.

Strength:

- India's identity as a democratic nation is one of India's strongest selling points. India's open and vibrant press, independent judiciary, and other advantages of democratic governance provide a favourable contrast to China.
- India's large and increasingly well-off domestic market is a major incentive for foreign investments into India.

Steps taken by the government:

- There has been impressive improvement in India's own planning, with the government identifying key sectors; surveying major companies about perceived roadblocks to Indian investments; and increasing Invest India's outreach.
- The National infrastructure pipeline envisages huge investments in the critical infrastructure sector with focus on time bound implementation and quality of the infrastructure. This would make India an attractive investment destination.
- India has invested considerable political and administrative capital to improve India's global ease of doing business ranking by relaxing the regulations with respect to aspects such as insolvency, dispute redressal and labour laws.
- India has reduced regulations with respect to foreign investment which has helped reduce the number of investments needing approval by the Centre. There is also a marked improvement in intra-Ministry coordination on foreign direct investment policies.

Way forward:

- India needs to show foreign investors it has the benefits of China with fewer risks as a relocation destination.

Strategic planning

- Despite impressive improvements in India's own planning, there is the need for better strategic planning. The government could consider linking the southeast of the country to supply chains in Southeast Asia.

Focus on performing States

- Given the scarce resources at disposal, India can start by focusing development in those Indian States that have already demonstrated the ability to produce and export in key sectors.

Infrastructure spending:

- India should aid the flow of foreign capital to augment financial resources available to the infrastructure sector

Policy framework:

- There is the need to ensure that any and all proposed economic policy changes are consistent with the goal of attracting foreign investment.
- The policy framework must be transparent, predictable, and provide for increased consultations with existing and potential foreign company stakeholders before introducing new Indian economic policies.

Indian Economy and issues relating to growth and development

4. Supply Chain Resilience Initiative (SCRI).

- » Prelims: Supply Chain Resilience Initiative
- » Mains: Need for supply chain resilience and necessary steps in this direction

Context:

- In the light of the COVID-19 pandemic and the subsequent lockdowns and trade tensions between China and the United States having caused bottlenecks in the global supply chains, Japan has mooted the Supply Chain Resilience Initiative (SCRI).

Background:

Pandemic crisis:

- China accounts for around 24% of Japan's total imports. The bilateral trade also involves the movement of goods as part of the global supply chains from China to Japan.
- When China had to shut down factories in regions hit by the COVID-19 pandemic, this had also impaired economic activity in Japan.

U.S.-China Trade tensions:

- The ongoing U.S.-China trade tensions are a cause of concern for Japan, as Japan's growth would be affected if the U.S. and China move towards creating their own separate economic zones.
- Recognizing the inherent threat the Japanese government had recently earmarked \$2.2 billion to incentivise its companies to move their manufacturing out of China. This was a measures approach to diversification of risk.

Details:

- The Supply Chain Resilience Initiative (SCRI) is proposed as a trilateral approach to trade, with India and Australia. It could also potentially involve other Asian and Pacific Rim nations in the later years.

Supply chain resilience:

- Supply chain resilience is an approach wherein a country instead of being dependent on just one or a few nations has diversified its supply risk across a range of supplying nations.

Need for supply chain resilience:

- Given that the currently some assembly lines are heavily dependent on supplies from one country, the impact on importing nations could be crippling if that source nation stops production for involuntary reasons or due to unanticipated events, or even as a conscious measure of economic coercion.
- Supply Chain resilience could help overcome such risks to the importing countries.

The case for India's inclusion:

- The long-standing and deepening trade relationship between India and Japan seems to have spurred Japan to include India as a partner for the SCRI.
 - * Japan is the fourth-largest investor in India with cumulative foreign direct investments accounting for 7.2% of inflows in the period between 2000-2020.
 - * There has been impressive growth in the bilateral trade between India and Japan.
 - * Almost 1,400 Japanese companies operate in India.
- Unlike previously, when India would not take any step to overtly antagonise China, currently following the border tensions along the LAC, India may be ready for dialogue on alternative supply chains which indirectly aims to keep China out of such supply chains.
- On the economic front, India comes across as an attractive option for potential investors both as a large market base and as a manufacturing base with low cost labour.

The case for Australia's inclusion:

- China has been Australia's largest trading partner accounting for almost 1/3rd of Australia's exports, with iron ore, coal and gas being the major export items.
- However relations including trade ties between the Australia and China have been deteriorating over the recent past. Australia's inclusion marks an attempt to garner Australia's support in countering China.
 - * Australia, Japan and India along with the U.S. are part of the Quadrilateral Security Dialogue, or the Quad.

Challenges for India:

- Given the current high reliance on China, the sudden cut in trade links with China would be impractical.
 - * China accounts for a large share of imports into India standing at around 14.5% in 2018.
 - * Chinese supplies dominate segments such as pharmaceuticals, automotive parts, electronics, shipping, chemicals and textiles sector of the Indian economy. In electronics, China accounts for 45% of India's imports.

Way forward for India:

- The Supply Chain Resilience initiative could help realise trade benefits for India.
- In the coming years India should work towards enhancing self-reliance or consider working with exporting nations other than China, to build resilience into the economy's supply networks.
- Apart from offering tax incentives to companies to attract investments in manufacturing, India will also have to focus efforts on accelerating progress in ease of doing business and in skill building.

Indian Economy and issues relating to growth and development**5. Monetary Policy Review**

- » Prelims: Monetary Policy Committee, Repo rate, Inflation targeting
- » Mains: Monetary tools available with the MPC and their impact on macro-economic parameters

Context:

- Review of the monetary policy by the Monetary Policy committee.
 - * This marks the third review of the monetary policy by the Reserve Bank of India since the COVID-19 pandemic spread in the country.

Details:

- The Monetary Policy Committee (MPC) has opted for status quo and left interest rates unchanged in the current review.

Arguments in favour of status quo:**Wait for stabilization of the economy:**

- Though there was room for further rate cuts, the MPC decided against it so as to wait for a better assessment of the outlook for growth and inflation as the economy has been opening in a staggered manner.
- There are high uncertainties regarding the macroeconomic environment and to make policy decisions in such volatile situations might become counter-productive.

- The economy is expected to exhibit a slow recovery with the economic situation likely to worsen before it gets better. It would be prudent to wait for the economy to stabilize before employing stimulus measures.
- There is the need to keep some room for further rate cuts to use them judiciously for promoting growth.

Inflationary concerns:

- Inflation is currently above the upper band of 6%. Further rate cuts could only stoke higher inflation rates in the economy.
 - * The primary mandate given to MPC for inflation targeting is 4% (with +/- 2%).
 - * There has been a cumulative 250 basis points reduction in policy rate since February 2019 in an effort to support the economic recovery process.

Stagflation concerns:

- Despite the large rate cuts to spur growth, growth has steadily declined.
- Generalised inflationary pressures, in a situation where growth is expected to contract sharply leads to stagflation concerns.
 - * Stagflation is a condition where persistent high inflation is combined with high unemployment and stagnant demand in a country's economy.

To wait for monetary rate transmission:

- Given the general lag between the policy rate cuts and the decrease in loan rate from the banks, one line of argument has been that there is the need to wait for the monetary rate transmission to occur.
 - * The monetary transmission mechanism is the process by which general economic conditions are affected as a result of monetary policy decisions.

Other significant provisions:

- Banks have been allowed to restructure loans from large corporates, micro, small and medium enterprises as well as individuals.
- Rs 10,000-crore facility has been offered to the National Bank for Agriculture and Rural Development (NABARD) and the National Housing Bank (NHB) to boost rural lending and affordable housing.
- Banks have been allowed to restructure individual borrowers' loans by December 31, 2020, permitting a maximum extension of two years.
- Limits for loans against gold have been enhanced.
- Banks are required to assign 40% of adjusted net bank credit or credit equivalent amount of off-balance sheet exposure, whichever is higher, to priority sector, including agriculture and micro-enterprises.

- * The scope of priority sector lending (PSL) has been broadened by including start-ups and enhancing borrowing limits for renewable energy sectors.
- * The targets for lending to 'small and marginal farmers' and 'weaker sections' under the PSL will also be increased.

Indian Economy and issues relating to growth and development

6. Vehicle scrappage policy

- » Prelims: Emission norms for the automobiles
- » Mains: Significance of the vehicle scrappage policy to the automobile sector and the Indian economy

Context:

- The Automotive Component Manufacturers Association (ACMA) has been requesting the government to introduce an incentive-based scrappage policy

Crisis in the automotive sector:

- As per data released by the Automotive Component Manufacturers Association (ACMA), the auto component industry registered a 12% decline in turnover in the previous fiscal year.
- The following factors seem to have had an adverse impact on the performance of the auto sector:
 - * Subdued vehicle demand domestically and the slowdown in key export markets have drastically reduced demand in the sector.
 - * Massive investments made for transition from BS IV to BS VI by the auto companies have resulted in liquidity crunch in their financial operations.
 - * The lack of clarity on policy for electrification of vehicles by the government seems to be inhibiting the investment operations of the auto companies.

Industry demands:

- The Automotive Component Manufacturers Association (ACMA) has been requesting the government to reduce GST rates to 18% on all vehicles, and introduce an incentive-based scrappage policy.

Significance of scrappage policy:

- Vehicle scrappage policy will help reduce pollution levels by mandatory scrapping of the old and polluting vehicles off Indian roads.
- This would also help reduce fuel imports into India and also help reduce India's CAD as the new vehicles have higher fuel efficiency.
- The material recycled will be useful for the automobile industry as it will reduce cost of manufacturing cars, buses, and trucks, increasing India's competitiveness

in international markets. This will also help reduce India's import of such raw materials from other countries.

- The scrappage policy would help create a demand base for the automobile sector and incentivize further investments into the sector thus helping further increase employment and growth avenues.

Indian Economy and issues relating to mobilization of resources and Government budgeting

7. How to pay for the stimulus

- » Prelims: Fiscal deficit, FRBM act, Monetized deficit
- » Mains: Need for a fiscal stimulus and available options

Context:

- There has been a growing call for a Fiscal stimulus to revive the slowing Indian economy.

Background:

- Given the economic impact of the pandemic, economists have been deliberating on the appropriate economic policy response.
- Some economists have argued for a more active government intervention to revive the economy in the form of greater public spending. This will ensure greater amount of money in the hands of the people which can boost the demand and help economic revival.
- However there are concerns that the greater public spending will increase the fiscal deficit and this expansion of public spending will have to be financed.
 - * Considering that the economy has stalled and the government will not be getting its revenues, the "general" government (that is, Centre plus states) fiscal deficit is expected to shoot up to around 15% of GDP when the permissible limit is only 6%.
 - * The announcement of a bailout or relief package would only further increase the fiscal deficit.
 - * The government's fiscal deficit (the total amount of borrowings to bridge the gap between its spending and revenues) will be way over the permissible limit.

Increasing taxes:

- Theoretically public spending can be financed by higher tax rates for both direct as well as indirect taxes.

Challenges:

- However, when the economy is in a recession this option may not work as incomes would have decreased and subsequently there would be decreased expenditure on purchase of goods and services. This is already evident as the government is facing a major shortfall in revenues through GST.

- New avenues for tax revenues are not feasible in the short term.

Domestic debt financing:

- One of the available options to finance the government expenditure would be to issue debt to the public.

Challenges:

- However, with the economy stalled, there isn't enough money in the market for the government to borrow from.
 - * Data show that savings of domestic households have been faltering and are barely enough to fund the government's existing borrowing needs.
- Moreover, as the government borrows more from the market, it pushes up the interest rate. This would affect private investment.

External borrowing:

- The government could also consider borrowing from the World Bank and the International Monetary Fund (IMF).

Challenges:

- In case of debt financing, the borrowed money will have to be repaid in hard currency. This would require India to earn hard currency by stepping up exports by substantial proportions. This would be a difficult task under present circumstances given that Indian exports have been faring poorly since 2014 and the multiple shocks that have been witnessed in global output and trade.
- Other significant issues when considering borrowing from the World Bank and the IMF include the issue of conditionalities and the extended time frame required for loan negotiations.
- Also external borrowing accounts as being a national debt as compared to domestic borrowing. Most economists believe developing economies like India should not have debt higher than 80%-90% of the GDP. At present, it is around 70% of GDP in India.
- Foreign investors have been pulling out and rushing to safer economies like the US, and are unwilling to lend in times of such uncertainty.

Money financing:

- Another option worth exploring is money financing which involves borrowing from the Reserve Bank of India (RBI). Deficit monetisation by the RBI involves printing new money. This involves the "direct" monetisation of government deficit. This is also termed 'money financing' as it increases the money supply.

Mechanism of money financing:

- In this case, the government asks the RBI to print new currency in return for new bonds that the government gives to the RBI. Now, the government would have the cash to spend and alleviate the stress in the economy.

- In lieu of printing this cash, which is a liability for the RBI it gets government bonds, which are an asset for the RBI since such bonds carry the government's promise to pay back the designated sum at a specified date.
- This is different from the "indirect" monetising that RBI does when it conducts the so-called Open Market Operations (OMOs) and/ or purchases bonds in the secondary market

Significance:

- Money financing tool provides an opportunity for the government to boost overall demand at the time when private demand has fallen. Government expenditure using this new money boosts incomes and raises private demand in the economy.
 - * Recently, the Bank of England extended a direct monetisation facility to the UK government to help revive the slowing economy.

Challenges:

- Until 1997, the RBI "automatically" monetised the government's deficit. However, given the concerns regarding direct monetisation of government deficit this facility was ended by 1997.
- There have been concerns expressed by economists that money financing may lead to high intangible and institutional costs.

Fiscal profligacy:

- An argument against direct monetising is that governments are considered inefficient and corrupt in their spending choices.
- Extended fiscal profligacy in the past had led to the balance of payments crisis in 1991.

Inflation concerns:

- The standard economic argument against money financing is that it is inflationary.
 - * Retail inflation in India has been on the uptick breaching the central bank's tolerance limit of 6%.
- Printing new currency notes increases the flow of money in the economy. This leads to increase in inflationary pressures which lead to rise of prices of goods and services in the country. Deficit financing is inherently inflationary.
- High inflation can have an undesired effect on the economy.
 - * When there is inflation in the economy employees demand higher wages to survive. If their demands are accepted it increases the cost of production which de-motivates the investors. Deficit financing thus affects investment adversely.
 - * This could lead to a situation where India enters a phase of slow growth and rising prices often referred to as stagflation phase.

- * Higher inflation and higher government debt provide grounds for macroeconomic instability.

Counter arguments:

- The article argues that the perception that money financing would be inherently inflationary as wrong. The article argues that whether a fiscal expansion is inflationary or not is related more to the state of the economy than the medium of its financing.
- Economic resources are currently unemployed. With enhanced public expenditure and the subsequent increase in demand these unused resources will get back to work and this will lead to an increase in output without inflation.
- The article argues that the enhanced public expenditure through money financing will help India revive its economy to pre-COVID-19 levels of output and employment.

Conclusion:

- Given the concerns that money financing may be imprudent to do so in the current circumstances, it is suggested that money financing must only be used as the last resort when all other options are exhausted.

Indian Economy and issues relating to mobilization of resources and Government budgeting

8. GST Compensation Issue

- » Prelims: GST Compensation act and its provisions
- » Mains: Possible solutions to the current GST compensation issue between the centre and the states

Background:

Rationale for the compensation formula:

- Several states had adopted a hard stance against the introduction of the GST system in India based on concerns that the implementation of the system would result in decreased tax revenues for the states.
 - * The GST subsumed several taxes, such as sales tax which were collected and appropriated by the states.
 - * Prior to GST, States exporting goods to other States collected a tax. GST being a destination-based tax, i.e., the State where the goods are sold receive the tax meant that manufacturing States would lose out tax revenue while the consuming States were expected to benefit from increased tax revenue.
- To convince States to agree to GST, the compensation formula was introduced.
 - * The GST implementation required amendment of the Seventh Schedule of the Constitution of India amounting to a federal provision amendment and hence ratification by the legislatures of half the States was necessary.

GST (Compensation to States) Act, 2017:

- This Act assumed that the GST revenue of each State would grow at an annual rate of 14%, from the amount collected in 2015-16, through all taxes subsumed by the GST. Any shortfall from this assumed revenue was to be compensated from the central government till June 2022. The act makes the Central government constitutionally bound to compensate States for loss of revenue for five years.
- The amount had to be paid every two months based on provisional accounts.
- A compensation cess was imposed on sin and luxury items such as pan masala, cigarettes and tobacco products, aerated water, caffeinated beverages, coal and select passenger motor vehicles to finance the compensation payments. The compensation cess collected was deposited in the compensation cess fund.

Concerns:**Delayed payment:**

- The compensation amount due to the states has to be paid every two months based on provisional accounts. However, this has not been adhered to.
- States have expressed apprehensions about not getting their compensation on time with some states claiming that they had to incur debts to meet the expenses predicated on GST compensation revenues.

Decreasing growth rate:

- There have been multiple projections of a negative real GDP growth, almost zero nominal GDP growth for the financial year 2020-21 in the light of the economic impact of the COVID-19 pandemic.
- This is likely to result in a significant shortfall for States from the assured tax collection as the guaranteed tax growth rate of 14% would be unachievable this financial year.

Shortfall in compensation fund:

- In the first two years of the compensation scheme, the cess collected exceeded the shortfall of States. In the third year, 2019-20, however the compensation fund collection fell significantly short of the requirement. This was on account of slowdown in tax collections as the economy slowed down coupled with negative growth in sectors such as motor vehicles which contributed to the cess fund.
- The shortfall was made up by excess collections in earlier years as well as some of the balance of inter-State GST from earlier years.
- Given the fact that the GST revenue fell 41% in the first quarter of 2020-21, the shortfall in cess collections and likely delays in payments to States is likely to continue in the current financial year as well.

Contentious issue:

- The GST compensation has been an area of concern over the previous year with states repeatedly requesting the centre to ensure timely payment and the centre expressing the constraints in ensuring compensation payments.
- Some states like Punjab had even said that it may take the matter to the Supreme Court if the Centre does not release the dues, while other states were considering raising the issue in the GST Council which has a dispute redressal mechanism for disputes among the members of the council.

Possible solutions:

- Given that the Central government is constitutionally bound to compensate States for loss of revenue for five years and the current crisis, the following possible solutions to this issue can be considered.

Reducing the period of revenue guarantee:

- The Constitution could be amended to reduce the period of guarantee to three years (ending June 2020).

Concerns:

- This solution is very unlikely to find support from the states given that this move will only further weaken the state's finances already battered by the economic impact of the COVID-19 pandemic.
- In fact some states have been demanding that the cut-off date for ending compensation to the States be moved from 2021-22 to 2026-27.

Funding from central government revenues:

- The Central government could consider funding the shortfall in the compensation fund from its own revenue base.

Concerns:

- Given the fact that the Centre's finances are already stretched due to shortfall in its own tax collection and the extra expenditure to manage the COVID-19 crisis may not allow the centre to do so.

Lowering revenue growth target:

- The Centre could convince States to lower the 14% growth target provided for in the GST (Compensation to States) Act, 2017.
- The revenue target rate could be linked to nominal GDP growth which would take care of unexpected contingencies like the current pandemic crisis.
 - * Most economists consider the 14% target too ambitious. Considering a government's inflation target of 4%, this would imply a real GDP growth plus tax buoyancy of 9%. This proved to be unachievable even prior to COVID-19.

Concerns:

- Any such amendment would require the GST council to approve it. Given the composition of the GST council and the states being unlikely to agree to such a proposition, it would not be possible to bring such an amendment.
- * The GST Council is a constitutional body with representation of the Centre and all the States.

- In fact some states have previously urged the Centre to raise the cess to compensate the States.

Borrowing:

- The Centre could borrow to finance its compensation payments to the states.
- The centre could borrow on the guarantee of the cess fund. The tenure of the compensation cess could be extended beyond five years until the cess collected is sufficient to pay off the borrowed debt and interest on it.

Concerns:

- Given the fact that the fiscal deficit has already breached the prescribed limits of the FRBM act, the central government would be hesitant to borrow further.
- The borrowing from the domestic finance market may crowd out the private sector.

Significance:

- This solution provides a win-win situation for both the states and the centre and is likely to find acceptance from both. The states would be receiving the compensation amount as guaranteed by the GST (Compensation to States) Act, 2017 while the central government would not have to worry about arranging resources in the current situation. The compensation cess would help the central government pay back the borrowed money in the long run.
- The sovereign guarantee on the loans would enable the availing of loans at attractive rates from the market.

*Indian Economy and issues relating to mobilization of resources and Government budgeting***9. Centre's Proposal for GST Compensation**

- » Prelims: GST Council, G sec
- » Mains: Solution proposed by the centre and the state's opposition to it

Context:

- The 41st GST Council meeting.

Solution propounded by the Central government:

- As per the available estimates, the states are likely to face a GST revenue gap of Rs. 3 lakh crore in the current fiscal year. The Compensation cess collections are only expected to bridge 22% of this gap.
- The centre has stated that of the remaining Rs. 2.35 lakh crore, the Centre said only Rs. 97,000 crore was due to GST implementation itself and thus it is only liable to pay the states this amount.
- Acknowledging the likely GST revenue gap and GST compensation payment to the states in the current financial year, the centre has offered states two options for borrowing to meet the shortfall.
 - * A special window would be provided, in consultation with the RBI, so that the states can get Rs. 97,000 crore at a reasonable rate of interest, and this amount can be repaid later through the collection of cess.
 - * Alternatively, the states can choose to meet the entire gap of Rs. 2.35 lakh crore through market borrowing.

Concerns expressed by the states:

- Kerala and a few other states have rejected both the options for Goods and Services Tax (GST) compensation mooted by the Centre.
- The states have argued that the proposals would lead to financial losses for the States.
- The Centre has tried to distinguish between the shortfalls due to GST implementation itself and that caused by the impact of COVID-19. The centre's claim has been that only the former i.e, shortfall due to GST implementation can be claimed under the compensation law. This states claim goes against the provisions of the constitutionally backed GST regime and the spirit of co-operative federalism. States have argued that such a distinction is not constitutionally valid.
- States have been arguing that the views of the States in the GST Council are being ignored.
- As per the Constitutional provisions, only 3% of the State's income can be availed as loan and even if the fiscal limit ceiling is enhanced by 0.5% via a constitutional amendment, it will still not be adequate for some states like Kerala as it will not be enough to cover the GST compensation given the huge shortfall.

- The State's argument has been that it would be much better if the centre raised the loan given that the interest on loans raised by the states would be 1-2% higher as compared to the loans raised by the central government.

Counter - arguments:

Collective economic interest:

- Given that additional borrowing by the Centre influences yields on Central Government securities (G-secs) and has other macro-economic repercussions, while yields on State securities do not directly influence other yields and do not have the same repercussions, it would be economically prudent to restrict any avoidable borrowing at the Central level when it could be done at the State level.
- Given that States can borrow without hurting the economy, it would be best to have the states to borrow to make up for the shortfall.

'Act of god' argument:

- The Centre's argument has been that going by the wording of the Constitutional provisions of the GST system, the spirit of the law is not to compensate States for all types of revenue losses, but rather for that loss arising from GST implementation

Special window provisions:

- The centre under the special window borrowing would endeavour to keep the cost of borrowing for the states as low as possible.
- As per the proposed option, the interest on the borrowing under the special window will be paid from the cess as and when it arises until the end of the transition period. The State will not be required to service the debt or to repay it from any other source.
- The borrowing under the special window will also not be treated as debt of the State for any norms which may be prescribed by the Finance Commission etc. This would not disadvantage the states for any enhanced borrowing activities.

Indian Economy and issues relating to mobilization of resources and Government budgeting

10. Reforming the GST System

- » Prelims: Provisions of the GST system, GST act
- » Mains: Reforms in the existing GST system

Flaws in the current GST system:

- The current design and implementation of the GST system has failed to deliver on the promise of enhanced economic growth and tax buoyancy.

Design flaws:

- The article argues that the assured 14% year on year tax growth for five years was too optimistic a target to achieve given the fact that neither the national aggregate nor any of the major States had such high growth rates for the previous five years.

- The fixed 14% growth rate may also have not been the right way forward. The article suggests that the GST compensation system should have been based on the successful design as implemented under the Value Added Tax (VAT) system.

- * VAT was the precursor to GST. The design envisaged for the Value Added Tax (VAT) rates involved a similar compensation payment but the assured growth rate tapered over the years, thus incentivizing the state to undertake tax efforts on their side.

Implementation flaws:

- The frequent changing of rate slabs has led to confusion and has also led to litigation in some cases. This has led to politicizing of economic issues such as taxation and hence is a great cause of concern.
- The Centre's moves to push more goods in the "sin tax" cess category, to earn revenue that is not shareable with the States, has been opposed by the states.
- The interstate GST and the administration of the e-way bill system is too complex and burdensome and has thus failed to reduce the transaction costs.

Way forward:

- The issue of GST compensation is just a small part of the larger concerns with respect to the GST system and there is the need for a radical overhaul of the GST system. The following provisions need to be considered.

Universal coverage

- GST must include all goods and services with very few exceptions, such as food and medicine. The article argues for the inclusion of petrol, diesel, electricity, transport and real estate as well.
- This will help ensure the widening of the tax base.

Adopting a single rate

- There is the need to go back to the original recommendation of a standard rate of 12%, to be fixed for at least a five-year period.
- The commitment to a low and stable rate, as observed in other federal democracies, is a must.
- A low moderate single rate of 12% encourages better compliance, reduces the need to do arbitrary classification and discretion, reduces litigation and will lead to buoyancy in collection.

Ensuring states' revenue autonomy

- Extra elbow room for the States' revenue autonomy can be ensured by allowing the States non VAT able surcharges on a small list of "sin" goods such as liquor, tobacco, polluting goods such as sport utility vehicles, and industrial fuels such as diesel, aviation turbine fuel and coal.
- This would while allowing a single tax rate also helps ensure that sin goods are charged higher tax rates.

Compensation payment

- The compensation-cum-reimbursement incentive must be retained, but it should be based on more realistic assured rates and also the assured rates should decrease over time.
- This will while ensuring state's co-operation in the implementation of the GST system will also lead to a more economically viable and efficient model.

Third tier of government

- The new design must recognise the increasing importance of the third tier of government and address the issues being faced by them.
 - * Despite the empowering constitutional provisions of 73rd and 74th Amendments, the local governments do not have the promised transfer of funds, functions and functionaries. These local bodies face increased responsibility of providing government services especially in view of increasing urbanisation and decentralisation.
- The article calls for some devolution of GST share to the third tier of government as well.
 - * Of the proposed 12% GST, 10% could be equally shared between the States and the Centre, while 2% must be earmarked exclusively for the urban and rural local bodies.
 - * The actual distribution across panchayats, districts and cities could be decided by the respective State Finance Commissions.
- This provision will help ensure some degree of basic revenue autonomy of these institutions and help improve their performance in public service delivery and governance.

Simplified mechanisms

- There is also the need for an overhaul of the complex interstate GST and the administration of the e-way bill system
- A more simplified mechanism will help reduce the transaction costs drastically.

Indian Economy and issues relating to mobilization of resources and Government budgeting**11. Balance of payments**

- » Prelims: Definition of BoP
- » Mains: Statistics regarding India's BoP

Context:

- Trade turned surplus for the first time in 18 years for India as imports dropped by a steeper 47.59%.
- India posted a trade surplus of \$0.79 billion in June 2020.

Balance of Payments:

- The balance of payments (BOP) is a statement of all transactions made between entities in one country and the rest of the world over a defined period of time (such as a year).
- The balance of payments includes both the current account and the capital account.
 - * The current account includes a nation's net trade in goods and services.
 - * The capital account consists of a nation's imports and exports of capital/ investment.

Indian Economy and issues relating to mobilization of resources and Government budgeting**12. Taxpayers' charter**

- » Prelims: Tax reforms in India, Government initiatives
- » Mains: Significance of tax reforms in India

Context:

- The Prime Minister has launched a "Transparent Taxation — Honouring the Honest" platform that provides faceless assessment, faceless appeal and a taxpayers' charter.

Details:

- With the help of technology, the cases of tax scrutiny will now be allocated randomly to any official in any part of the country. A review of orders will also be done by another team at some other place, chosen randomly using data analytics and artificial intelligence.
- While the faceless assessment and taxpayers' charter have already come into force, the faceless appeal system will be implemented in the coming days.

Benefits:

- It seeks to eliminate corrupt practices by doing away with the territorial jurisdiction of income-tax offices.
- The platform would instil a sense of fairness and fearlessness in the taxpayers.
- The efforts are directed at making the tax system seamless, painless and faceless.
- The new facilities are in consonance with the government's motto of 'minimum government, maximum governance'.

Other measures:

- Some of the other reforms in taxation include:
 - * Reduction in corporate tax from 30% to 22% for existing companies and from 25% to 15% for new manufacturing companies.
 - * Abolition of the dividend distribution tax.

- * Steps have been taken to bring in efficiency and transparency in the functioning of the Income Tax Department, including Document Identification Number (DIN) and pre-filing of income tax returns to make compliance more convenient.

Indian Economy and issues related to planning and effects of liberalization of economy

13. 'Doing Business' Index

- » Prelims : Parameters considered for the doing business index, India's performance
- » Mains: Concerns with the doing business index.

Context:

- The World Bank's decision to halt its annual 'Doing Business' report on data authenticity issues.

Background

Doing Business index:

- The doing business index estimates the cost to business from regulations. Erratic procedures and delays hamper business in India and simplifying procedures brings economic benefits.
- The survey assumes that lower tax rates are best and it supports lighter rules and regulation to encourage shifts from informal to formal sectors.

India's performance:

- India has consistently sought to improve its ease of doing business index ranking, as a means to attract foreign investments into India. Since 2015, India has invested considerable political and administrative capital to improve India's global ranking, with impressive success.
- India has achieved remarkable progress in its ease of doing business ranking by registering a steep improvement from 142nd position in 2014 to 63rd rank in 2019.

Details:

- The World Bank has proposed the conducting of a systematic review and assessment of data changes that occurred subsequent to the institutional data review process for the last five Doing Business reports.

Concerns:

- The World Bank's own internal watchdog, the Independent Evaluation Group, in its 2013 report, has widely questioned the reliability and objectivity of the index.

Lack of correlation:

- Available evidence point to the lack of correlation between the improvement in ranking and other critical economic indicators.
 - * Despite impressive improvement in the ease of doing business rankings for India, there has not been proportionate improvement in foreign

investment inflows or other important economic indicators like capital formation and output growth. China, on the contrary, attracted one of the highest capital inflows even though its ease of doing business ranking was low.

Design flaws:

- There are many shortcomings in the design and implementation of the index.
- The data used for computing the index are obtained from larger enterprises in two cities, Mumbai and Delhi, by lawyers, accountants and brokers and not from entrepreneurs who are the primary stakeholders.

Deviation from other similar surveys:

- Also there is very little correlation between the rankings obtained from ease of doing business and the global enterprise survey conducted by the World Bank based on information collected from the companies.
- There is huge deviation in the findings of the doing business report and global enterprise survey on issues like the ease of legal and regulatory processes for new industries.

Flawed basis:

- There are serious doubts regarding the theoretical underpinning of the ease of doing business index.
- The simplistic generalisations that minimally regulated markets for labour and capital always produce superior outcomes in terms of output and employment may not be always true. The economic history shows rich variations in performance across countries and policy regimes as against the simplistic generalisation as assumed in the ease of doing business index.

Unwarranted implications:

- The focus on reducing regulations based on the "minimum government and maximum governance" principle has had unwarranted implications. The desire for better ranking in the index has encouraged countries to even slash down vital regulations which could have a detrimental impact in the long run.
- There are concerns that the index sidesteps societal costs of deregulating pollution, worker safety, and health risks.

Environmental concerns:

- Countries like Brazil, India, and the U.S. have slashed environmental standards which are making significant contributions to climate change and threatening the ecological stability.
 - * Brazil has been opening up the pristine Amazon forests for developmental activities.
 - * India is considering an Environment Impact Assessment with dilutions to the existing environmental law.

- * There has been the watering down of effluent benchmarks for power plants and automobiles and the production of fossil fuels like oil and shale gas have witnessed a boom in the U.S.
- Despite the unsustainability of these economic policies, these countries have exhibited higher ranking in the doing business rankings.
 - * China and India improved their scores sharply in the 2019 and 2020 edition of the Doing Business ranking, though these countries continue to be among the largest emitters of carbon effluents. The Environmental Performance Index ranked China 120, and India 168, out of 180 countries.

Worker safety:

- Slack business safeguards may prove to be detrimental to worker safety.
- For instance, to meet the ease of doing business targets, mandatory inspections are being done away with and “third party” inspection and employers’ self-certification are being promoted. This could severely compromise safety standards of factories.
 - * The 2013 collapse of the Rana Plaza garment factory in Bangladesh, the second deadliest industrial accident resulted from lackadaisical factory regulation.

Labour rights:

- The states have been relaxing the labour laws to help attract higher private investment in their economies.
- However, the states seem to be neglecting workers’ well-being while considering changes to labour laws.

Authenticity of data:

- There have been concerns raised about the authenticity of the country-level data and also the changes in underlying methodologies made recently.
- Just the methodological changes have said to have impacted the rankings of many countries without any actual change in the ground realities.

Neglect of vital indicators:

- The survey neglects indicators like capital availability, availability of skilled workforce, infrastructure availability and entrepreneurship support systems which are as important as the other parameters in the doing business index.

Conclusion:

- Apart from relying completely on the WB’s ‘Doing Business’ report guidelines, India should also work towards coming up with a domestic policy measure to not only encourage foreign investments but also empower the already existing domestic players with easier business opportunities.
- The doing business index needs a total revamp wherein aspects such as safety standards, labour rights and environmental performance also find a provision

‘Make in India’:

- The ‘Make in India’ initiative has the main objectives of raising the manufacturing sector’s share in GDP to 25% (from 16-17% per cent) and creating 100 million additional jobs in the manufacturing sector by 2022.
- The share of the manufacturing sector has stagnated at around 16-17% of GDP. Annual GDP growth rate in manufacturing fell from 13.1% in 2015-16 to zero in 2019-20, as per the National Accounts Statistics.

Changes in industrial policy and their effects on industrial growth

14. Production Linked Incentive (PLI) Scheme

- » Prelims : Provisions of the scheme, Concerned ministry
- » Mains: Significance of the new scheme

Context:

- The government has said that a total of 22 companies have filed applications under the Production-Linked Incentive (PLI) scheme that aims to boost local manufacturing of mobile phones and components.

Details:

- The Electronics and Information Technology Ministry had notified the Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing in April 2020.
- The scheme offers a production linked incentive to boost domestic manufacturing and attract large investments in mobile phone manufacturing and specified electronic components, including Assembly, Testing, Marking and Packaging (ATMP) units.
- The scheme shall extend an incentive of 4% to 6% on incremental sales (over base year) of goods manufactured in India and covered under target segments, to eligible companies, for a period of five years subsequent to the base year as defined.
- The Scheme will be implemented through a Nodal Agency which shall act as a Project Management Agency (PMA) and be responsible for providing secretarial, managerial and implementation support and carrying out other responsibilities as assigned by the Ministry from time to time.
- The target segments include mobile phones and other electronic components such as transistors, diodes, thyristors, resistors, capacitors and nano-electronic components such as micro electromechanical systems.
- According to the scheme, companies that make mobile phones which sell for Rs 15,000 or more will get an incentive of up to 6 per cent on incremental sales of all such mobile phones made in India.
- In the same category, companies which are owned by Indian nationals and make such mobile phones, the incentive has been kept at Rs 200 crore for the next four years.

Why is the scheme required?

- The domestic electronics hardware manufacturing sector faces lack of a level playing field vis-à-vis competing nations.
- The sector suffers a disability of around 8.5% to 11% on account of lack of adequate infrastructure, domestic supply chain and logistics; high cost of finance; inadequate availability of quality power; limited design capabilities and focus on R&D by the industry; and inadequacies in skill development.
- This move is a step to position India as a global hub for Electronics System Design and Manufacturing (ESDM) by encouraging and driving capabilities in the country for developing core components and creating an enabling environment for the industry to compete globally.

Significance:

- This is expected to bring in additional investment in electronics manufacturing, while also leading to substantial increase in total production and export of goods from India.

Indian Economy and Issues**15. Chemical industry's infra shortcomings**

- » Prelims: API, India's Pharmaceutical Industry
- » Mains: Steps to make India more self reliant with respect to pharmaceutical imports

Context:

- Report prepared by the Technology Information Forecasting and Assessment Council (TIFAC).
 - * The Technology Information, Forecasting and Assessment Council (TIFAC) is an autonomous technology think tank under the Department of Science & Technology (DST), Government of India.

Details:

- The report flags the lack of technology, plants and infrastructure in the chemical industry of India to manufacture key chemicals in a cost effective manner.
- Solvent and chemicals manufacturing costs in India are over 15% more than China.
- India depends on China for 67% of chemical intermediates and API that it needs to manufacture drugs and export. The United States and Italy are the other countries that India depends on for API.
- The report underlined that India had nearly stopped manufacturing several key active pharmaceutical ingredients (API).

Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth**16. Export Preparedness Index**

- » Prelims: Export Preparedness Index, parameters considered
- » Mains: Significance of export sector viz-a-viz India's economy and the necessary measures required

Context:

- Export Preparedness Index 2020 to evaluate States' potential and capacities has been released by the NITI Aayog in partnership with the Institute of Competitiveness.

Export Preparedness Index:

- It helps examine the export preparedness and performance of Indian states.
- EPI intends to identify challenges and opportunities; enhance the effectiveness of government policies; and encourage a facilitative regulatory framework.
- It promotes healthy competition among states and UTs to work on parameters for promoting the country's exports, which is one of the key indicators for boosting economic growth.

Framework of the EPI:

- 4 pillars –Policy; Business Ecosystem; Export Ecosystem; Export Performance.
- 11 sub-pillars –Export Promotion Policy; Institutional Framework; Business Environment; Infrastructure; Transport Connectivity; Access to Finance; Export Infrastructure; Trade Support; R&D Infrastructure; Export Diversification; and Growth Orientation.

Key findings of the report:

- Gujarat has topped the Export Preparedness Index 2020 followed by Maharashtra and Tamil Nadu.
- The other states that have made it to the top 10 include Rajasthan, Odisha, Telangana, Haryana, Chhattisgarh, Karnataka and Kerala.
- The coastal states have emerged as the best performers, with six out of eight coastal states featuring in the top 10 rankings.
- Among the Himalayan states, Uttarakhand is the highest, followed by Tripura and Himachal Pradesh.
- Across the Union Territories, Delhi has performed the best, followed by Goa and Chandigarh.
- The average score of Indian states in sub-pillars of Exports Diversification, Transport Connectivity, and Infrastructure (three sub-pillars) was above 50%.

Challenges faced by India's Export Sector:

- Based on the findings of the report, export promotion in India faces three fundamental challenges:
 - * To Intra- and inter-regional disparities in export infrastructure.

- * Poor trade support and growth orientation among states.
- * Poor R&D infrastructure to promote complex and unique exports.

Key strategies to address these challenges:

- A joint development of export infrastructure, strengthening industry-academia linkages and creating state-level engagements for economic diplomacy is the way forward.
- These strategies could be supported by revamped designs and standards for local products.
- Innovating tendencies to provide new use cases for local products must be harnessed with adequate support from the Centre.

Conclusion:

- To achieve the target of making India a developed economy by focusing on 'Atmanirbhar Bharat', there is a need to increase exports from all the states and union territories.

Effects of liberalization on the economy

17. Business Responsibility Reporting

- » Prelims: Business Responsibility Reporting (BRR), concerned ministry
- » Mains: significance of transparency for sustainable economic growth

Context:

- The Ministry of Corporate Affairs (MCA) releases the Report of the Committee on Business Responsibility Reporting (BRR).

What is BRR?

- It is a disclosure of the adoption of responsible business practices by a listed company to all its stakeholders.

Background:

- The MCA has been taking various initiatives for ensuring responsible business conduct by companies.
- As a first step, the 'Voluntary Guidelines on Corporate Social Responsibility' were issued in 2009.
 - * These guidelines were revised in 2011 as the 'National Voluntary Guidelines (NVGs) on Social, Environmental and Economic Responsibilities of Business'.
- SEBI issued the 'Listing Regulations' in 2012 which made it mandatory for the top 100 listed companies (by market capitalisation) to file Business Responsibility Reports (BRRs) from an environmental, social and governance perspective.
- Taking into account national and international developments in the domain of business and human rights, the NVGs were revised in 2019 as NGRBC (National Guidelines on Responsible Business Conduct).

- NGRBC is aligned with UNGPs, UNSDGs, Paris Agreement on Climate Change, etc.

Highlights of the Report

- A new reporting framework called the 'Business Responsibility and Sustainability Report (BRSR)' has been recommended to better reflect the intent and scope of reporting on non-financial parameters.
- Another recommendation is that the BRSR be integrated with the MCA 21 portal.
- As a long-term measure, the report envisions that the information captured through BRSR filings be used to develop a Business Responsibility-Sustainability Index for companies.
- The top 1000 listed companies are to undertake this reporting mandatorily.
- The reporting requirement may be extended by MCA to unlisted companies above specified thresholds of turnover and/or paid-up capital.
- Further, the Committee recommended that smaller unlisted companies below this threshold may, to begin with, adopt a light version of the format, on a voluntary basis.

Indian Economy and Infrastructure

18. RORO Services

- » Prelims: RORO service
- » Mains: Significance of the RORO service

Context:

- The first ever RORO service of South Western Railway was inaugurated.
- Roll On Roll Off (RORO) is a concept of carrying road vehicles loaded with various commodities, on open flat railway wagons.
- RORO services are a combination of best features of road and rail transports in the sense that they offer door to door service with minimal handling transported by direct rail link.
- RO-RO train services were first introduced in Indian Railways on Konkan Railways in 1999, and have been running successfully since then.

Advantages of RO-RO:

- Faster movement of goods and essentials, reducing Time taken by trucks to reach destinations.
- Avoids congestion on the roads.
- Saves fuel.
- Reduces carbon footprint.
- Seamless Inter-operability between roadways and railways-Inter-modal transport on existing track.
- Will boost our local MSME units by encouraging piecemeal /decentralized loading through trucks.

- RO-RO will help government initiatives like “operation green” to stabilize the prices of TOP (Tomato, Potato and Onion) by providing link between agriculture producing regions and agro consumption centres.

Indian Economy and Infrastructure

19. Connecting Chennai – Andaman and Nicobar Islands (CANI)

- » Prelims: CANI, Optical fibre communication.
- » Mains: Significance of the new infrastructure for development of Andaman and Nicobar islands

Context:

- The Prime Minister inaugurated the first-ever undersea optical fibre cable project for Andaman and Nicobar Islands.

Details:

- The submarine Optical Fibre Cable (OFC) connecting Andaman & Nicobar Islands to the mainland was launched.
- About 2,300 km of submarine optical fibre cable (OFC) has been laid at a cost of about Rs 1,224 crore to provide better connectivity in the UT.
- The project is funded by the government through the Universal Service Obligation Fund under the ministry of communications.
- The PM said that all the Islands of India would be playing an important role under India's new trade strategy for the Indo-Pacific region.

- * He also opined that under the Act-East policy, the role of Andaman and Nicobar in India's strong relations with East Asian countries and other countries connected to the sea is very high and is going to increase.

Significance:

- The submarine cable is expected to help the islands in getting cheaper & better connectivity and all the benefits of Digital India, especially in improving online education, telemedicine, banking system, online trading and in boosting tourism.
- It will provide high-speed broadband connections in the union territory at par with services in the mainland.
- Business Process Outsourcing services and other medium and large enterprises too also benefit from better connectivity.

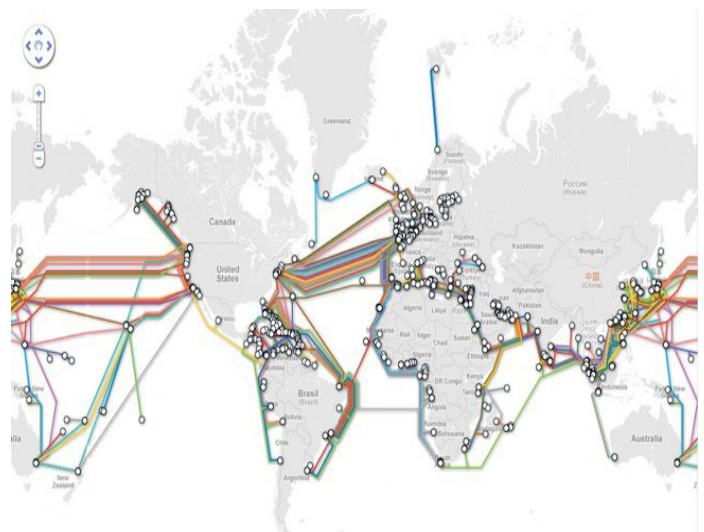
Submarine communications cable

- A submarine communications cable is a cable laid on the sea bed between land-based stations to carry telecommunication signals across stretches of ocean and sea.
- The optical fibre elements are typically individually coated with plastic layers and contained in a protective tube suitable for the environment where the cable will be deployed.

Types of Submarine fibre cables:

There are two types of Submarine fibre cables: unrepeaters and repeaters.

- Unrepeated cables are preferred in short cable routes because it does not require repeaters, lowering costs; however, their maximum transmission distance is limited.



How Fibre optic cables are placed under the ocean?

- Submarine cables are laid down by using specially-modified ships that carry the submarine cable on board and slowly lay it out on the seabed as per the plans given by the cable operator.

Importance of submarine cables

- Currently 99 per cent of the data traffic that is crossing oceans is carried by undersea cables. The reliability of submarine cables is high, especially when multiple paths are available in the event of a cable break.
- Also, the total carrying capacity of submarine cables is in the terabits per second, while satellites typically offer only 1,000 megabits per second and display higher latency.
- However, a typical multi-terabit, transoceanic submarine cable system costs several hundred million dollars to construct.
- As a result of these cables' cost and usefulness, they are highly valued not only by the corporations building and operating them for profit, but also by national governments.

Threats**Accidental and natural damage:**

- Fishing vessels,
- Dredging
- Anchor dragging
- Extreme seismic and weather events.

Malicious damage:

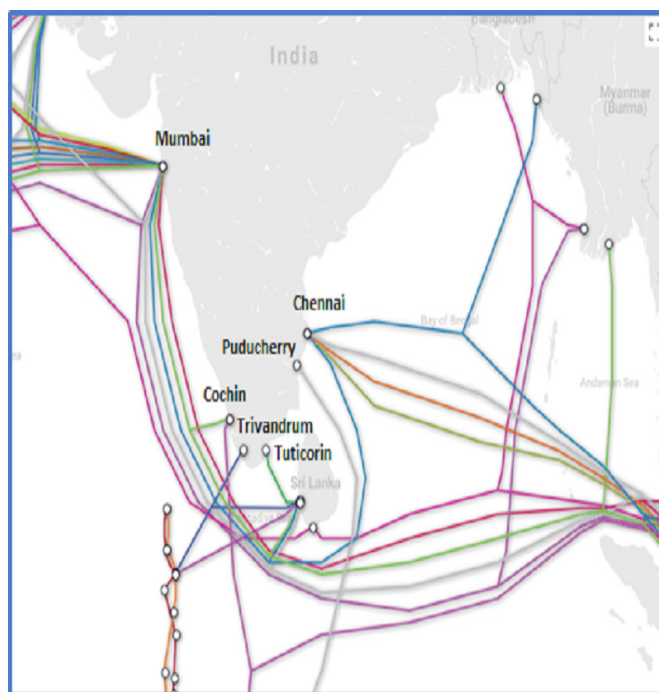
- Cyberattacks,
- State and non state actor sabotage
- Cable cutting
- Vandalism and theft

Recommendations

- To mitigate risk of accidental damage to undersea fiber-optic cable requires:
 - * To Burying cables at least 2–6 feet below surface;
 - * Monitoring for extreme weather events and seismic activity;
- For malicious damage, risk mitigation requires:
 - * Improving the monitoring of data transmission to detect possible interference;
 - * Improving the physical security of cable landing sites and monitoring of cables in territorial waters;
 - * Additionally, there is a need to expand the mandate of regional and international cable protection associations to include aspects of malicious compromise

Cable Landing Stations in India

- A cable landing point is the location where a submarine or other underwater cable makes landfall.
- The term is most often used for the landfall points of submarine telecommunications cables and submarine power cables.
- Cable Landing Stations in India: Mumbai, Chennai, Cochin, Trivandrum and Tuticorin
- The National Critical Infrastructure Protection Centre, an agency under the control of National Technical Research Organisation (NTRO), has been created to monitor, intercept and assess threats to crucial infrastructure and other vital installations from intelligence gathered using sensors and platforms which include satellites, underwater buoys, drones, VSAT-terminal locators and fiber-optic cable nodal tap points.

**Inclusive growth and issues arising from it****20. Atal Bimit Vyakti Kalyan Yojana**

- » Prelims: Atal Bimit Vyakti Kalyan Yojana, provisions and eligibility.
- » Mains: Measures for social security

Context:

- Relaxation in eligibility criteria and enhancement in the payment of unemployment benefits under the Atal Bimit Vyakti Kalyan Yojana of ESIC.

About the Atal Bimit Vyakti Kalyan Yojana:

- It is a scheme implemented by the Employees' State Insurance Corporation (ESIC).
- ESIC is a government-run organisation set up under the Employees' State Insurance Act, 1948.

- It is under the GOI's Ministry of Labour and Employment.
- The organization aims to provide social-economic protection to the Indian workers (labourers), including members of their families covered under the scheme.
- Introduced in 2018, this scheme initially provided relief to the extent of 25% of the average per day earning during the previous four contribution periods to be paid up to maximum 90 days of unemployment once in a lifetime of the insured person.
- The current relaxation provides relief to the extent of 50% from the time period March to December 2020.
- After this time period, the scheme will be available with the original condition pursuant to a review that would be done at the end of this year.
- This relaxation is targeted at workers who have lost their livelihood during the COVID-19 pandemic.

Inclusive growth and issues arising from it

21. Khadi Agarbatti Aatmanirbhar Mission (KAAM)

- » Prelims: Khadi and Village Industries Commission, KAAM scheme
- » Mains: Government schemes for MSME's and employment generation.

Context:

- Union Minister for MSME has approved a unique employment generation program proposed by Khadi and Village Industries Commission (KVIC)

Key stat:

- At present, the total daily consumption of Agarbatti in the country is approximately 1490 MT per day. However, currently, India produces just 760 MT of Agarbatti daily.

Details:

- This is an employment generation programme proposed by the KVIC.
- The idea is to make India aatmanirbhar (self-reliant) in agarbatti production.
- The mission aims at creating employment for unemployed and migrant workers in different parts of the country while increasing domestic Agarbatti production substantially.
- The scheme will operate on a PPP model.
- Under the scheme, KVIC will provide Automatic Agarbatti making machines and powder mixing machines to the artisans through successful private Agarbatti manufacturers who will sign the agreement as business partners.
- KVIC has decided to procure only locally made machines by Indian manufacturers which also aims at encouraging local production.

Implementation:

- KVIC will provide a 25% subsidy on the cost of the machines and will recover the remaining 75% of the cost from the artisans in easy installments every month.
- The business partner will provide the raw material to the artisans for making Agarbatti and will pay them wages on a job work basis.
 - * The supply of raw material to the artisans, logistics, quality control and marketing of the final product will be the sole responsibility of the business partner.
- The cost of artisans' training will be shared between KVIC and the private business partner wherein KVIC will bear 75% of the cost while 25% will be paid by the business partner.
- Each automatic Agarbatti making machine makes approximately 80 kg Agarbatti per day which will provide direct employment to 4 persons. One powder mixing machine, to be given on a set of 5 Agarbatti making machines, will provide employment to 2 persons.

Significance

- Under the KAAM scheme, wages of the artisans would be provided by the business partners on a weekly basis directly in their accounts through DBT only.

Inclusive growth and issues arising from it

22. National Handloom Day

- » Prelims: Popular handloom products in India,
- » Mains: Issues in the handloom sector and government initiatives

Definition

- Handloom (Reservation and Articles for Production) Act, 1985, where 'handloom' meant "any loom other than powerloom", in recent years it has become more elaborate.
- In 2012, a new definition was proposed: "Handloom means any loom other than powerloom; and includes any hybrid loom on which at least one process of weaving requires manual intervention or human energy for production." It basically made room for a relaxed entry for powerloom weavers.
- India has the largest weaving industry in the world.

Famous handloom products in India

- Tamil Nadu's famous Kanchipuram saris
- Assam's Muga (golden silk) mekhelasadors,
- Paithani weaves of Maharashtra
- Benarasi brocades of Uttar Pradesh

Why August 7th?

- With the partition of Bengal, the Swadeshi Movement gained strength.

- It was on August 7, 1905 that a formal proclamation was made at the Calcutta Town Hall to boycott foreign goods and rely on Indian-made products.
- More than a century later, in 2015, Prime Minister Narendra Modi inaugurated the first National Handloom Day.
- It was a salute to weavers and others in the industry to promote the handmade and the handwoven.

Reduction in the number of Looms

- Raw Material: From cotton, silk, and woollen yarn to dyes, costs have increased and so has the shortage.
 - * Besides, smaller weavers have been unable to buy in bulk leading to lower output of material
- Credit Support: The Textile Association of India records that the budget allocation for the textile sector came down to Rs 4,831 crore in (2019-2020) from Rs 6,943 in the previous fiscal.
 - * This also means that various schemes be it housing, subsidies, health insurance will affect the weaver too.
 - * Quite often smaller weavers are at the mercy of money lenders, and suicides have made headlines
- Reduced numbers: With many traditional families moving to cities for jobs as labourers, weavers have been leaving the loom.
- Lack of access: Poor infrastructure, older looms and inaccessibility to reach prime markets have made lives of handloom weavers even more difficult.

Conclusion:

- The need for awareness, accessibility to markets and design R&D, easy access to raw material and better credit support can make a difference to weavers in different corners of the country.

Agricultural sector in India

23. Organic farming in India.

- » Prelims: Organic farming associated statistics in India
- » Mains: Significance of Organic farming in the Indian context

Details

- India ranks first in the number of organic farmers and ninth in terms of the area under organic farming.
- Sikkim became the first state in the world to become fully organic.
- Uttarakhand and Tripura are also setting similar targets in organic farming.
- North East India has traditionally been organic and the consumption of chemicals is far less than the rest of the country.

- The tribal areas and the islands are also being nurtured for organic farming.
- The major organic exports from India are flax seeds, sesame, soybean, tea, medicinal plants, rice and pulses, which were instrumental in driving an increase of nearly 50% in organic exports in 2018-19, touching Rs 5151 crore.

Agricultural sector in India

24. Agriculture Infrastructure Fund

- » Prelims: AIF provisions
- » Mains: significance of the AIF for ensuring robust forward linkages to the agricultural sector

Context:

- The launch of the Rs 1 lakh crore Agriculture Infrastructure Fund (AIF).

Background:

- As part of the reform measures in the agricultural sector, the government has previously issued ordinances aiming to bring in some degree of liberalization in the agri-market sector.
- These included amendments in the Essential Commodities Act, allowing farmers to sell their produce outside the APMC mandis and encouraging farming contracts between farmers, processors, exporters and retailers.
- Though these changes in the legal framework are welcome, they were insufficient to truly exploit the potential of agri-markets in India and there have been calls for the creation of sufficient and quality post-harvest physical infrastructure.
- It was in this context that the Agriculture Infrastructure Fund (AIF) was set up.

Details:

- The Agriculture Infrastructure Fund will be managed by the National Bank for Agriculture and Rural Development (NABARD) in association with the Ministry of Agriculture and Farmers Welfare.
- The scheme shall provide a medium – long term debt financing facility for investment in viable projects for post-harvest management infrastructure and community farming assets.
 - * Under the scheme, financing will be to develop cold chain storage, processing facilities and other post-harvest management infrastructure at the farm gate and aggregation points.
- The fund would mainly focus on the Farmer Producer Organisations (FPOs) and primary agriculture cooperative societies, but loans from the fund can also be availed by agriculture entrepreneurs and start-ups.

- The fund will be used to provide loans, at concessional rates through primary agriculture credit societies (PACs).
- The government would bear the burden of interest on such loans through interest subvention subsidy.

Significance:

- The Fund will provide an impetus to the creation of post-harvest management infrastructure and assets such as cold storage, collection centres, processing units, etc.
- The availability of more and better storage facilities can help farmers avoid distress selling immediately after the harvest. This can lead to better price discovery for the farmers.
- The availability of cold storage facilities can also help reduce wastage and also ensure the uniform availability of seasonal produce throughout the year for the consumers.
- The processing units will enable farmers to get greater value for their produce through increased processing and value addition.
- By facilitating formal credit to farm and farm processing-based activities, the fund is also expected to create numerous job opportunities in rural areas addressing the crucial employment issue.

Challenges:

- The mere creation of storage facilities will not be enough to benefit farmers and there are systemic challenges to ensure the effectiveness of this governmental intervention.

Cash needs of small and marginal farmers:

- Small farmers cannot hold stocks for long as they may have urgent cash needs to meet family expenditures.
- This would lead to a situation where despite the availability of storage facilities, the small and marginal farmers who account for the largest share of farmers in Indian scenario will not be in a position to make use of the facilities.
- This would lead to a situation where the newly created facilities would not be able to remain economically viable due to low demand for such facilities.

Possible remedy:

- The article suggests the negotiable warehouse receipt system as a possible solution for the above challenge.
- The availability of the negotiable warehouse receipt system can help meet the urgent needs of farmers, under which the FPOs can give advances to farmers against their produce as collateral.

Working capital needs of the FPOs:

- The implementation of negotiable warehouse receipt system would entail the need of a large working capital for the FPOs.

- However, currently most FPOs get a large share of their loans for working capital from microfinance institutions at very high rates. At such rates, stocking may not be economically viable for the FPOs.

Possible remedy:

- NABARD can help ensure that FPOs get their working capital at interest rates of 4 to 7 per cent through financial support and interest subsidy.

Condition of agri-futures markets in India:

- A vibrant agri-market system would not only be spatially integrated (one nation, one market) but also be temporally integrated (spot and futures markets convergence).
- Only such an agri-market system can ensure the Indian farmers the best price for their produce and also help them hedge market risks.

- The size of the agri-futures markets of India is much smaller compared to say China or the US.
- The value of traded contracts on agri-futures in the National Commodity and Derivatives Exchange (NCDEX), the largest agri-commodities derivatives exchange in India, has been decreasing over the years. In terms of volume too, the numbers of future contracts have also fallen.
- There is little support for the idea of futures markets in the agricultural sector in India. These markets are often blamed for any abnormal price rise or fall in agricultural products. A rise in agri-prices would often result in the banning of agri-futures.

Possible remedy:

- NABARD should devise a compulsory module that trains FPOs in the domain of agri-futures.
- Government agencies like the Food Corporation of India (FCI), National Agricultural Cooperative Marketing Federation of India (NAFED) and State Trading Corporation (STC) should increase their participation in agri-futures.
- Banks providing loans to FPOs and traders should participate in commodity futures as "re-insurers" for the growth of agri-markets.
- Government policy has to be more stable and market friendly.

Conclusion:

- There is the need to create a comprehensive package that will help the stakeholders realise better prices and also hedge market risks.
- NABARD can play a leading role in the effective implementation of such a package system.

Major crops/cropping pattern in India

25. GI tag for basmati rice

- » Prelims: Major rice growing regions in India, Export statistics of rice
- » Mains: Concerns over rice exports (virtual water export)

Context:

- Madhya Pradesh has sought inclusion of its 13 districts for GI tagging for basmati.
- This has been opposed by Punjab

Which states have GI Tag for Basmati Rice?

- Punjab, Haryana, Himachal Pradesh, Uttarakhand, Delhi, Western Uttar Pradesh and select districts of Jammu and Kashmir have GI tagging for basmati rice.

What are Punjab's concerns?

- The CM has pointed out that GI tag for basmati has been given on the basis of the traditionally grown areas of basmati due to special aroma, quality and taste of the grain, which is indigenous to the region below the foothills of the Himalayas in the Indo-Gangetic Plains and the basmati of this area has distinct recognition across the world.
- It has been asserted that Madhya Pradesh does not fall under the specialised zone for basmati cultivation.

Geographical Indication:

- As per the Geographical Indications of Goods (Registration and Protection) Act, 1999, a geographical indication tag can be issued for agricultural goods that are originating in the territory of a country, or a region or locality in that territory, where a given quality, reputation or other characteristics of such goods is essentially attributable to its geographical origin.

Major crops/cropping pattern in India

26. 'Haladi' loses its flavour amid pandemic

- » Prelims: Kandhamal haladi
- » Mains: Potential of GI tagged crops in farmer empowerment

Context:

- Issues faced by the cultivators of Kandhamal Haladi.

Background:

- More than 60% of the geographical area of the Kandhamal district is covered with hills and forest, offering ideal conditions for cultivation of various spices including turmeric, ginger, mustard and tamarind.

- Given the uniqueness of the organic turmeric of Odisha's Kandhamal district, it was granted a geographical indication (GI) tag in 2019.
 - * Kandhamal Haladi is a pure organic product. It is grown without applying fertiliser or pesticide.
 - * It is mostly grown by the tribals of the region.
 - * The aromatic value and golden yellow colour is a unique trait of 'Kandhamal Haladi'.
- The cultivation of Kandhamal Haladi begins in the summer months of April and May. It is harvested during December to February. The raw turmeric is then boiled and sun-dried.

Concerns:

- The COVID-19 pandemic and the subsequent restrictions in place have led to poor procurement of the produce. Less than 20% of raw turmeric has been sold so far, leaving the rest of the produce with the farmers.
 - * For about 60,000 families in the region, turmeric is the only cash crop with the collective production exceeding 26,000 tonnes annually in the Kandhamal district.
- The procurement prices have declined drastically. Some farmers in urgent need for cash are having to distress sell their produce. The price recovery has been very low for such farmers.
- Unscrupulous traders taking advantage of the situation have been quoting very low prices for the produce.
- The government-backed cooperative agency of the Kandhamal Apex Spices Association for Marketing (KASAM) has also lowered its procurement.

Way forward:

- The Kandhamal Apex Spices Association for Marketing (KASAM) should step forward to offer better procurement prices for the farmers.
- The government could announce supportive policy measures like Minimum procurement price and procurement of all the produce and one time financial support to help the farmers tide over the current crisis.

Economics of animal rearing

27. Honey Mission

- » Prelims: Honey mission and implementing agency
- » Mains: Potential of apiculture in India

Details:

- Honey Mission is Khadi and Village Industries Commission's (KVIC) flagship programme under which migrant workers who have returned are provided with bee boxes.

- KVIC identified the returnee migrant workers and imparted them a five-day training on beekeeping. They were also provided with the necessary tool kit and bee boxes to carry out beekeeping activities.
- The entire western Uttar Pradesh region, with an abundance of flora that includes a variety of crops, is ideal for honey production.
- The Honey Mission was launched by KVIC in 2017 aiming at creating employment for the Adivasis, farmers, unemployed youth, and women by roping them in beekeeping while also increasing India's honey production.

Governmental schemes/Programmes /Initiatives

28. Sub-Mission on Agricultural Mechanisation (SMAM)

- The Sub-Mission on Agricultural Mechanisation (SMAM) was introduced in April 2014 with an aim to have inclusive growth of farm mechanisation to boost productivity.
 - * It is a sub mission under the umbrella scheme- Rashtriya Krishi Vikas Yojana.
- Individual farmers are provided a subsidy for procurement of machinery under the scheme.

Context:

- The Centre has released Rs.553 crore to States under the Sub-Mission on Agricultural Mechanisation (SMAM) to promote mechanisation in the agriculture sector.

29. Harit Path

- 'Harit Path' is a mobile app to monitor plantations along national highways.
- The app will monitor location, growth, species details, maintenance activities, targets and achievements of each of the NHAI's field units for each and every plant under all plantation projects.
- The National Highways Authority of India has been engaged in many plantation drives with the aim of developing eco-friendly national highways.
- The goal of the NHAI is to achieve 100% plantation on highways by 2022.
- The Authority also engages in the transplantation of trees that have to be axed in order to make way for highway projects.

30. Krishi Megh

- Krishi Megh is the data recovery centre of ICAR (Indian Council of Agricultural Research).
- The data recovery centre has been set up at National Academy of Agricultural Research Management (NAARM), Hyderabad.

- Krishi Megh has been set up under the National Agricultural Higher Education Project (NAHEP), funded by both the government and the World Bank.
 - * NAHEP is designed for strengthening the national agricultural education system in the country with the overall objective to provide more relevant and high-quality education to the agricultural university students that are in tune with the New Education Policy - 2020.
- The data recovery centre at NAARM is synchronized with the data centre at IASRI.
 - * IASRI – ICAR-Indian Agricultural Statistics Research Institute (IASRI) is an institute located in New Delhi engaged in teaching and training in Agricultural Statistics, Computer Application and Bioinformatics.

Benefits of Krishi Megh:

- It has been built to mitigate the risk, enhance the quality, availability and accessibility of e-governance, research, extension and education in the field of agriculture in India.
- Krishi Megh is said to be a step forward towards digital agriculture of the 'New India'.
- Krishi Megh is equipped with the latest artificial intelligence and deep learning software for building and deploying of deep learning-based applications through image analysis, disease identification in livestock, etc.
- It enables the farmers, researchers, students and policymakers to be more equipped with the updated and latest information regarding agriculture and research.

Context:

- Union Agriculture Minister launches Krishi Megh.

31. Bengal mulls 'industry' tag for logistics

- The West Bengal government is contemplating to grant industry status to the logistics sector. This would aid the seamless development of infrastructure projects in the state. The conversion of agricultural land to develop logistics-related infrastructure will become easier.
- The State is also working on a logistics policy.
 - * The Union government has been formulating a national policy aiming to reduce logistics cost from the present 14% of the Gross Domestic Product to less than 10% by 2022.

*Terms in News***32. Qualified Institutional Placement (QIP)**

- In case of Qualified institutional placement (QIP) a listed company issues equity shares, debentures, or any securities to a Qualified Institutional Buyer (QIB).
 - * Qualified Institutional Buyers are those institutional investors who are generally perceived to possess expertise and the financial muscle to evaluate and invest in the capital markets. This would include Scheduled commercial banks, Mutual funds, foreign institutional investors registered with SEBI, Insurance Companies registered with the Insurance Regulatory and Development Authority (IRDA).
- Qualified institutional placements (QIPs) are a way to issue shares to the public without going through standard regulatory compliance. It follows a looser set of regulations.

INTERNATIONAL RELATIONS

International Relations: Relations between India and neighbouring countries

1. **Geo-balancing China**

- » Prelims: Line of Actual Control (LAC), Important bilateral agreements
- » Mains: Non military strategy against an assertive China, Geo Balancing China.

Context:

- As part of India's non military strategy against Chinese assertiveness along the LAC, India has been trying to isolate China on the global stage.

Background:

- In the light of Chinese aggression along the Line of Actual Control (LAC) in the Ladakh sector, India had adopted both military as well as non military counter measures. The non military measures included efforts to isolate China in the realm of global trade and investment, international relations.
- India has repeatedly reiterated that the state of the border and the future of its bilateral ties with China are closely related.

Details:

- There are some concerns over India's approach to isolate China.

Choosing between China and the U.S.:

- As relations between the United States and China continue to deteriorate, there has been the realignment of forces, with the U.S. and China leading opposite camps. Most countries have been hesitant to take sides.
- India's attempt to isolate China would lead to a perception of India aligning with the U.S.

Chinese economic prowess:

- Despite the expansionist attitude displayed by China and its utter disregard for International organizations, hardly any country in Asia is willing to openly confront China.
- Despite growing anti-China sentiments the world over and repeated calls for economic boycott of China, Some nations have continued to be in favour of continued economic relations with China. Very few nations across the world are willing to risk China's ire because of strong economic ties that these countries have forged with China over the years. Economic ties are proving way stronger than military and strategic ones.
 - * Australia a member of the Quad (the U.S., Japan, Australia and India), that is widely seen as an anti-

China coalition has recently reiterated Australia's desire for a strong economic engagement with China.

- * U.K.'s Secretary of State for Foreign and Commonwealth Affairs has recently stated that the U.K. would continue to work with China.
- * Even though the majority of ASEAN countries have expressed grave concerns about China's expansionist tendencies, the ASEAN grouping has never taken sides against the Chinese given the fact that ASEAN happens to be one of China's biggest trading partners.
- China stranglehold on the global economy has led to the Chinese confidence in overcoming any calls for economic boycott.
- China has been using its economic prowess to increase its influence in Asia and the surrounding areas.
 - * Recently, Chinese Foreign Minister organised a virtual meeting of the Foreign Ministers of Nepal, Afghanistan and Pakistan. This included a proposal for an economic corridor plan with Nepal, styled as the Trans-Himalayan Multi-Dimensional Connectivity Network, and expanding the China-Pakistan Economic Corridor (CPEC) to Afghanistan.

India and the neighbourhood:

- India's efforts to isolate China seem to be countered by China focussing its attention to garner support among the India's neighbouring countries.
 - * Pakistan considered China's ally has used the current situation of tense relations between China and India to take a more anti-India stand.
 - * India's relations with Nepal have been deteriorating. China has made headway in enhancing its relations with Nepal.
 - * In Sri Lanka, the return of the Rajapaksas to power after the recent elections does not augur too well for India-Sri Lanka relations given the pro-China attitude displayed by the administration in its previous stint.
 - * The strain in India-Bangladesh relations is a real cause for concern given the previous warm ties between India and Bangladesh.
 - * China has also made headway in Iran to an extent, again at India's expense, with the economic and security partnership between Iran and China.

Conclusion:

- Geo-balancing is not happening to China's disadvantage. India should recognize this fact and must consider this aspect while planning its future strategy against China.

International Relations: Relations between India and neighbouring countries

2. New political map of Pakistan

- » Prelims: Sir Creek, Post independence political consolidation in India, Simla agreement
- » Mains: Issues between India and Pakistan

Context:

- The announcement of a new political map of Pakistan.

Background:

- On August 4, Pakistan Prime Minister announced a new political map of Pakistan.
- The new political map of Pakistan has claimed the entire region of Jammu and Kashmir. The map also claims Junagadh and Manavadar, a former princely State and territory, respectively that are part of present-day Gujarat.

Concerns:

A step backwards:

- The new territorial claims of Pakistan challenge many of the past understandings and treaties between the two neighbours.

China factor:

- The new political map leaves out a claim line at the eastern end of J&K indicating Pakistan's willingness to make China a third party in the Kashmir issue. This runs counter to the Simla Agreement which treated Kashmir as a bilateral matter.
 - * The Simla Agreement was signed between India and Pakistan on 2 July 1972 following the Bangladesh Liberation war of 1971.

Kutch arbitration case:

- Pakistan has claimed the entire territory and water bodies that fall in the Sir Creek region.
 - * Sir Creek is a 96-km strip of water disputed between India and Pakistan in the Rann of Kutch marshlands.
 - * The Creek opens up in the Arabian Sea and roughly divides the Kutch region of Gujarat from the Sindh Province of Pakistan.
- The Kutch arbitration case of 1966-69 had granted the entire Rann and its marshy areas to India while leaving the solid land across the Rann to Pakistan. By claiming Sir Creek region, Pakistan appears to be going back on the spirit of the Rann of Kutch arbitration.

Kashmir issue:

- By laying claim to the entire Jammu and Kashmir region (including Jammu), Pakistan is changing the main features of its Kashmir discourse which was based on the valley region only.

Bilateral relations:

- The map will eventually trigger diplomatic battles with India as it negates previous understandings. The new political map is only likely to further up the

tensions between India and Pakistan.

International Relations: Relations between India and neighbouring countries

3. India & Pak. spar over Indus water talks

- » Prelims: Indus Water Treaty, Indus river system.
- » Mains: Issues between India and Pakistan

Context:

- India has refused a request by Pakistan to hold a meeting on issues around the Indus Water Treaty (IWT).

Background:

- Pakistan has been opposing the construction of the Ratle run-of-the-river (RoR) project on the Chenab in the Kishtwar district of Jammu and Kashmir.
- Pakistan believes that the project's current design does pose a serious impediment and has told the World Bank that it wants a Court of Arbitration (CoA) set up to decide on the issue.
- India has been arguing that it is only a technical issue and could be mutually solvable. It has agreed to a 'neutral party' since a CoA potentially could stall any construction on all Indus projects.

Indus Water Treaty:

- The IWT has been in existence since 1960.
- According to the terms of the IWT, India has the right to build RoR projects on the three 'western' rivers — the Chenab, Jhelum and Indus — provided it does so without substantially impeding water flow in Pakistan downstream.

Relations between India and neighbouring countries

4. India- Bangladesh relations

- » Prelims: Joint projects between India and Bangladesh
- » Mains: Contemporary challenges to the bilateral relation

Context:

- Visit of the Indian Foreign Secretary to Dhaka, Bangladesh.

Background:

Deepening China- Bangladesh ties:

COVID-19 measures:

- China had sent a medical team to assess the pandemic preparation of Bangladesh.
- Bangladesh Medical Research Council (BMRC) has allowed China to carry out the Phase III human trial of the anti-COVID-19 vaccine produced by China's Sinovac Biotech Ltd.

Economic:

- China has provided tariff-free facility for exports from Bangladesh.

Infrastructure development:

- The Bangladesh government has recently reached an agreement with China over building of a \$1 billion irrigation project in the Teesta river command area.

Strain in India-Bangladesh ties:

- There have been concerns regarding some signs of fracture in India-Bangladesh ties.
 - * Bangladeshi Foreign minister had recently called on India to provide tariff-free facility for exports from Bangladesh.
 - * There have been concerns over the current government's slow pace in sanctioning projects that are supported by India.
 - * The construction of the Teesta irrigation project could effectively neutralise the Teesta water negotiations with India.
 - * The increase in the killings of Bangladesh nationals along the border by India's BSF has been a constant irritant in the bilateral ties.

Details:

- The visit by the foreign secretary has been interpreted as India's attempt to prevent the growing Chinese influence in Bangladesh.
- The possibility of collaboration with respect to COVID-19 vaccine development and manufacture and the proposal for a travel bubble for flights between India and Bangladesh that will allow smooth movement for business, official and medical personnel have been discussed.
- Early meeting of the India-Bangladesh Consultative Committee has also been discussed.
- India and Bangladesh will set up a high-level monitoring mechanism to regularly review and monitor the ongoing bilateral projects.
 - * The monitoring mechanism is expected to assist in the timely completion of many ongoing projects, including the Rampal Maitree Power Plant, India-Bangladesh Friendship Pipeline, and rail links between Akhaura-Agartala, Chilahati-Haldibari and Khulna-Mongla rail line.

International Relations: Relations between India and neighbouring countries**5. India announces \$500 mn package for the Maldives**

- » Prelims: Line of Credit, Maldives location
- » Mains: India's developmental partnership and significance of Maldives for Indian foreign policy

Context:

- Responding to a request from the Government of Maldives, India has announced its support in the implementation of the Greater Male Connectivity project (GMCP in the Maldives).

Details:

- The financial package comprises of a new Line of Credit (LoC) of USD 400 million and a grant of USD 100 million.
- New connectivity measures for the Maldives, including air, sea, intra-island and telecommunications, have been announced by India.
 - * It is an effort to help Maldives deal with the economic impact of the COVID-19 pandemic.
- Among the initiatives announced are an air connectivity bubble for travel, a direct ferry service, a submarine cable for telecom connectivity and assistance for GMCP.
- GMCP would be the largest civilian infrastructure project in the Maldives.
 - * GMCP will consist of a number of bridges and causeways to connect Male to Villingili, Thilafushi and Gulhifahu islands.
 - * It will take much of the pressure off the main capital island of Male for commercial and residential purposes.

Significance:

- This development partnership between India and Maldives will help further strengthen the bilateral relationship between the two countries.

International Relations: Bilateral, regional and global groupings and agreements involving India and/or affecting India's Interests**6. Quad**

- » Prelims: Quad membership/origin of the organization
- » Mains: Significance of membership for India and associated concerns

Background:

- The Quadrilateral Security Dialogue (QSD, also known as the Quad) is an informal strategic forum between the United States, Japan, Australia and India that is maintained by semi-regular summits, information exchanges and military drills between member countries.

Evolution of the Quad:

- The Quad was born out of the crisis that followed the Tsunami in December 2004. India's humanitarian and disaster relief effort in the Indian Ocean was coordinated with the three other naval powers engaged in similar efforts — U.S., Australia and Japan.
- Since then the idea of the Indo-Pacific as a larger maritime strategic community, and the Quad as an effective instrument in it, has gained credence among the four nations.

- In 2007, the annual India-U.S. 'Malabar' exercises included Japan, Australia and Singapore.
- After being neglected for about a decade due to strategic reasons, in 2017, the Quad returned, coinciding with the revision in U.S.'s assessment of the challenge from China, and similar reassessments in India, Japan and Australia.
- In November 2017, just months after the Doklam stand-off between the Indian Army and the PLA, officials from all four countries met in Manila for the 'India-Australia-Japan-U.S.' dialogue.
- There have been increasing naval exercises between the nations in the region. Recently, a trilateral exercise between the U.S., Australia and Japan was held in the Philippines Sea. There has been speculation that Quadrilateral (Quad) exercises will be launched soon between all four navies.

Significance of the Quad:

Development of the Indo-Pacific region:

- The Quad grouping primary objectives include connectivity, sustainable development, counter-terrorism, non-proliferation and maritime and cybersecurity, with a view to promoting peace, stability and prosperity in an increasingly interconnected Indo-Pacific region.

Alternatives to BRI:

- The Quad has been coordinating efforts to provide financing and sustainable alternatives to China's Belt and Road Initiative (BRI).
 - * Notable among these initiatives being the India and Australian efforts in the Pacific islands, India-U.S. coordination in South Asia and the Indian Ocean region, and India-Japan joint efforts to develop projects in Sri Lanka, Bangladesh and Myanmar.

Countering China:

- The 'quad' has endorsed a free, open, prosperous and inclusive Indo-Pacific region that isn't monopolised by a single country.
- The military aspect of the Quad has also grown. The Quad would be able to better tackle the increasing Chinese assertiveness in the region.

India's dilemma:

- India has been historically reluctant to upgrade its ties with the Quad grouping.
- The need to counter the aggressiveness of China on one side by partnering with other powers in the region as against India's desire for strategic autonomy has thrown tough choices for India in respect of its Indo-Pacific maritime alliance.
- India's choices will have not only far-reaching implications for regional but also global security.

Arguments against India's greater involvement in the Quad:

May elicit reactions from China:

- China has always opposed the militarization of the quad coalition which it views as a counter to its claims in the Pacific and the Indian Ocean. India's move to move closer to the quad would lead China to take up measures detrimental to India's interest.

- * China has been focussing its attention to garner support among India's neighbouring countries which could be detrimental to India in the long term.

Against the ideal of strategic autonomy:

- India has been wary of joining any exercise that could be construed as an alliance as this goes against the long cherished ideal of strategic autonomy for India.

Threat to India's primacy in the region:

- There are concerns that the entry of the U.S., Japan and Australia into the south Asian dynamics may considerably erode India's primacy in its neighbourhood.

Limited military benefits:

- India is the only country in the Quad that shares a land boundary with China, and the militarisation of the Quad will not help India deal with this threat.
- Infact this may lead to a condition where India may have to contend with a greater Chinese military presence on its periphery.

Against India's multilateralism approach:

- Unlike the U.S., Japan and Australia, which are tied by military alliances, India is a member of other strategic forums, such as the Shanghai Cooperation Organisation with China, Russia and Central Asia, BRICS and RIC, which appear to be at cross purposes with a Quad alliance.

Arguments in favour of enhanced engagement with Quad:

Countering China:

- The recent Chinese moves of transgression and deadly clashes across the Line of Actual Control (LAC) may prove to be the tipping point that makes India move closer to the Quadrilateral Security Group.
- Given the growing discontent with China for the other members of the quad grouping, India's deepening of ties with US, Australia and Japan will allow it to share the burden in defence against China.
- A closer alignment with Quad may be the pressure point on China to correct its assertiveness vis-a-vis India.

Developmental work:

- Involving the U.S. and Japan in development projects in South Asia will yield the necessary finances and technology for India.

Strategic advantage:

- Quad may give India a platform to advance its interests in East Asia and is shaping US policies in Afghanistan-Pakistan to the benefit of India as a reward for closer alignment with the Quad.

Recent developments:

- India has strengthened its ties with each of the Quad countries, and there have been more interactions, formal and informal at the official, political and military levels.
- Amid rising tension with China, India has announced its decision to host Quad meeting in the end of 2020.

Way forward:

- Given the practical limitations of the traditional non-alignment policy in the current circumstances for India, India should consider all available options to ensure national development and national security. Quad provides such an opportunity to India and India should consider a measured upgrading of its ties with the quad.
- India should seek for a multi-alignment policy and not restrict its engagement only with the Quad. India should also seek to forge closer relations with China's ally Russia in its attempt to manage the threat from China.
- India could pursue "multi-alignment", inviting middle powers such as the EU, the U.K., France, Russia, and partners such as Brazil, the UAE and South Africa into its Indo-Pacific strategy.

International Relations: Bilateral, regional and global groupings and agreements involving India and/or affecting India's Interests

7. Recalibrated approach to non-alignment policy

- » Prelims: Non Alignment Movement.
- » Mains: Need for recalibrating non-alignment policy in the current context

Background:

- 'Athma nirbhartha' or Self-reliance in the domain of foreign policy would mean the ideal of strategic autonomy.
 - * Strategic autonomy denotes the ability of a state to pursue its national interests and adopt its preferred foreign policy without being constrained in any manner by other states.
- India has historically emphasized on maintaining strategic autonomy. The policy of Non-alignment has served as the major pillar of India's quest for strategic autonomy.
 - * The Non-Aligned Movement was formed during the Cold War, as an organization of States that did not seek to formally align themselves with either the United States or the Soviet Union, but sought to remain independent or neutral.
- Despite the changing power equations in the global affairs, India's quest for autonomy in making foreign policy choices has remained constant.

- * From 1947 to 1991, the world order was mostly bipolar with the erstwhile Soviet Union and The U.S. forming the two power blocs. With the breakup of the Soviet Union in 1991, the world order remained mostly unipolar with the U.S. being the sole superpower. However, off late with China having caught up with the U.S. both economically and militarily and with the advent of middle powers like India the current scenario remains mostly multipolar.

Details:

- The current situation may entail a recalibration of the idea of 'strategic autonomy' in foreign relations policy.

Historical examples of flexibility in policy:

- Despite the overwhelming emphasis on strategic autonomy throughout its history, during moments of crisis, India has reinterpreted Strategic freedom and shown flexibility for survival.
- Compelling geopolitical circumstances led India to enter into de facto alliance-like cooperation with major powers.
 - * During the 1962 war with China, India did appeal to the U.S. for emergency military aid.
 - * In the build-up to the 1971 war with Pakistan, India entered a Treaty of Peace, Friendship and Cooperation with the Soviet Union to ward off the threat posed by China and the U.S.
 - * During the 1999 Kargil war, India was welcoming of a direct intervention by the U.S. to force Pakistan to back down.
- In the above cases, India's decision to seek co-operation with major powers did not in any way mean that India became any less autonomous, rather this flexibility allowed India to secure its freedom, sovereignty and territorial integrity. India adopted the tactic of realpolitik.
 - * Realpolitik signifies a system of politics or principles based on practical rather than moral or ideological considerations.

Policy for the current situation:

- The current situation with tense India-China relations might mark another inflection point with regard to strategic autonomy.
- With China and the U.S. sliding into a new Cold War like situation and with China challenging India's security and sovereignty, the article argues that India's adherence to the Non-alignment policy makes little sense.
- The article argues the case for India's alignment with the U.S. to meet the Chinese threat.
- The article states that the fears that proximity to the U.S. will lead to loss of India's strategic autonomy are unfounded given that India has never been subordinated to a superpower despite India aligning with such powers in the past.

Way forward for India:**Using the American support:**

- Given the increasing assertiveness of China vis-a-vis India and with the U.S. confronting China frontally, India should aim to make use of American support to counterbalance China where ever possible.

Remaining non-aligned:

- Even while aligning with the U.S. India should make all efforts to stay as an independent power.
- India should not remain overly reliant on the U.S. as this could constrict India's options in some domains serving national interest such as India's ties with Iran and Russia and efforts to speed up indigenous defence modernisation.
- The focus of India's alignment with the U.S. should be on constraining China.

Diversifying relations:

- The article argues against isolation or alliance with one great power and argues for diversification of relations with like-minded countries to achieve common goals.
- Diversification of relations should become the essence of self-reliance for India in foreign relations. India should continue to retain good ties with a range of strategic partners, including the U.S.
- India could focus on intensifying cooperation with middle powers in Asia and around the world.

International Relations: Bilateral, regional and global groupings and agreements involving India and/or affecting India's Interests**8. India-UK defence relations**

- » Prelims: Joint exercises between India and UK and defence co-operation projects
- » Mains: India-UK defence relationship

Context:

- The historic and contemporary defence relation between India and the United Kingdom.

Details:**Historic ties:**

- India played a big role in the Second World War. The Indian soldiers were involved in British operations in Asia, Africa, the Mediterranean as well as the Pacific region.
- Indians formed the largest all-volunteer force in the world, with over 2.5 million fighting in Europe, North Africa, Singapore, Hong Kong and, Burma. India also provided material resources for the war effort in the form of coal, iron ore and steel. Indian non-combatants secured the supply lines for the British war efforts.

Contemporary ties:

- India and the U.K. Armed Forces exercise together biannually.
 - * The joint army Ajeya Warrior biennial exercises have been held since 2005 at battalion-level strength.
 - * The joint navy Konkan annual exercises being held since 2004, include destroyers/frigates in ship-to-ship passage exercises.
 - * The joint air Indradhanush exercises, run since 2006, include modern combat aircraft.
- There is Defence and International Security Partnership in the form of collaboration in jet engine technology and cyber technology.
- Seven Royal Navy vessels operate in the Western Indian Ocean.
- The Atmanirbhar Bharat vision of India can be supplemented by Global Britain vision to ensure collaboration in the area of defence modernisation and maritime technology.
- Contemporary shared challenges include the current COVID-19 pandemic, piracy, extremism and sub-conventional warfare.

Conclusion:

- Given the shared values and commitments to justice, stability and free markets, there is immense potential for India-U.K. partnership to grow.

International Relations: Bilateral, regional and global groupings and agreements involving India and/or affecting India's Interests**9. China-Russia ties**

- » Prelims: Power of Siberia, S-400 missile system
- » Mains: Strategy for India in the light of a strengthening Sino-Chinese relationship.

Sino-Russian partnership:

- After years of distrust among the two neighbours, the Sino-Russian partnership seems to be on the upswing.
- Some recent developments seem to be indicative of a growing strategic convergence between Russia and China.

Economic:

- China-Russia trade has more than doubled to \$108 billion in recent times.
- China has surpassed Germany as the principal supplier of industrial plant and technology.
- Russia's central bank has increased its Chinese currency reserves from less than one per cent to over 13% underlying the growing volume of the bilateral trade between the two countries.

- Russia and China recently signed the \$400 billion deal to supply gas to China along the 1,800 miles long pipeline known as the Power of Siberia for 30 years.

Strategic:

- Russia and China have exhibited coordinated actions in multilateral forums like the UNSC.
- Their common strategic interests have led to joint activities with third countries such as Iran.

Military:

- They have been conducting increasingly sophisticated joint military exercises.
- The supply of the S-400 missile system to China by China is touted as an example of the budding strategic alliance.

Common threat:

- Western sanctions have tended to push Russia closer to China. Falling oil prices and fears of new sanctions on Russian gas supplies (Nord Stream 2) are compelling the Russians to depend on the Chinese demand.
- The recent tensions in Sino-U.S. relations seem to have further strengthened the Chinese resolve to build stronger ties with the Russians.

Challenges:

- The article argues that despite the deepening relations which seem to be indicative of a growing strategic convergence, the Russia-China relation does face some challenges.

Boundary dispute:

- Some Chinese continue to nurse historical grievances despite the formal resolution of the border issue with Russia and make critical references to the nearly 600,000 square miles of Chinese territory that Tsarist Russia allegedly annexed in the late 19th century.
- There has also been increasing Chinese migration in the Russian Far East.
- Given China's rise and the historical grievances over the border settlement, there are concerns among the policymakers in Russia about the possibility of China becoming a threat Russia's territorial integrity.

Economic advantage to China:

- Although Russia currently enjoys a nominal trade surplus, China has a clear advantage when it comes to the aspect of value-added trade.
 - * Russian exports mainly consist of raw materials, especially oil and gas. Chinese exports to Russia are at a higher technology level.
- Some analysts have pointed out that over the long term the economic interests of Russia and China are divergent.

Growing asymmetry:

- Despite the substantial expansion of bilateral cooperation in the Sino-Russian relations, it is also accompanied by growing asymmetry and China's pre-eminence, including in Central Asia and the Arctic regions which Russia considers as its strategic area of influence.
- This has led to fears in Moscow of Russia being regulated to a 'junior partner' in the bilateral relationship.

Strategy for India:

- Given the fact that relationship with U.S., China and Russia represent the three most consequential relationships for India, there is the need for a proper appraisal of the Sino-Russian relationship as being critical for India's foreign policy calculus.
- Currently, there exists a case for India to re-calculate its relationship with Russia.
 - * Recognizing the inherent contradictions in the Russia-China relations, India can provide suitable alternative avenues for the building of a strong Russia-India relationship.
 - * India needs to ensure that China is not the principal factor in its relations with Russia.
- A strategic partnership with Russia based on the absence of fundamental conflicts of interest and a shared support for a multipolar order as against a Sino-U.S. bipolar order must be the way forward.

International Relations: Bilateral, regional and global groupings and agreements involving India and/or affecting India's Interests, Indian Diaspora

10. UAE- Israel agreement

- » Prelims: Abraham accord, Map based questions of West Asia region.
- » Mains: Significance of the Abraham accord and associated concerns

Context:

- The Israel–United Arab Emirates normalization agreement, or the Abraham Accord, between Israel and the United Arab Emirates.

Background:

Conflicts:

- Arab-Israeli ties have historically been conflict-ridden.
- Arab countries, including Egypt, Transjordan, Syria and Iraq, fought their first war with Israel in 1948. The war ended with Israel capturing more territories, including West Jerusalem, than that proposed by the UN Partition Plan.
- Israel and Arab states have also fought three more major wars — the 1956 Suez conflict, the 1967 Six-Day War and the 1973 Yom Kippur War.

- * In the 1967 war Israel captured the Sinai Peninsula and Gaza Strip from Egypt, East Jerusalem and the West Bank from Jordan and the Golan Heights from Syria.
- Arab countries had declared their intentions of having no peace with Israel, no talks with Israel and not granting recognition to Israel.

Attempts at reconciliation:

- The Camp David Accords of 1978 was a watermark in setting right Arab-Israel relations. In 1979, Israel and Egypt concluded a peace treaty, as part of which Israel withdrew from Sinai in return for Egyptian recognition.
- In 1994, Jordan became the second Arab country to sign a peace treaty with Israel.
- Following the Oslo Accords, the Palestine Liberation Organization (PLO) recognised Israel and was allowed to form the Palestinian Authority in the West Bank and Gaza.

Details:

- Under the deal the two nations have agreed to normalize relations and establish full diplomatic ties.
- The UAE and Israel would establish formal diplomatic relations and in exchange, Israel would suspend its plans to annex parts of the occupied West Bank.
- As part of the deal, bilateral agreements regarding investment, tourism, direct flights, security, telecommunications, technology, energy, healthcare, culture, the environment, would also be considered.

Causative factors:

Decreasing enmity:

- The old enmity between Arab countries and Israel has dissipated. The Sunni Arab kingdoms in the Gulf region such as Saudi Arabia and the UAE had developed backroom contacts with Israel over the past several years.
- The development caps years of discreet contacts between UAE and Israel in commerce and technology.

Antipathy towards Iran:

- One of the major factors that seem to have brought Israel and The UAE closer has been their shared antipathy towards Iran.
- The current U.S. administration seems to have played a role in getting the two sides together.

Significance:

Breakthrough in Arab-Israel relations:

- This development marks a historic breakthrough in Arab-Israel relations.
- The UAE is only the third Arab country and the first in the Gulf region to establish diplomatic relations with Israel.
 - * Israel has full diplomatic relations with Egypt since 1979 and with Jordan since 1994.

- If more countries in the Gulf follow the UAE's lead, it would open a new chapter in Arab-Israel ties and bring Peace to the region.
 - * Recently, there have been reports of a Peace deal between Bahrain and Israel. This has been welcomed by Oman.
 - * Saudi Arabia has agreed to allow UAE flights to "all countries" to overfly the kingdom, after allowing an Israeli aircraft to pass over en route to Abu Dhabi. This marks a major watering down of tensions in the region.

Chance for peace:

- Israel's plan to annex the West Bank would have drastically changed the status quo in the Palestine issue and would have completely eliminated the possibility of a two-state solution. The UAE-Israel agreement seems to have averted such a scenario.

Concerns:

Geopolitical implications:

- The Saudi bloc, consisting of Egypt, the UAE, Bahrain and others, see their interests being aligned with that of the U.S. and Israel, while Turkey and Iran are emerging as their rival bloc.
- The agreement between The UAE and Israel could further sharpen divisions in the region.
- The tension between the countries could only further deteriorate the peace and security in the region.

The Palestinian cause:

- For a long time, no country in West Asia was willing to recognise, negotiate with or broker a peace deal with Israel until statehood was granted to the Palestinians. In this agreement, Israel has managed to keep the precondition of Palestinian statehood off the table.
- There are concerns that unlike the previous Arab-Israeli peace agreements, Palestinian concerns are not considered in the current agreement.
- The Palestinian issue has become a non-issue for the Arab rulers in the region.

International Relations: Effect of policies and politics of developed and developing countries on India's interests

11. Sri Lanka parliamentary election

- » Prelims: 13th amendment, Indo-Lanka accord of 1987
- » Mains: Challenges to India-Sri Lanka bilateral relations, Tamil Issue

Context

- Parliamentary elections were held in Sri Lanka in August 2020.
- Rajapaksa's Sri Lanka People's Freedom Alliance has registered a landslide victory in the election. This follows the Rajapaksa's win in the November 2019 presidential polls.

Impact of the results

Changes to 19th amendment:

- Sri Lanka had been ruled by powerful executive presidents since 1978.
- But the 19th constitutional amendment of 2015 curbed powers of the Executive President, strengthened Parliament and the prime minister and put independent commissions in charge of judiciary appointments, police, public services and the conduct of elections.
 - * A two-term limit and other curbs on presidential powers were imposed by the 19th Amendment.
- The Amendment had drastically reduced the arbitrary powers of the President and restored Sri Lanka's parliamentary democracy as well as placed a system of checks and balances on the Executive.
- The Rajapaksa government backed by a majority has already drafted and gazetted the 20th Amendment to undo the provisions of the 19th amendment.
- There are concerns that this would further strengthen presidential power and weaken government institutions such as independent commissions for elections, police and public service. This could lead to concentration of power and authority in the hands of the president and would mark a step back for democracy in Sri Lanka.

Changes to 13th amendment:

- Several Cabinet ministers and state ministers in the current Sri Lankan government have called for the abolition of provincial councils after the new government took charge. The provincial councils are an outcome of the 13th amendment to the Sri Lankan constitution.
 - * The 13th amendment of the Sri Lankan constitution is an outcome of the Indo-Lanka Accord of 1987, which was signed by the then Indian Prime Minister Rajiv Gandhi and Sri Lankan President J.R. Jayawardene.
 - * The 13th amendment of the Sri Lankan constitution was part of an attempt to resolve Sri Lanka's ethnic conflict between the majority Sinhalese and the minority Tamilians. It had resulted in a civil war between the armed forces and the Liberation Tigers of Tamil Eelam. The LTTE was seeking the right to self-determination and a separate state.
 - * The 13th Amendment mandates a measure of power devolution to the provincial councils established to govern the island's nine provinces. This entailed providing a form of self-government. Subjects such as education, health, agriculture, housing, land and police were to be devolved to the provincial administrations to provide them with more autonomy.
- Any move to undo the 13th Amendment would be a major cause of concern due to the following reasons.

- * The 13th amendment represents the only constitutional provision on the settlement of the long-pending Tamil question and the undoing of it would mark a step back for the resolution of the ethnic question in the island nation. It would increase minority discontent and exacerbate the ongoing conflict in Sri Lanka.
- * The dilution of the 13th amendment would amount to a breach of the Indo-Lanka Accord and is therefore a violation of Sri Lanka's international treaty obligations to India.
- * Given the close cultural and linguistic affinities to the Sri Lankan Tamils in The Indian state of Tamil Nadu, the dilution of the amendment could lead to tensions in Tamil Nadu and affect the bilateral relationship between India and Sri Lanka.

India-Sri Lanka bilateral relation:

- The Rajapaksa' have exhibited a pro-China stand through some of their actions in their previous tenure.
 - * The allowing of the Chinese submarines to dock in their ports
 - * The signing of projects with China like the Hambantota Port.
- The Rajapaksa' have called for review of the joint India and Japan East Container Terminal project. Sri Lanka recently shelved the Japan-funded Colombo Light Railway project and a \$480-million 'Millennium Challenge Corporation' grant from the US — indications of a markedly pro-China tilt.
- There are concerns that the current government's pro-China tilt may reduce India's strategic influence in Sri Lanka.
- The election season also witnessed the leaders from the Sinhala nationalist parties making wielded attacks on India for political mileage.

Conclusion:

- India cannot expect Sri Lanka to reduce its economic and commercial engagement with and dependence on China. However it can try to strengthen its engagements with Sri Lanka.
- India should try to engage further into spheres in which the Chinese have a limited presence and India has the capacity to deliver. This would involve sectors like the Information technology, health and education. India could play a vital role in the development process of the northern and eastern regions of Sri Lanka.
- India should differentiate its development partnership as being more equal, sustainable and quality oriented as against the debt-diplomacy propounded by China. This could help India strengthen its political capital in Sri Lanka.
- India should keep up its pressure on Sri Lankan government over the Tamil issue and pursue the implementation of the 13+ amendment.

Additional Information:**Srimavo-Shastri Pact**

- It was an agreement that was signed between Sirimavo Bandaranaike, the Prime Minister of Sri Lanka, and Lal Bahadur Shastri,
- Officially, it was known as Agreement on Persons of Indian Origin in Ceylon. It was a significant agreement in determining the status and future of people of Indian origin in Ceylon
- This pact allowed for the repatriation of nearly 5.25 lakh persons of Indian origin who were taken to Sri Lanka over a century ago by the British to work in the tea, coffee and coconut plantations there.
- In turn, Sri Lanka agreed to grant citizenship to a section of Indians who had gone to Sri Lanka to work in its tea plantations.

Sirimavo-Gandhi Pact

- Later, a follow-up agreement called the Sirimavo-Gandhi Pact was signed between Prime Ministers Bandaranaike and Indira Gandhi for the repatriation of 75,000 more persons of Indian origin.
- Following this, Sri Lanka again agreed to grant citizenship to another 75,000 persons of Indian origin.

International Relations: Effect of policies and politics of developed and developing countries on India's interests**12. Territorial Dispute in eastern Mediterranean**

- » Prelims: Map based questions on countries bordering the eastern Mediterranean sea
- » Mains: Concerns associated with the conflict

Context:

- Tensions between Turkey and Greece escalated after Turkey sent a survey vessel to disputed eastern Mediterranean waters, a move which Greece has termed as illegal.

Background:**Territorial disputes in the region:****Turkey-Greece:**

- Turkey and Greece have overlapping maritime claims.
- The maritime dispute is with respect to the Aegean Sea. The dispute is related to the maritime jurisdiction areas, including the territorial waters and the continental shelf and their delimitation.
- The dispute has to do with Turkish claims to maritime territories in the eastern Mediterranean Sea. Turkey has been arguing that the many Greek islands off Turkey's Aegean coast should be only entitled to a much reduced Exclusive Economic Zone (EEZ) as compared to the normal 200 nautical miles limit.

* An EEZ is a sea zone in which a sovereign state has special rights regarding the exploration and use of marine resources. EEZs are prescribed according to the United Nations' Convention on the Law of the Sea (UNCLOS) of 1982.

* Only islands that are inhabitable or can support independent economic activity can claim an EEZ of 200 nautical miles.

- It is a fundamental rule of international law that delimitation of maritime boundaries between adjacent and opposite states in locations where maritime areas overlap or converge should be effected by agreement on the basis of international law. However, the maritime boundaries between Turkey and Greece have yet to be delimited by agreement.

* Turkey is one of the few countries which have not signed the UNCLOS framework agreement.

Cyprus-Turkey issue:

- Cyprus is physically divided with the southern part ruled by the internationally-recognised government and the northern part controlled by Turkey.
 - * Turkey is the only member state of the United Nations that does not recognise Cyprus.
- The Republic of Cyprus (Cyprus) and Turkey have been engaged in a dispute over the extent of their exclusive economic zones. Turkey objects to Cypriot drilling in waters that Cyprus has asserted a claim to under international maritime law.
 - * Turkey is not a signatory to the United Nations Convention on the Law of the Sea, while Cyprus has signed and ratified the UNCLOS.





Discovery of gas:

- New gas reserves have been discovered in the eastern Mediterranean Sea offshore Egypt. This is in addition to the gas reserves discovered in the Leviathan gas field in the eastern Mediterranean Sea offshore Israel.
- The EU plans to transport the gas from this region to its mainland to help it reduce its dependency on Russia.
- This development has raised the Eastern Mediterranean region's geopolitical profile.

Recent developments:

- In early 2020, the EastMed Gas Forum was formed by Cyprus, Egypt, Greece, Israel, Italy, Jordan and Palestine. EU members and its allies in West Asia and North Africa have made plans to build a gas pipeline from the Mediterranean to Europe's mainland.
- Turkey has been kept out of this plan which has infuriated the Turkish administration and has been taking counter measures.
- In a move meant to challenge the proposed pipeline project Turkey reached an agreement with Libya's Tripoli-based government, to form an exclusive economic zone (EEZ) from its southern shores to Libya's northern coast across the Mediterranean. Greece has claimed the Turkish zone violated its maritime sovereignty.
- Later, Greece too announced its EEZ with Egypt, which clashes with Turkey's zone. Immediately thereafter, Turkey sent an exploration vessel, accompanied by a Navy fleet, to the disputed waters in the Aegean Sea.
- Turkey's survey ship plans exploration activities around Greece's Crete Island, which lies just outside the Turkish-Libya economic zone, and Greece has called it a violation of their sovereignty. France, the EU's most powerful military force has despatched warships to assist Greece.

- Drilling off Cyprus by Turkey has been ongoing since 2019. Turkey is planning to expand such operations in the coming times.

Concerns:

Complex issue:

- The territorial dispute is at the heart of the overall tensions in the region, which can be reduced only by the mutual agreement on the territory delineation.
- It is difficult to demarcate the maritime boundaries in the eastern Mediterranean, which is dotted with Turkish and Greek islands. Given that Turkey is not a signatory of the UNCLOS further complicates the possible negotiations.
- Turkey and Greece, NATO allies, disagree over claims to hydrocarbon resources in the area based on conflicting views on the extent of their continental shelves.

Affecting the region:

- The highly complicated issue now has the potential to involve Europe, West Asia and North Africa.
- An alliance is emerging among Greece, Cyprus, Italy and France, which is backed by Egypt, Israel and the UAE. Turkey though seems to be almost isolated, may get support from its new allies like Russia and China.
 - * The European Union's relationship with Turkey has been already under strain owing to differences over issues regarding the conflicts in Syria and Libya and the question of refugee policy and human rights.
- The issue can have ramifications for the region and the global relations at large.

Way forward:

Diplomacy:

- EU and Turkey should not let tensions in the eastern Mediterranean lead to open conflict.
- There is the urgent need to bring down tensions and find a diplomatic and mutually acceptable solution to the gas contest.
- The maritime dispute which happens to fuel tensions in the region must be resolved in line with the established related jurisprudence, while taking into consideration the equity and security requirements of the stakeholders.

Organizations/Institutes in News

13. UNHRC

- United Nations Human Rights Council is a subsidiary of the General Assembly and the General Assembly elects the members of UNHRC.
- The Council is made of 47 Member States.
- The seats are distributed geographically and are awarded for a period of three years.
- Members are not eligible for immediate re-election after serving two consecutive terms.
- 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

Context:

- U.S. Secretary of State has urged UN members not to support Cuba's bid to join the United Nations Human Rights Council.

Note:

- The U.S. withdrew from the UNHRC in 2018, accusing it of political bias.

14. Special Rapporteur

- The Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression is required to submit a report annually to the United Nations Human Rights Council and the General Assembly.
- It contains recommendations to Member States and other stakeholders on ways and means to better promote and protect the right to freedom of opinion and expression.
- Special rapporteur is the title given to individuals working on behalf of the United Nations (UN) within the scope of "special procedure" mechanisms who have a specific country or thematic mandate from the United Nations Human Rights Council.
- The Special Rapporteur on Freedom of Opinion and Expression of the United Nations in a joint declaration with representatives of other regional organisations, had pointed out that neither the slowing nor the shutting down of the Internet is justifiable even on national security grounds, given that such Internet shutdowns or slowdowns adversely affects millions of innocent civilians owing to the actions of a few.

15. COVAX Facility

- COVAX facility is the vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator.
 - * ACT Accelerator is a ground-breaking global collaboration to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines.
- COVAX aims to accelerate the development and manufacture of COVID-19 vaccines and to guarantee fair and equitable access for every country in the world.
- COVAX is co-led by Gavi, the Coalition for Epidemic Preparedness Innovations (CEPI) and WHO.
- The goal of COVAX is by the end of 2021 to deliver two billion doses of safe, effective vaccines that have passed regulatory approval and/or WHO prequalification. These vaccines will be delivered equally to all participating countries, proportional to their populations.

Terms in News

16. Loya Jirga

- A Loya jirga is a type of tribal council in Afghanistan. It is basically a gathering of elders.
- The Loya Jirga of approximately 3,200 representatives from various parts of Afghanistan, including Pashtuns, Tajiks, Hazaras and Uzbeks, met recently on the issue of Intra-Afghan negotiations.
- It had been organized previously for choosing a new head of state in case of sudden death, adopting a new constitution, or to settle national or regional issues such as war.

Context:

- The Afghan government and the Taliban are on the verge of peace talks after thousands of prominent Afghans approved the release of about 400 contentious militant prisoners.
- The resolution was passed at the end of a three-day loya jirga.

Places in News

17. Polonnaruwa

- It was the second capital of Sri Lanka after the destruction of Anuradhapura in 993 AD.
- Polonnaruwa was first established by the Chola dynasty after their successful invasion of the Srilanka's then capital, Anuradhapura, in the 10th century.

- Polonnaruwa district is known internationally for its evocative rock-cut Buddha sculptures and ancient city — now a UNESCO World Heritage Site
- It is also known as Srilanka's rice bowl

ART AND CULTURE

Indian Art and Culture-Art forms

1. Warli Paintings

- » Prelims: Warli painting style and materials used, associated region
- » Mains: Folk paintings in India

Details

- It is a style of tribal art generally practiced by the tribal people from the North Sahyadri Range in Maharashtra.
- The paintings are mostly done on walls and use geometric shapes such as circles, squares and triangles to form various other shapes and patterns.
- They depict daily life and social events and do not incorporate mythological characters.
- The paintings are chiefly done on walls made of mud and cow dung cakes providing a brown background.
- The paint used is white and made up of rice with water and gum.
- A popular theme in Warli art is a spiral human chain around a central motif depicting the belief that life is a continuous journey with no beginning and no end.



Indian Art and Culture-Art forms

2. Channapatna toys

- » Prelims: Channapatna toys material used, Associated region, other popular toy hubs in India
- » Mains: Indian handicrafts

Details:

- Channapatna toys are a form of wooden toys and dolls that are manufactured in the town of Channapatna, Karnataka. As a result of the popularity of these toys,

Channapatna is known as Gombegala Ooru (toy-town) of Karnataka.

- Traditionally, the work involved lacquering the wood of the Wrightia tinctoria tree (ivory-wood). However of late even wood from other trees have also been used to manufacture Channapatna toys.
- This traditional craft has been granted as a geographical indication (GI) tag.
- The origin of these toys can be traced to the reign of Tipu Sultan who invited artisans from Persia to train the local artisans in the making of wooden toys. According to most accounts, the manufacturing of toys in Channapatna goes back at least 200 years.

Other places of toy production:

- There are several places in India well known for their toy making:
 - * Channapatna toys in Ramnagaram in Karnataka
 - * Kondapalli toys in Krishna in Andhra Pradesh
 - * Thanjavur dolls in Tami Nadu
 - * Dhubri in Assam
 - * Etikoppaka toys in Andhra Pradesh
 - * Varanasi in Uttar Pradesh is also developing as a Toy cluster.

Context:

- In the latest address of Mann ki Baat, The Prime Minister spoke about how India could become a big hub of toy production.

Indian Art and Culture-Architecture

3. Lingaraj temple

- » Prelims: salient features of Kalinga style and other temples associated with Kalinga style of temple architecture
- » Mains: Styles of temple architecture in India

Details

- Lingaraj temple at Bhubaneswar, Odisha is an 11th-century temple.
- It is a symbol of Kalinga style architecture.
- Lingaraj Temple was built by the King Jajati Keshari, who belonged to Soma Vansh.
- The temple is dedicated to Lord Shiva.

Context:

- The Odisha government announced that it will give a facelift to the 11th century Lingaraj Temple.

Indian Art and Culture-Folk dances

4. Pulikkali

- » Prelims: Popular folk dances in India
- » Mains: Influence of folk dances on the classical dances of India

Details:

- Pulikkali, or tiger dance, is a colourful part of Onam celebrations in Thrissur, Kerala. It is also known as Kaduvakali.
- The artists wear a tiger mask, paint their bodies like tigers.
- It is a folk art form performed to the rhythm of traditional percussion instruments such as thakil, udukku and chenda.
- The main theme of this folk art is tiger hunting with participants playing the role of tiger and hunter.
- It was introduced by Shakthan Tampuran, the ruler of yore, over two centuries ago as a street art form.

Context

- Amidst the lockdown and restrictions in the wake of COVID-19, Pulikkali, or tiger dance will go online for Onam.

Indian Art and Culture-Festivals

5. Nuakhai Juhar

- » Prelims: Nuakhai Juhar, Other popular festivals from Odisha
- » Mains: Fairs and festivals in India

Details:

- Also called Nuakhai Parab or Nuakhai Bhetghat, it is an agricultural festival celebrated in Odisha, Chhattisgarh and areas of neighbouring states to welcome the new crop of the season.
- It is an ancient festival which is observed by the worship of food grains.
- People prepare special meals and organise special cultural programmes including folk songs and dances.
- Farmers offer the first produce from their lands to Goddess Samaleswari, the famous 'Mother Goddess' of Sambalpur district of Odisha.
- Nuakhai is a combination of two words that signifies eating of new rice as 'nua' means new and 'khai' means eat.

SCIENCE AND TECHNOLOGY

Science and Technology-Developments and their applications and effects in everyday life

1. Immunity certificates

- » Prelims: Types of immunity, Antigens and antibodies
- » Mains: Arguments in favour of and against the use of immunity certificates

Background:

Immunity certificate:

- An immunity certificate is a document attesting that its bearer is immune to a contagious disease.
- These certificates are granted following a serological test demonstrating that the bearer has antibodies making them immune to a disease.
- The concept of immunity certificate has drawn much attention during the COVID-19 pandemic.

Natural infection induced immunity and vaccine induced immunity:

- Antibodies can either be produced naturally by recovering from the disease, or triggered through vaccination.

Arguments in favour of immunity certificates:

Balancing economic growth and public health:

- Immunity certificates could be used to exempt holders from quarantine and social distancing restrictions, permitting them to work and travel. Hence immunity

certificate would provide a potential way to contain the pandemic while permitting faster economic recovery.

No cases of re-infection:

- While the quantum and duration of protection conferred by natural infection is still not known, not a single case of true reinfection or reactivation has been documented thus far.

Arguments against immunity certificates:

- The concept of immunity certificate would be relevant only if the following conditions are satisfied:
 - * Recovered patients have protective immunity that prevents them from being reinfected.
 - * The protective immunity is long-lasting
 - * The pathogen mutates sufficiently slowly for immunity to work against most strains
 - * Immunity tests have low false-positive rates

Lack of scientific studies:

- There is the lack of comprehensive scientific studies about the specific kinds of immune responses and its duration to guarantee the accuracy of an immunity certificate.

Natural infection induced immunity	Vaccine induced immunity
<p>Immune protection:</p> <ul style="list-style-type: none">• Some experts have pointed out that Immune protection after infection/disease is always much more robust than most vaccines <p>Safety aspects:</p> <ul style="list-style-type: none">• There has been emerging evidence of long-term health complications in those who have had COVID-19.	<ul style="list-style-type: none">• Some of the vaccines undergoing clinical trials are mostly directed at a single or a couple of proteins (spike) of the virus. This leads to concerns that these vaccines might not offer the same protection as natural infection would offer.• In case of vaccines that use the inactivated corona viruses, the person's immune system would be exposed to a whole range of viral proteins, much like natural infection and can produce immune responses comparable to natural infection.• Given the vaccines are tested for their safety; the vaccines will have minimal or no adverse health consequences.

Public health risk:

- There is also a public health risk of issuing immunity certificates.
 - * The issuance of immunity certificates would create an incentive for people whose livelihoods have been affected to intentionally infect themselves. They would be encouraged to adopt risky behaviour so as to get infected rather than taking precautions to stay protected. This would lead to a sharp increase in cases across the country and crumbling of the health-care systems.

Antibody tests:

- A major aspect which would have to be addressed is whether immunity certificates are to be given to people who have had asymptomatic infection based on antibody tests as this would lead to the following challenges.
 - * There are concerns on whether people who have experienced asymptomatic infection would show robust immune responses like those who have recovered from moderate or severe disease.
 - * Requiring immunity certificates for work or travel could force people into taking tests and the move to issue immunity certificates would encourage the people to get antibody tests. The increased demand for testing would further strain the labs.
 - * The dependence on antibody testing might also create an access problem. The poor and vulnerable will have limited access to such testing. There are concerns that an immunity certificate will further divide the society with different 'haves' and 'have-nots'.
 - * Concerns associated with the reliability of antibody testing:
 - » Antibody tests do not quantify the amount of antibodies and hence give no estimate of the protection they would offer.
 - » The antibody tests are not 100% reliable. Not everyone infected produces antibodies, and not everyone who has antibodies would have developed them specifically against SARS-CoV-2.

Science and Technology-Developments and their applications and effects in everyday life

2. Wolbachia method

- » Prelims: Aedes aegypti mosquito and vector borne diseases
- » Mains: Bio-control methods and their significance

Context

- Scientists from Indonesia on the basis of a randomised trial in Indonesia have claimed that infecting mosquitoes with a naturally-occurring bacterium can help curb the spread of dengue by 77 per cent.

Details:

- The bacterium in question is the Wolbachia pipientis. It naturally occurs in 60 per cent of insect species but not in the Aedes aegypti mosquitoes, which are carriers of diseases like dengue, Zika, chikungunya and yellow fever.
- Under the Wolbachia method, researchers introduce the bacterium into Aedes aegypti mosquitoes in the laboratory and release them into the wild. When the Wolbachia-infected mosquitoes breed with their wild counterparts, the percentage of mosquitoes carrying the bacterium grows.
- It is not fully understood why the Wolbachia bacterium interferes with the transmission of dengue. One theory is that the bacterium prevents dengue viruses from replicating in mosquito cells.

Science and Technology-Developments and their applications and effects in everyday life

3. Fuel from Algae

- » Prelims: INSPIRE fellowship, Generations of bio fuels
- » Mains: Significance of algal bio fuels

Context

- INSPIRE faculty fellow developing low-cost biodiesel from microalgae.

Details:

- An INSPIRE faculty fellow from the National Institute of Technology, Tiruchirappalli, Tamil Nadu has proposed techniques for enhancing the triacylglycerol content in marine microalgae towards economic biodiesel production.
- This submission by the scientist received the "Innovation in Science Pursuit for Inspired Research" (INSPIRE) faculty fellowship instituted by the Department of Science & Technology, Govt. of India.
- The scientist and his team have isolated predominant strains of marine microalgal species namely Picochlorum sp., Scenedesmus sp., Chlorella sp., from the coastal regions of Tamil Nadu for their potential in terms of total organic carbon content, and Triacylglycerides (TAG) content for biodiesel production.

Fuel potential of algae:

- While fossil fuels deplete, the fuel potential of algae residing in the vast marine environment surrounding India remains unexplored.
- Algae fuel, algal bio fuel, or algal oil is an alternative to liquid fossil fuels that uses algae as its source of energy-rich oils.
- When made from seaweed (macroalgae) it can be known as seaweed fuel or seaweed oil.
- Like fossil fuel, algae fuel releases CO₂ when burnt, but unlike fossil fuel, algae fuel and other bio fuels only release CO₂ recently removed from the atmosphere via photosynthesis as the algae or plant grew.

- Algae use photosynthesis to convert CO₂ and sunlight into energy-rich chemicals.
- The lipid (oily) part of the algae biomass can be extracted and converted into biodiesel by a process similar to that used for any other vegetable oil.
- The energy crisis and the world food crisis have ignited interest in algaculture (farming algae) for making biodiesel and other biofuels using land unsuitable for agriculture.
- Out of the over 30000 freshwater and saltwater species of algae, nearly 1000 species have exhibited the potential for producing bio fuel.

Advantages of using algae for fuel:

- It can be grown more easily than traditional crops. It can also be cultivated on land not suitable for regularly grown crops. It also uses wastewater in its growth. This means arable land used for cultivating food crops need not be spared for algaculture.
- Other feedstocks for biodiesel such as corn and palm are a source of food for humans. So, using them for producing fuel reduces the amount of food available, increasing the cost of both food and fuel. Using algae can thus be a viable option for biodiesel.
- Growing algae as a source of bio fuel has huge environmental benefits. Apart from using contaminated water for growth, many species of algae are good bio-fixers as well.
- However, the technology is still fairly new and it is said to be years away from being commercially viable.

Science and Technology-Developments and their applications and effects in everyday life

4. Hope Mission

- » Prelims: Hope Mission, Missions to mars
- » Mains: Significance of the understanding of Mars

Context

- The first Arab space mission to Mars, an unmanned probe called Al-Amal, or Hope has been launched from Japan.

Details:

- The Hope project is one of three ongoing missions to Mars, including Tianwen-1 from China and Mars 2020 from the United States, taking advantage of a period when the Earth and Mars are nearest.
- It is expected to enter Mars orbit by February 2021, marking the year of the 50th anniversary of the unification of the UAE, an alliance of seven emirates.
- The mission will focus on studying the atmosphere of Mars and providing a comprehensive image of the weather dynamics in the red planet's atmosphere.
- It will not land on the planet, but instead orbit it for a whole Martian year, or 687 days.

Note:

- Only the United States, India, the former Soviet Union, and the European Space Agency have successfully sent missions to orbit Mars – the fourth planet from the sun, while China is preparing to launch its first Mars rover in 2020.

Science and Technology-Achievements of Indians in science and technology; indigenization of technology and developing new technology

5. Academic research in India

- » Prelims: National Science Technology and Innovation Policy, 2013 provisions
- » Mains: Concerns with respect to R&D in India and suggestions to improve it

Context

- Public consultation in the process for formulation of a new national Science Technology and Innovation Policy (STIP 2020).

Background:

- The Office of the Principal Scientific Adviser to the Government of India and the Department of Science and Technology has recently initiated the process for formulation of a new national Science Technology and Innovation Policy (STIP 2020).
 - * Th STIP 2020 will be the 5th STIP of India, with the Science, Technology and Innovation Policy of 2013 being the most recent.

Science Technology and Innovation Policy, 2013:

- It aims to position India among the top 5 global scientific powers.
- It intends to synergize STI to transition to a knowledge based economy. It acknowledges the significance of being a knowledge-based economy and works towards building a robust national innovation ecosystem.
- It aims to link STI to socio economic priorities.
- It aims to attract the private sector into Research and Development.

Details:

- The policy measures in the domain of Research and Development in higher education institutions and national laboratories need to be based on the following aspects.

Re-defining the architecture of R&D systems:

- As against the nomenclature often used by researchers to classify their research into pure, applied, unrestricted, fundamental, basic, academic, industrial, practical etc, the article argues for alternate frameworks and terminology to define research.
- The article suggests using the terminology 'Academic Research (AR)' and 'Post-Academic Research (PAR)'. This approach would act as a type of measurement system used to assess the maturity level of a particular technology.
- Academic Research would involve observation of basic principles and would result in publications. Post-Academic Research would involve formulation of technology at the level of concepts. This would involve proof of concept, validation in a laboratory environment, followed by a relevant environment, and then to prototype demonstration, and ending with actual deployment.

Division of research:

- While AR and early-stage PAR can be done at higher education institutions and large laboratories, PAR has to be done by large laboratories (national or those supported by industry).

Complementarity of AR and PAR:

- While both AR and PAR generate knowledge which is necessary for national development, the article argues that the pursuit of AR though necessary, is not sufficient. AR and PAR must be pursued together.
- AR and PAR when pursued together and taken to their logical conclusion will result in a product or a process.
 - * For example while AR can pursue research into high energy physics, PAR can concentrate on pursuing accelerator technology relevant for industries. Similarly, while AR can pursue research in electro-chemistry, PAR can concentrate on the development of battery technologies.

Prioritizing investments:

- India's investment in research is lower than that by advanced countries.
- While an increase in Science and Technology is a must, it is equally important to decide where to increase investment: in AR or in PAR. Given the low public spending in the domain of science and technology, it becomes critical to funnel these limited resources into the right areas.
- The investments need to prioritise research in areas that relate to national development and the article suggests higher investment in PAR.

Limitations of AR:

- Notable academics have noted that the Indian industries have not reached a stage where they can absorb research being done by higher education institutions. This observation reveals that research being pursued is either not addressing national needs or is limited to AR.

- Judging the growth of S&T based only on scientific publications provides an incomplete picture. It is important to note that scientific publications alone cannot lead to national development. In short, academic research is necessary, but not sufficient.

Potential of PAR:

- Industries that have high technology intensity, such as aircraft and spacecraft, medical, precision and optical instruments, and communication equipment, have a low presence in India.
- There is the need to increase the technology intensity of industry which can result in increase of value addition to raw materials in India. This could become an important aspect of the 'Atmanirbhar Bharat' programme.

Road ahead for academia:

- The research community in higher education institutions must be motivated to pursue early-stage PAR. This could involve the academics pursuing early-stage PAR themselves, or in collaboration with industries.
- The academia needs to reorient its priorities to address national needs and engage in both AR and early-stage PAR and provide inputs necessary to raise the technology intensity of industry.

Suggestions for STI policy:

- The STI policy should emphasise PAR to ensure that investment in research results in economic growth and national development.

Science and Technology-Achievements of Indians in science and technology; indigenization of technology and developing new technology

6. Electronic Vaccine Intelligence Network (eVIN)

- » Prelims: eVIN and associated organizations
- » Mains: Significance of eVIN

Context

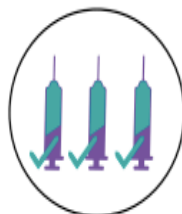
- The Health Ministry has announced the use of the Electronic Vaccine Intelligence Network (eVIN) under the National Health Mission (NHM).

Details:

- eVIN is an indigenously developed technology system in India that digitizes vaccine stocks and monitors the temperature of the cold chain through a smart phone application.
- The technological innovation is implemented by the United Nations Development Programme (UNDP) in partnership with the Government of India.

Significance of eVIN:

Improved stock availability



through better visibility and standardized procedures

Real time data visibility



at all cold chain points along with real time temperature monitoring

Tool and reports



reports to facilitate decision making in vaccine logistics management

Strengthened health system



through Human Resource, Capacity Building and Leveraging technology

Replicable model



for state/ Nation-wide scale up

- eVIN will help strengthen immunisation supply chain systems across the country and will support GOI's Universal Immunization Programme.
- The initiative will strengthen the evidence base for improved policy-making in vaccine delivery, procurement and planning in India.

Science and Technology: Achievements of Indians in science and technology; indigenization of technology and developing new technology

7. IISER study on seed germination

- » Prelims: Absciscic acid
- » Mains: Using Science and technology for developing agriculture in India

Context

- A team of researchers at the Indian Institute of Science Education and Research (IISER), Bhopal, has conducted a study on seed germination that could have a major impact on agriculture in the long run by helping determine the optimum timing of seed germination and thus ensure high plant yields.

Details:

- The study focused on the interplay between:
 - * Plant hormones like Absciscic acid (ABA) which inhibit the sprouting of the seed,
 - * Environmental cues like light which promotes the sprouting process and
 - * Darkness

Absciscic acid (ABA):

- Absciscic acid is a plant hormone. It modulates plant growth and development.
- ABA functions in many plant developmental processes, including seed and bud dormancy, the control of organ size and stomatal closure.
- It acts as a master regulator of the seed's growth by controlling several aspects of plant development, including seed dormancy and germination, as well as controlling growth under adverse conditions such as drought or salinity.
- ABA signals the seed not to germinate until there are favourable conditions for growth.
- If the stress comes after the germination of a seed, ABA suppresses further growth of the seedling. This inhibition leads the seedling to invest its energies less in its growth and more in defence mechanisms designed to ensure its survival.

Significance of the study:

- The research has proved that the inhibition of seedling growth by ABA is much stronger in darkness as compared to light conditions.
- Understanding the complex factors that modulate ABA sensitivity is vital to developing economically important plant varieties that have better tolerance to stress conditions.
- The results of the study are vital as they come at a time when frustrated farmers across Maharashtra have lodged thousands of complaints against seed companies, alleging them of having provided them with seeds that failed to germinate.

Science and Technology: Achievements of Indians in science and technology; indigenization of technology and developing new technology

8. Cataract

- » Prelims: Cataract
- » Mains: Applications of nano-technology in medical sector

Context:

- INST scientists develop simple economical nonsurgical prevention of cataracts.

What is Cataract?

- A cataract is a dense, cloudy area that forms in the lens of the eye.
- A cataract begins when proteins in the eye form clumps that prevent the lens from sending clear images to the retina. The retina works by converting the light that comes through the lens into signals.
- A cataract is a form of blindness that occurs when the structure of crystallin proteins that make up the lens in our eyes deteriorates, causing damaged or disorganised proteins to aggregate and form a milky blue or brown layer, which ultimately affects lens transparency.
- Thus, prevention of the formation of these aggregates as well as their destruction in the early stage of disease progression is a major treatment strategy for cataracts.

Details of the study:

- A team of scientists from the Institute of Nano Science & Technology (INST), an autonomous institute under the DST, has developed nanorods from the nonsteroidal anti-inflammatory drug (NSAID) Aspirin and found it to be an effective non-invasive small molecule-based nanotherapeutics against cataract.
- The team has used the anti-aggregation ability of self-build aspirin nanorods for this purpose.
- Aspirin nanorods prevent the aggregation of crystallin protein and various peptides derived from its fragmentation, which play a crucial role in cataract formation.
- These were found to prevent cataract formation by inhibiting aggregation of crystallin, and crystallin derived peptide aggregates.
- The targeted disaggregation of the accumulated alpha-crystallin protein and crystallin derived peptide aggregates in aged and cataractous human lenses are considered as a viable therapeutic strategy for the prevention of cataract formation.
- The aspirin nanorods are produced using the process of molecular self-assembly, which is a low cost and high-yield technique to generate the aspirin nanorods as compared to the high cost and laborious physical methods generally used for the synthesis of nanoparticles.

Benefits of using aspirin:

- Many natural compounds have already been reported as potential aggregation inhibitors for crystallin aggregation, but the utility of nonsteroidal anti-inflammatory drugs (NSAIDs) like aspirin in this direction will open a new paradigm.
- In addition, aspirin nanorods due to their nano-size will enhance the bioavailability; improve drug loading, lower toxicity, etc.
- Hence, the delivery of the aspirin nanorods as eye drops is going to serve as an effective and viable option to treat cataract non-invasively.
- This easy to use and low-cost alternative nonsurgical treatment method will benefit patients in developing countries who cannot access expensive cataract treatments and surgeries.

Science and Technology: Achievements of Indians in science and technology; indigenization of technology and developing new technology

9. Invisible shield for electromagnetic interference

- » Prelims: Electromagnetic interference
- » Mains: Applications in defence technology

Context:

- Bengaluru scientists fabricate invisible shield for electromagnetic interference.

Details:

- Scientists from Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru, an autonomous institute of the Department of Science & Technology, Govt. of India have fabricated transparent and flexible EMI shields made of metal meshes using the crack templating method via spray coating which is pioneered in their laboratory.
- They have designed a transparent shield for electromagnetic interference (EMI) by designing a metal mesh structure instead of continuous film on desired transparent substrates.
- Metal mesh provides better electromagnetic shielding compared to the same thickness of continuous metal film where transparency can be compromised.
- The invisible shield can be used in various military stealth applications and can cover electromagnetic wave emitter or absorber devices without compromising their aesthetics.
- This metal mesh can be created on any desired substrates such as acrylic, polycarbonate, glass, etc. without compromising the conductivity of the electrodes.

Science and Technology-Achievements of Indians in science and technology; indigenization of technology and developing new technology

10. Swadeshi Microprocessor Challenge

- » Prelims: Shakti and Vega microprocessor
- » Mains: Self reliance in Electronics sector

Details:

- The 'Swadeshi Microprocessor Challenge – Innovate Solutions for Aatmanirbhar Bharat' has been launched to provide an impetus to the ecosystem of start-up, innovation and research in India.
- The challenge invites innovators, start-ups and students to use two microprocessors (developed by IIT Madras and Centre for Development of Advanced Computing (CDAC)) to develop various technology products.
- The two microprocessors are:
 - * SHAKTI (32 bit)
 - * VEGA (64 bit)
- The microprocessors were developed using Open Source Architecture under the aegis of the Ministry of Electronics and IT.
- This initiative is aimed at not only meeting India's future requirements of strategic and industrial sectors but also to potentially mitigate the issues of security, licensing, technology obsolescence and most crucially cutting dependency on imports.
- The challenge will be spread over ten months and the finalists can win financial and incubation support for their ideas.

Awareness in the field of Space

11. Indian telescopes

- » Prelims: GMRT and Devasthal telescope
- » Mains: Significance of space research

1.3m Devasthal Fast Optical Telescope

- It is located at Devasthal, Nainital.
- It is run by Aryabhata Research Institute of Observational Sciences (ARIES), an autonomous research institute under the Department of Science and Technology (DST), Government of India.

Giant Meterwave Radio Telescope (GMRT)

- It is an array of thirty fully steerable parabolic radio telescopes of 45 metre diameter, observing at metre wavelengths.
- It is located about 80 km from Pune.
- It is run by the National Centre for Radio Astrophysics (NCRA) which is a part of the TIFR in Mumbai.

- Astronomers from all over the world use the GMRT to observe several astronomical objects such as galaxies, solar winds, pulsars, etc.
- In 2018, GMRT discovered the most distant galaxy ever known, located at a distance of 12 billion light-years.
- In 2020, it also aided in the observation of the Ophiuchus Supercluster explosion, which was the biggest explosion in the history of the universe.

Terms in news

12. Barakah nuclear power plant

- The Barakah nuclear power plant is on the Gulf coast west of Abu Dhabi.
- The United Arab Emirates has connected its Barakah nuclear power plant to the national grid after it attained criticality.
 - * Criticality signifies the normal operating condition of a reactor, in which nuclear fuel sustains a fission chain reaction. A reactor achieves criticality (and is said to be critical) when each fission event releases a sufficient number of neutrons to sustain an ongoing series of reactions.

13. Sputnik V

- Russia has recently announced the world's first vaccine to combat COVID-19, named Sputnik V. It is developed by Moscow's Gamaleya Institute. It has not yet completed its final trials.
- The vaccine is based on the principle of using adenoviral vectors to introduce the genetic code of the coronavirus spike into the human body.
 - * Viral vectors are tools commonly used by biologists to deliver genetic material into cells. Sputnik V vaccine uses adenoviruses for this purpose which have been previously used for gene therapy, as vaccines, and for cancer therapy. These viruses have evolved specialized molecular mechanisms to efficiently transport their genomes inside the cells they infect.

14. Virgo detector

- The European-based Virgo detectors are involved in the observation of gravitational waves.
- Gravitational waves are disturbances in the curvature of space-time, generated by accelerated masses and propagate as waves outward from their source at the speed of light.

15. Starlink

- Starlink is a satellite internet constellation being constructed by SpaceX providing satellite Internet access. The constellation will consist of thousands of mass-produced small satellites in low Earth orbit, working in combination with ground transceivers.

16. Project Kuiper

- Amazon's Project Kuiper is an initiative to build a low earth orbit (LEO) satellite constellation capable of providing reliable, affordable broadband service to unserved and underserved communities around the world.

@organizations in news**17. GAVI**

- Gavi is an international organisation created in 2000 to improve access to new and underused vaccines for children living in the world's poorest countries.
- It is a public-private global health partnership.
 - * GAVI brings together developing country and donor governments, the World Health Organization, UNICEF, the World Bank, the vaccine industry in both industrialised and developing countries, research and technical agencies, civil society, the Bill & Melinda Gates Foundation and other private philanthropists.

SECURITY AND DEFENCE

Role of state actors in creating security challenges- Nuclear threat

1. Taking Nuclear Vulnerabilities Seriously

- » Prelims: Mutually assured destruction, New START treaty
- » Mains: Unviability of nuclear deterrence, Nuclear vulnerability

Context:

- Japan on 6th August 2020 marked 75 years since the world's first atomic bomb attack.
 - * On August 6, 1945, during World War II, the U.S. dropped an atomic bomb code-named "Little Boy" on Hiroshima, Japan, resulting in an estimated 140,000 deaths.
 - * Three days later, the United States dropped an atomic bomb over Nagasaki.

Concerns:

- There are some critical concerns with respect to nuclear weapons.

Increasing nuclearization:

- Since 1945, the United States, the Soviet Union/Russia, the United Kingdom, France, China, Israel, India, Pakistan, and North Korea have armed themselves with destructive nuclear weapons.
- Over 1,26,000 nuclear weapons have been built since the beginning of the atomic age.

Damage potential:

- The use of existing weapons against civilian populations can cause a high number of casualties as observed in the atomic bombing of Hiroshima and Nagasaki.
 - * The atomic bombing of Hiroshima and Nagasaki killed over 2,00,000 people. Another 2,00,000 people or more who survived the bombings of these two cities have suffered permanent disabilities.
- Recent studies have indicated that use of even a fraction of the current stock of nuclear weapons would cause a massive human tragedy and also have long-term repercussions for food and water availability, agricultural output and climate change.
- Any nuclear use between nuclear adversaries would cause a humanitarian disaster.
- The large numbers of nuclear tests are causing grave and long-lasting damage to the environment and public health.

Vulnerability:

- Nuclear weapons could be launched at any moment against any target around the world.

- There is no realistic way to protect against nuclear weapons, whether they are used deliberately, inadvertently, or accidentally.
- The availability of ballistic missiles has made it impossible to intercept nuclear weapons once they are launched. Neither fallout shelters nor ballistic missile defence systems have succeeded in negating this vulnerability.

Complacency:

- Post the Cold War, the perceived sense of danger of nuclear war has receded though the nuclear war risk continues to increase.
- A high level of public apathy and political complacency has led to a situation where the risks remain high but the desire to address them is low.
- There are no efforts being made for nuclear risk reduction. Led by the principle of nuclear deterrence, there has been the increasing tendency to use strategies of nuclear brinkmanship and ambiguity that actually is adding to the nuclear risks.

The problems of deterrence:

- Nuclear weapons supporters have often argued that the use of nuclear weapons is impossible because of deterrence.
 - * Deterrence theory holds that nuclear weapons are intended to deter other states from attacking with their nuclear weapons, through the promise of retaliation and possibly mutually assured destruction (MAD).

Lack of restraint:

- Nuclear weapons supporters claim that nuclear weapons do not just protect countries against use of nuclear weapons by others, but even prevent war and promote stability. However, the article argues that the claims of deterrence do not hold up to evidence.
- Nuclear threats have not always produced fear and caution as propounded by nuclear enthusiasts. On the contrary countries with nuclear weapons have gone to war quite often, even with other countries with nuclear weapons, albeit in a limited fashion. Countries have not always shown the expected restraint.

Unstable policy:

- Nuclear deterrence cannot be considered stable.
- Strategic planners often use worst-case assumptions about the intentions and capabilities of other countries to argue for the acquisition of greater destructive capabilities, driving endless upgrades of nuclear arsenals, and offering a rationale for new countries to acquire nuclear weapons.

- All nuclear weapon states have admitted to the possibility that deterrence could fail, evident in their plans for preparing to fight nuclear war.

The illusion of control:

- A major concern with respect to nuclear weapons is the illusion regarding the controllability of nuclear weapons.
- In the real world scenario, it would not be possible to have complete control. The desire to believe in the perfect controllability and safety of nuclear weapons creates overconfidence, which is likely to lead to accidents and possibly to the use of nuclear weapons.
- Though it is very unlikely that nations would resort to pre-meditated, deliberate nuclear attacks given the risks posed by nuclear retaliation, there is the underlying risk of inadvertent escalation due to miscalculation or misperceptions.
- Possibilities of unintended use are increased by the following factors.
 - * Stressed inter-state relations have diminished inter-state trust
 - » Growing tensions between North Korea and U.S.
 - » Tensions between Russia and the west
 - » Tensions between the U.S. and China
 - » Tensions between India and its two nuclear armed neighbours, China and Pakistan.
 - * Unchecked strategic modernisation of the nuclear weapons:
 - » Russia and the USA have extensive and expensive programmes under way to replace and modernize their nuclear warheads. Similar demands have been observed in countries like the U.K. as well.
 - » China has been increasing its nuclear arsenal at a substantial rate.
 - » North Korea has been making attempts to produce nuclear weapons.
 - * Failure of arms control arrangements:
 - » The 2010 New Strategic Arms Reduction Treaty (New START) expires in 2021 and the U.S. administration has expressed its reluctance to renew the treaty. This removes the check on the nuclear weapons programmes of the two nations with the largest nuclear weapons inventory.
 - » New START is a nuclear arms reduction treaty between the United States and the Russian Federation with the formal name of Measures for the Further Reduction and Limitation of Strategic Offensive Arms.
 - » The nuclear talks between Iran and the P5+1 seem to have failed, with Iran vowing to restart its nuclear programme in the wake of increased U.S. sanctions.

- * Adoption of aggressive nuclear postures:
 - » Abandonment of no first use policy
 - » Support for the idea of 'limited' nuclear war
- * Emergent technologies have created anxieties and these new developments threaten to create unknown risks.
 - » Advancing capabilities of cyber attacks on nuclear command and control
 - » Blurring lines between conventional and nuclear delivery with conventional weapon delivery systems being upgraded to enable the delivery of nuclear weapons as well
 - » Induction of hypersonic missiles capable of high speed and manoeuvrability
 - » Incorporation of artificial intelligence in nuclear decision making

Lack of public discourse:

- There is lack of public participation in the nuclear policy formulation and nuclear strategies are being dictated and driven primarily by security conclaves.
- Popular participation is important to temper national choices and create the much needed checks and balances.

Way forward:

- There is the need to bring nuclear risks back into popular imagination and into the political agenda.
- There is the need for a public campaign to expose leaders and societies to the full range of physical, economic, social, political, health, environmental, and psychological effects of nuclear weapons.
- Public pressure in the form of civil society movements can compel leaders to rationalise their weapon requirements; force nations to find ways of reducing nuclear risks; and gradually pave the path towards elimination of nuclear weapons.
- There is the need for renewed efforts at universal disarmament of Nuclear weapons.

Defence production

2. India can be weapons supplier: PM

- » Prelims: Defence industrial corridors in India, Government schemes aimed at indigenization of weapon systems
- » Mains: Significance of domestic defence manufacturing

Context:

- The Prime Minister has said that India has the capability to become a reliable weapons supplier to friendly nations. The PM said that India will consolidate its position as the net security provider in the Indian

Ocean region while ensuring self-reliance in defence manufacturing.

Details:

- A series of measures were recently announced to boost domestic defence manufacturing.
 - * Corporatisation of the Ordnance Factory Board (OFB) is under progress.
 - * For the first time, 74% Foreign Direct Investment (FDI) in defence is allowed through the automatic route.
 - * Also, the government recently issued a draft Defence Production and Export Promotion Policy (DPEPP) 2020 for public feedback with the aim to achieve a manufacturing turnover of \$25 billion or Rs. 1,75,000 crore, including exports of \$5 billion in aerospace and defence goods and services by 2025.
 - * Work is in progress in the two defence industrial corridors in Uttar Pradesh and Tamil Nadu and a target of Rs. 20,000 crore investments had been set for the next five years.
 - * Recently, 101 items' negative import list was announced and these items have been reserved for the domestic industry.

Defence production

3. Govt. issues draft policy to ramp up defence exports

- » Prelims: Defence export policy
- » Mains: Potential of defence exports from India and its significance

Context:

- The Ministry of Defence (MoD) has put out a draft 'Defence Production & Export Promotion Policy (DPEPP) 2020' for public feedback.

Details:

- DPEPP has been drafted with the vision to make India amongst the leading countries of the world in the defence sector, including aerospace and naval shipbuilding sectors, from design to production, with the active participation of public and private sector and thus fulfilling the twin objectives of self-reliance and exports.

Goals and objectives:

- To achieve a turnover of Rs 1,75,000 Crores (US\$ 25Bn) including export of Rs 35,000 Crore (US\$ 5 Billion) in Aerospace and Defence goods and services by 2025.
- To develop a dynamic, robust and competitive Defence industry, including Aerospace and Naval Shipbuilding industry to cater to the needs of Armed forces with quality products.
- To reduce dependence on imports and take forward "Make in India" initiatives through domestic design and development.

- To promote the export of defence products and become part of the global defence value chains.
- To create an environment that encourages R&D, rewards innovation, creates Indian IP ownership and promotes a robust and self-reliant defence industry.

What are the focus areas?

- The Policy brings out multiple strategies under the following focus areas:
 - * Procurement Reforms
 - * Indigenization & Support to MSMEs/Startups
 - * Optimize Resource Allocation
 - * Investment Promotion, FDI & Ease of Doing Business
 - * Innovation and R&D
 - * Defence Public Sector Undertakings (DPSUs) and Ordnance Factory Board (OFB)
 - * Quality Assurance & Testing Infrastructure
 - * Export Promotion

Defence production

4. Defence Ministry to impose import embargo on 101 items

- » Prelims: India's major defence imports and defence trade partner countries
- » Mains: Significance of domestic defence production

Context:

- The Defence Minister has stated that the Defence Ministry will introduce import embargo on 101 defence related items.

Details:

- A list of 101 items has been prepared by the Ministry for which there would be an embargo on the import beyond the timeline indicated against them.
- Current and future capabilities of the Indian industry for manufacturing various ammunition & equipment within India have been assessed before the finalization of the list.
- The embargo on imports is planned to be progressively implemented between 2020 and 2024.
- The items comprise of not just simple parts but also some high technology weapon systems like artillery guns, assault rifles, corvettes, sonar systems, transport aircraft, LCHs, radars.
 - * The list also includes wheeled Armoured Fighting Vehicles (AFVs) with indicative import embargo date of December 2021.
- In another relevant step, MoD has bifurcated the capital procurement budget for 2020-21 between domestic and foreign capital procurement routes.

Significance:

- These measures are considered a big step towards self-reliance in defence.
- This move will boost indigenisation of defence production and play a significant role in fulfilling the set target of a turnover of \$25 billion through indigenously manufactured defence products.
- It offers a great opportunity to the Indian defence industry to manufacture the items in the negative list by using their own design and development capabilities or adopting the technologies designed and developed by the Defence Research Development Organisation (DRDO) to meet the requirements of the Armed Forces.

Defence production

5. DRDO lists 108 defence items for Indian firms

- » Prelims: DRDO and major indigenous weapon systems
- » Mains: Significance of domestic defence production

Context:

- A list of 108 military subsystems and components has been identified for development by the Indian industry.

Details:

- The present industry base for the DRDO consists of 1,800 Micro, Small and Medium Enterprises (MSME) along with Defence Public Sector Undertakings (DPSUs), ordnance factories and large-scale industries.
- The Defence Research and Development Organisation (DRDO) will provide support for design, development and testing of these systems on a requirement basis.
 - * The DRDO already offers its technologies to the industry for manufacture at a nominal cost and has been providing free access to its patents.
 - * The DRDO has been partnering with the Indian industry for many years, including the development of full systems like the Advanced Towed Artillery Gun System (ATAGS) and Pinaka rocket launchers, among others.

SRIJAN:

- SRIJAN is the Ministry of Defense's portal which acts as a one-stop-shop online portal that provides access to the vendors to take up items that can be taken up for indigenization.
- On this portal, DPSUs/OFB/SHQs can display their items that they have been importing or are going to import which the Indian Industry can design, develop and manufacture as per their capability or through joint venture with OEMs. The Indian Industry will be able to show their interest.
- The concerned DPSUs (defence PSUs)/OFB (Ordnance Factory Board)/SHQs (Service Headquarters), based on their requirement of the items and their guidelines & procedures will interact with the Indian industry for indigenization.

- The portal displays information in a structured way, which includes the item name, image and specification, values of imports, NATO Classification (indicative), etc. It also has a search facility.
- There are over 3000 unique items with a value of over Rs 10,000 Crore that are available through the portal.
- The SRIJAN portal is expected to make opportunities for 'Make in India'.

Internal security-Use of technology

6. Drone based surveillance system for Railway Security

- » Prelims: Indigenous drones
- » Mains: Potential of drone technology in meeting security challenges

Context:

- Indian Railways introduces drone-based surveillance system for Railway Security.

Details:

- The Mumbai Division of Central Railway in Indian Railways has recently procured two Ninja UAVs for better security and surveillance in railway areas like station premises, railway track sections, yards, workshops, etc.
- A team of four staff of the Railway Protection Force (RPF), Mumbai has been trained for drone flying, surveillance and maintenance.
- These drones are capable of Real-Time Tracking, Video Streaming and may be operated on Automatic Fail Safe Mode.

Uses of the drones:

- The purpose of the drone deployment is to provide a force multiplier and aid to the effectiveness of the security personnel deployed.
- It can help in the inspection of railway assets and safety of yards, workshops, car sheds, etc.
- It can be used to launch surveillance on criminal and anti-social activities like gambling, throwing of garbage, hawking, etc. in the railway premises.
- It may be deployed for data collection. Analysis of such data collected may prove to be extremely useful in vulnerable sections for safe operations of trains.
- The drones may also be pressed in service at disaster sites for helping in rescue, recovery and restoration and coordination of efforts of various agencies.
- They are very useful while undertaking mapping of railway assets to assess the encroachments on railway property.
- During large scale crowd management efforts, it may give vital inputs like crowd magnitude, probable time of arrival and dispersal based on which crowd regulation efforts may be planned and executed.

- A drone camera can cover a large area that requires 8-10 RPF personnel. Thus, it may lead to substantial improvement in utilization of scarce manpower.

Role of non-state actors in creating security challenges

7. ISIS

- » Prelims: Geography of west Asia and north Africa
- » Mains: Resurgence of ISIS and necessary counter measures required

Context:

- The UN counterterrorism chief's statement to the Security Council on the continuing presence of Islamic State (IS) terrorists in West Asia and Africa.

Background:

- At its height, the Islamic State held about a third of Syria and 40 percent of Iraq.
- By December 2017 it had lost 95 percent of its territory.
- In December 2018, President Donald Trump declared that ISIS was defeated and signalled the US's intention to withdraw all 2,000 troops supporting the Syrian Democratic Forces (SDF) in Syria.
- But the SDF continued its offensive and in February 2019 launched the final siege on ISIS forces in Baghouz, the last holdout. Baghouz fell in March 2019. This formally ended the caliphate's claim to any territory.

Concerns:

- Two years after the Sunni jihadist group was declared defeated, more than 10,000 IS fighters remain active in Iraq and Syria. IS-driven terror attacks are on the rise.
- Iraq and Syria are particularly vulnerable to the IS's resurgence as these countries are yet to be fully stabilised after the wars.

Political instability in West Asia and North Africa:

- Ever since they lost territories, IS fighters withdrew from the front lines and started operating in cells in the deserts, mountains and hinterlands of conflict-ridden countries.
- Political instability in parts of West Asia and North Africa is allowing the IS space to operate.

Syria:

- Though the Bashar al-Assad government has practically won the civil war, Syria is now a divided country.
- While the government controls most of the territories, a coalition of jihadists and rebels is running the Idlib province.
- In the northeast, the Kurdish rebels have declared autonomy.

- On the Syrian-Turkish border, Turkey, backed by pro-Turkish rebels, has carved out a buffer and has been in permanent conflict with the Kurds.

Iraq:

- Iraq, after months of protests and instability, has finally got a government.
- However, Prime Minister Mustafa al-Kadhimi is torn between the U.S. and Iran.
- Pro-Iran Shia militias continue to target U.S. troops inside Iraq, which could turn the country into a battlefield between Washington and Tehran.

Afghanistan:

- In war-torn Afghanistan, it continues to stage attacks, targeting ethnic and religious minorities.

Libya:

- Libya has two governments, which were fighting each other until the recent ceasefire (in August 2020).
- The Libyan conflict has spilled over into Mali and Burkina Faso, where jihadists have established a solid presence.
- Chaos breeds militancy, and as the main group here is the IS, it would remain active as long as these countries remain unstable.

West Africa:

- The terror outfit has a province in West Africa with nearly 3,000 fighters, according to the UN.

Way forward:

- Though the IS no longer controls any big city, its rise from a breakaway faction of al-Qaeda in Iraq to one of the world's most potent terrorist groups should be a lesson for all stakeholders.
- The IS has its roots in the U.S. invasion of Iraq. It started growing by exploiting the civil war in Syria. The regional governments, as well as their international backers (and rivals), should be mindful of this fact.
- If they fail to address the regional fault-lines and continue to fight each other, the jihadists could emerge winners once again.

Weapon/Weapon systems in news

8. Pinaka missiles

- The Pinaka Multiple Launch Rocket System (MLRS) has been indigenously designed and developed by the Defence Research and Development Organisation (DRDO) for the Indian Army.
- The system has a maximum range of 40 km for Mark-I and 75 km for Mark-II, and can fire multiple rockets in quick succession.

Context:

- Contract signed between the Ministry of Defence (MoD) and Indian companies for Pinaka missiles.

- The contract is for supplying six Pinaka Regiments to the Regiment of Artillery of the Indian Army at an approximate cost of Rs 2,580 crores.
- This project is under Buy (Indian) categorisation, with 70% indigenous content. It is expected to give a huge boost to the 'Make in India'

9. Viraat Aircraft carrier

- After having served in the British Navy as HMS Hermes for 25 years, Viraat was commissioned into the Indian Navy in 1987 after refurbishment and had operated Harrier fighter jets.
- It was decommissioned from service in March 2017.
- The Indian Navy currently operates one aircraft carrier, INS Vikramaditya, while the second, INS Vikrant, is under construction in Cochin, due for commissioning in 2022.

Context:

- Decommissioned aircraft carrier Viraat is set to be scrapped at a ship-breaking yard at Alang in Gujarat.

10. Indian Coast Guard Offshore Patrol Vessel 'Sarthak'

- Sarthak is the 4th in the series of five OPVs deployed by the Coast Guard to enhance maritime security.
- It has been designed and built indigenously by Goa Shipyard Limited in line with the Prime Minister Narendra Modi's vision of 'Make in India'.
- The Ship is fitted with state-of-the-art Navigation and Communication equipment, sensor and machinery.

Advantages:

- The ship is designed to embark and carry a twin-engine helicopter, four high speed boats and one inflatable boat for swift boarding and Search & Rescue operations.
- The ship is also capable of carrying limited pollution response equipment to undertake oil spill pollution response at sea.

11. Hammer Missile

- Highly Agile Modular Munition Extended Range Missiles (HAMMER) is a medium-range modular air-to-ground weapon.
- It a precision missile with a range of 60 km suited for high altitude.
- India has decided to fit HAMMER missiles on the newly-acquired Rafale jet aircraft
- Apart from the HAMMER missiles, the Rafale aircraft will also be armed with beyond- visual range missiles like Meteor, SCALP, and MICA, increasing it's ability to deal with incoming targets from a distance.

Security related agencies/organizations/groups

12. Bureau of Police Research and Development (BPR&D)

- The Bureau of Police Research and Development was raised in 1970 through a resolution of the Ministry of Home Affairs, GOI, with a mandate to promote excellence in policing, promote the speedy and systematic study of police problems, and apply science and technology in the method and techniques by the Police.
- The primary objective of the Bureau is to modernise the police force of the country.

Context:

- Golden jubilee anniversary of BPR&D on 28th August.

13. Naval Innovation and Indigenisation Organisation (NIIO)

- The NIIO has been launched to boost self-reliance in the defence manufacturing sector.
- This naval organisation will put in place dedicated structures for the end-users to interact with the academia and the industry to foster innovation and indigenisation for self-reliance in defence, in keeping with the vision of 'Atmanirbhar Bharat'.
- The NIIO is a three-tiered organisation.
 - * Naval Technology Acceleration Council (N-TAC) will bring together the twin aspects of innovation and indigenisation and provide apex level directives.
 - * A working group under the N-TAC will implement the projects.
 - * A Technology Development Acceleration Cell (TDAC) has also been created for the induction of emerging disruptive technology in an accelerated time frame.
- The Indian Navy already has a functional Directorate of Indigenisation (DoI).

14. BRICS Anti-Drug Working Group

Context:

- 4th Meeting of the BRICS Anti-Drug Working Group held.

Details:

- The 4th session of the BRICS Anti-Drug Working Group comprising of Brazil, Russia, China, South Africa and India was held.
- The session, held over a videoconference, was chaired by Russia.
- The session included discussions on the drug situation in the BRICS nations, the international and regional trends of illegal trafficking in narcotic drugs, psychotropic substances and their precursors, as well as the impact of various internal and external factors on the situation.

- The common points that emerged during the discussions include:
 - * The need for real-time information sharing among the member states.
 - * The need to curb increased drug trafficking through maritime routes.
- Misuse of darknet and other advanced technologies for drug trafficking was one of the key focal areas of the meeting.

Darknet:

- It refers to the deep hidden internet platform that is used for narcotics sale, exchange of pornographic content and other illegal activities by using the secret alleys of the onion router (ToR) to stay away from the surveillance of law enforcement agencies.
- Owing to its end-to-end encryption, darknet is considered very tough to crack when it comes to investigating criminal activities being rendered over it.

ENVIRONMENT AND ECOLOGY

Biodiversity and environment: Conservation efforts

1. Tiger Conservation efforts in India

- » Prelims: Tiger population distribution in India, National Tiger Conservation Authority
- » Mains: Concerns associated with current conservation approach and suggestions for improvement.

Background:

- The most recent estimation of tiger population in India has noted that there has been an increase in tigers from about 2,000 in 1970 to around 3,000 presently.
- India hosts around 70% of the world's tigers.
- Madhya Pradesh hosts the maximum number of tigers followed by Karnataka.

Details:

- Despite the increase in the tiger population in India leading tiger experts in India have pointed out serious concerns regarding tiger conservation efforts in India.

Peak capacity of Tiger reserves:

- Nearly a third of India's tigers are living outside tiger reserves and nearly 17 of the 50 reserves are approaching the peak of their capacity at sustaining their populations.

Low growth rate of tiger population:

- Despite the fact that Tiger population has increased in India and despite India having done better than other tiger range countries, the annual growth rate remains very low.

Potential much higher:

- Given the expansive land base of India, it has the potential to hold 10,000 to 15,000 wild tigers. However there seems to be no goal or plan to realize this potential.

Regional disparity:

- The tiger population recovery has not been even throughout the country and has only been sporadic in a few reserves.

Cost-effect analysis:

- The governments have been investing heavily, but not very intelligently, in tiger conservation. Excessive funding of a few reserves while neglecting large areas with greater recovery potential have become a concern.
- There seems to be the emphasis on the massively funded eco-development activities in tiger reserves. This calls into question the efficiency of the investments.

- The article laments the unnecessary and massive borrowings from the Global Environment Facility-World Bank combine to create new models for tiger recovery.

Government monopoly:

- A major concern of the current conservation policy is the government monopoly over tiger management which has led to the lack of data transparency and rigorous, independent tiger monitoring.

Policy mistakes:

- The implementation of the Forest Rights Act of 2006 has opened up the wildlife habitats for cultivation and exploitation by loosely defined "forest-dwellers". The subsequent impact on tiger habitats has been severe.
- The Tiger Task Force (TTF) was appointed in 2005, to review the status of the tigers in India. The author argues that the task force driven by its urge to maintain politically correct ideologies and based on inappropriate interpretation of the available scientific studies resulted in a report by the TTF that created a tiger management model that only enlarged the influence of the forest bureaucracy and did nothing to help tiger conservation efforts.
- Institutions like the National Tiger Conservation Authority have increased in size, taking under it schemes totally unrelated to tigers, such as the recovery of snow leopards and translocation of African cheetahs to India. This would have a detrimental impact on the effectiveness of the organization.
 - * The National Tiger Conservation Authority (NTCA) was established in 2005 following a recommendation of the Tiger Task Force.
 - * The NTCA would be responsible for implementation of the Project Tiger plan to protect endangered tigers. The NTCA would lay down normative standards, guidelines for tiger conservation in the Tiger Reserves, apart from National Parks and Sanctuaries. The NTCA would also facilitate and support tiger reserve management in the States through eco-development and people's participation.

Way forward:

Reducing bureaucratic overload:

- The author calls for winding down bureaucracy's role in conservation efforts and argues for restricting the forest bureaucracy's role to enforcement of wildlife law.
- The author argues that merging Project Tiger with other Central schemes for wildlife conservation could be a good start in this direction.

Involving all stakeholders:

- Government monopoly over domains of tiger conservation such as tiger research, monitoring, nature education and conflict mitigation should be done away with and the private enterprises, local communities, NGOs and scientific institutions should be involved in tiger conservation efforts.

Sustainable development:

- There is the need to recognize the existing challenges in tiger conservation and address them in future policies.
 - * The slow growth of the economy has resulted in widespread poverty. This has resulted in excessive reliance on forest exploitation for livelihoods and protein dependency on wild meat that is driving wildlife hunting.
- There is the need to adopt a more sustainable model of development balancing the need to conserve the environment while also addressing the need for human development.

Biodiversity and environment: Conservation efforts

2. Early Butterfly migration in southern India

- » Prelims: Migration pattern of Butterflies, Major species
- » Mains: Impact of climate change on flora

Background:

- The annual butterfly migration in south India generally begins in October-November, with the onset of the northeast monsoon. The butterflies in order to escape the rainfall migrate from the plains to the Ghats.
- In April-June, just before the advent of the southwest monsoon, the butterflies migrate from the Ghats to the plains.

Details:

- As against the normal pattern, the annual migration of butterflies from the hill ranges of the Eastern Ghats towards the Western Ghats has occurred earlier this year. This marks an early migration after a gap of eight years.
- Change in rainfall pattern and a considerable increase in the number of sunny days could be among the major reasons for the early migration event.
- The major butterfly species involved in early migration involves the Blue Tiger, Dark Blue Tiger, Common Crow and the Double-branded. Species like Lime Swallowtail, Lemon Pansy, Common Leopard, Blue Pansy, Common Emigrant and Lemon Emigrants have also been migrating but in lower numbers.

Biodiversity and environment: Conservation efforts

3. Poaching of Leopards

- » Prelims: TRAFFIC, population distribution of leopard, conservation status
- » Mains: Major threats to leopards

Context:

- 'SPOTTED' in Illegal Wildlife Trade: A Peek into Ongoing Poaching and Illegal Trade of Leopards in India, report published by TRAFFIC.

Background:

- Leopard (*Panthera pardus*) is the smallest of the big cats and is mostly nocturnal.
- In India, the leopard (*Panthera pardus fusca*) is found in all forest types, from tropical rainforests to temperate deciduous and alpine coniferous forests. It is also found in dry scrubs and grasslands, the only exception being desert and the mangroves of Sundarbans.
- It is classified under the 'vulnerable' category in the IUCN Red List.
 - * The last formal census on India's leopards was conducted in 2014, which estimated the population between 12,000 and 14,000
- It is listed in Schedule I of the Indian Wildlife (Protection) Act, 1972 and Appendix I of CITES.

Details:

- The study revealed that, of the total of 747 leopard deaths between 2015-2019 in India, 596 were linked to illegal wildlife trade and activities related to poaching.
- The highest numbers of poaching incidents were reported from the States of Uttarakhand and Maharashtra.
- Among all the derivatives found in illegal wildlife trade, skin remained the most in-demand product, accounting for 69% of all seizures, while derivatives like claws, teeth and bones were also traded. Bones of the leopard have a larger international demand for traditional medicines.
 - * It is also believed that bones of the leopard are possibly traded as tiger bones as they have a larger international demand for traditional medicines

Other Threats

- They frequently occur outside protected areas, increasing their vulnerability to conflict with humans.
- Habitat loss
 - * Major collapse in area protection and management. There has also been a collapse in grassland protection, which is also the reason for the decline in leopard population.

- Prey depletion and poaching

Recommendation

- More emphasis should be given to the conservation of leopards.

Biodiversity and environment: Conservation efforts

4. Forest loss threatens hornbills

- » Prelims: Species of hornbills, Conservation status.
- » Mains: Threats to hornbills and significance of hornbills to forest ecosystems.

Context:

- A study based on satellite data has flagged the high rate of deforestation in a major hornbill habitat in Arunachal Pradesh.

Details:

- Drastic changes in forest cover have been observed in the Papum Reserve Forest (RF) adjoining the Pakke Tiger Reserve.
- Papum RF is a nesting habitat of three species of the large, colourful fruit-eating hornbills:
 - * Great Hornbill
 - * Wreathed Hornbill
 - * Oriental Pied Hornbill
- The major factor has been the illegal logging in the region apart from the pressures exerted due to agricultural expansion.

Biodiversity and environment: Conservation efforts

5. Kerala's first dragonfly festival

- » Prelims: WWF, Thumbi mahotsavam
- » Mains: Ecological significance of dragonflies

Context:

- The WWF-India Kerala unit, in association with the Society for Odonate Studies (SOS) and Thumbipuranam, is organising the first-ever State Dragonfly Festival in Kerala.

Details:

- The Dragonfly Festival is named Thumbi mahotsavam 2020.
- The festival is expected to culminate with the state dragonfly summit to be organised in January 2021.
- The events are a part of a national dragonfly festival being organised by the WWF India, Bombay Natural History Society and the Indian Dragonfly Society in association with the National Biodiversity Board, United Nations Environment Programme, United Nations Development Programme and the International Union for Conservation of Nature.

Ecological significance of dragonflies

- Dragonflies act as important bio-indicators of the

ecological health of an area.

- They help in controlling the population of harmful insects and mosquitoes.
- Dragonfly larvae are equally important as they feed onto mosquito eggs and larvae, protecting the surroundings from Malaria and Dengue.

Biodiversity and environment: Pollution and degradation

6. NGT slams Ministry's report on clean air programme

- » Prelims: National Clean Air Programme goals
- » Mains: principles of 'Sustainable Development' and 'Public Trust Doctrine' and constitutional provisions with respect to environment

Context:

- The National Green Tribunal has condemned the Ministry of Environment and Forests (MoEF) report on the National Clean Air Programme (NCAP).

Details:

- The MoEF had stated that the 20-30% reduction of air pollution by 2024 under the National Clean Air Programme (NCAP) was realistic and it cannot be further curtailed.
- The NGT has condemned this stand of the ministry as being against the constitutional and statutory mandate.
 - * The Right to Clean Air is a part of the Right to Life and failure to address air pollution is the denial of Right to Life as mandated under the Article 21 of the Indian constitution.
 - * The Environment (Protection) Act, 1986 and other international obligations mandate the administration to take requisite actions to mitigate air pollution.
- The NGT has urged the ministry to enforce the principles of 'Sustainable Development' and 'Public Trust Doctrine'.
 - * The guiding principle of sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
 - * The Public Trust Doctrine enjoins upon the government to protect the resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial purposes.

Biodiversity and environment: Pollution and degradation

7. Environmental Performance Index

- » Prelims: India's ranking trend, Parameters considered in the index
- » Mains: Reasons for India's poor performance and

suggestions for improvements

- The global Environmental Performance Index report has consistently put India at the bottom of its rankings.
 - * India ranked 168th in the 12th edition of the Environment Performance Index (EPI) 2020. It was ranked 177th out of 180 countries in 2018.
- EPI is a biennial index prepared by Yale University and Columbia University in collaboration with the World Economic Forum.
- The index considers 32 indicators of environmental performance and includes 10-year trends in environmental performance at the national and global levels. The major indicators include: environmental health policy, biodiversity and habitat, air and water pollution and climate change.

Deaths due to air pollution:

- According to a study in the British journal, The Lancet, 12.4 lakh deaths i.e. 12.5% of all deaths in India in 2017, could be attributed to air pollution.

Biodiversity and environment: Pollution and degradation

8. Solar Tree

- » Prelims: Solar Tree technology, CSIR
- » Mains: Significance of solar tree in environmental conservation efforts and farmers empowerment.

Context:

- CSIR-Central Mechanical Engineering Research Institute, located in Durgapur, West Bengal, has developed the world's largest solar tree.

What is a Solar Tree?

- A solar tree is a structure incorporating solar energy technology on a single pillar, like a tree trunk. It may be a solar artwork or a functional power generator. Basically, they are solar panels mounted atop a long pole. The pole can support multiple panels in different spots, much like branches on a tree.

Details:

- Its installed capacity is above 11.5 kWp (kilowatts peak). It has the annual capacity to generate 12,000-14,000 units of clean and green power.
- Features of the solar tree:
 - * The Solar Tree has been designed in a manner to ensure maximum exposure of each Solar PV Panel to sunlight and also the creation of the least amount of shadow area beneath.
 - * The inclination of the arms holding the Solar PV Panels are flexible and can be adjusted as per requirement, a feature not available in Roof-Mounted Solar facilities.
 - * The solar tree has the capability to incorporate IOT based features, i.e. round-the-clock CCTV surveillance in agricultural fields, real-time humidity, wind speed, rainfall prediction and soil

analytics sensors.

- Each Solar Tree has the potential to save 10-12 tons of CO₂ emissions being released into the atmosphere as Greenhouse Gases when compared with fossil fuel-fired energy generation.
- Also, the surplus generated power can be fed into an Energy Grid.

Species in news-Fauna

9. Kerala barn owls

- The Lakshadweep Administration had embarked on the 'Pilot project on Biological Control of Rodents (Rats) by using Barn Owls (*Tyto alba*) in Kavaratti Island'.
 - * Rodents have been causing a yield loss of 30-40% in the Coconut farms of Lakshadweep.
- The nocturnal barn owls are natural rat hunters, armed with a powerful auditory mechanism.

10. Indian Gaur

- Indian Gaur is the largest extant bovine and is native to the Indian Subcontinent and Southeast Asia.
- In India, the Western Ghats constitutes one of the most extensive extant strongholds of gaur, in particular in the Wayanad – Nagarhole – Mudumalai – Bandipur complex.
- It is listed under CITES Appendix I and is classified as Vulnerable in the IUCN Red List and listed in Schedule I of the Wild Life Protection Act, 1972.
- The domesticated form of the gaur is called gayal (*Bos frontalis*) or mithun.

11. African cheetah

- African Cheetahs are bigger in size as compared to Asiatic Cheetahs.
- While the African Cheetahs are classified as "Vulnerable" in the IUCN Red List, the Asiatic cheetah is classified as a "critically endangered" species in the IUCN Red List and is believed to survive only in Iran.

Context:

- The Mysuru zoo has become the second Indian zoo to house the African cheetah.

12. Dhole

- Also known as Asiatic wild dog, Dhole (*Cuon alpinus*) is native to Central, South, East Asia, and Southeast Asia.
- The Western Ghats in Southern India supports the largest dhole population in the world.
- Dholes play an important role as apex predators in forest ecosystems.
- Besides the tiger, the dhole is the only large carnivore in India to be classified in the 'endangered' category

by the IUCN.

- It is protected under Schedule II of the Wildlife Protection Act, 1972.

Context:

- A recent study has observed that while Karnataka, Maharashtra and Madhya Pradesh rank high in the conservation of the endangered dhole, states such as Arunachal Pradesh, Chhattisgarh, Odisha, Telangana and Goa will have to do more.

13. Andean Condors

- The Andean condors (*Vultur gryphus*) are the world's heaviest soaring birds.
- Condors spend 99% of all flight time in soaring/gliding flight. Currents of warm rising air and streams of air pushed upward by ground features help these birds soar. Ability to ride air currents allows them to travel long distances with minimal exertion.

14. Arabian Sea humpback whales

- The humpback whale is one of the four species of baleen whales occurring in Indian waters
- Whales usually circumnavigate the world and none more so than humpback whales.
- But the Arabian Sea humpback whales are the only sedentary whales in the world, feeding and breeding in the same area.
- The IUCN Red List categorises the species of humpback whales as 'least concern', but it has recognised the distinct Arabian Sea population as 'endangered' in 2008.

Threats

- Entanglement in fishing gear
- Shipping, including ship strikes and disturbance from vessel noise:
- Oil and gas exploration and production carry threats of disturbance from seismic surveys and from construction and drilling noise, associated vessel traffic, and the potential for oil leaks and spills.

15. River Dolphins

- River dolphins are aquatic mammals that reside exclusively in freshwater or brackish water.
- There are only five extant species of river dolphins left and all of them are endangered or critically endangered. They are found in regions of Asia and South America.
- The Ganges River Dolphin is a type of South Asian river dolphin and is found in the Ganga and Brahmaputra rivers and their tributaries.
 - * It is classified as 'endangered' in the IUCN Red List.
 - * It has been declared the 'national aquatic animal of India'.
 - * It is also the official animal of the city of Guwahati.

- South Asian river dolphins have poor eyesight and rely on echolocation to catch prey.
 - * Echolocation is a phenomenon in which animals emit calls out to the environment and listen to the echoes of those calls that return from various nearby objects. They use these echoes to locate and identify objects.
 - * Echolocation is also known as bio sonar.
 - * Dolphins and sperm whales use echolocation to navigate dark oceans and catch prey.
- River dolphins are at risk because of pollution, dams, shipping and by catch.
- Dolphins are important indicators for the health of the rivers they live in.

16. New butterfly species discovered in Matheran

- Scientists have found 140 rare species of butterflies, including 77 new ones, in Matheran.
- Matheran is a hill station in the Raigad district, Maharashtra. It is declared as an eco-sensitive region by the Union Ministry of Environment.

Species in news-Flora

17. Pokkali rice

- The pokkali rice variety endemic to central Kerala is known for its saltwater tolerance.
- Cultivation of Pokkali rice is an ancient farming practice wherein one season of rice farming is alternated with another season of prawn culture when the salinity is too high for rice cultivation.
- The rice crop doesn't require other fertilizer or manure as the tidal flows make the fields highly fertile and it draws nutrients from the prawns' excrement and other remnants.

Context:

- To tide over a crisis-like situation created by severe seawater incursion into paddy fields in vast areas of the Sundarbans after cyclone Amphan hit West Bengal, farmers are experimenting on the pokkali variety of rice from Kerala.

18. African baobab

- The African baobab, known as the tree of life, is native to the African continent.
- These long-living species are typically found in dry, hot savannahs of sub-Saharan Africa.
- They have traditionally been valued as sources of food, water, health remedies, medicinal compounds or places of shelter.

19. Sonneratia Alba/Mangrove Apple

- Sonneratia Alba is one of the important evergreen

mangrove tree species occurring in the coastal districts of Maharashtra.

Context:

- Maharashtra is set to become the first coastal state to declare a state mangrove tree species as a symbol to enhance conservation of the salt-tolerant vegetation.

Details

- It is also Known as white chippi in Marathi as it bears beautiful white flowers.
- Maharashtra already has the state tree (mango), state animal (giant squirrel), state bird (green pigeon), state butterfly (Blue Mormon), and state flower (jarul).

Significance

- They often grow on newly-formed mudflats and play an important role in combating land erosion.
- Therefore, it is proposed to declare Sonneratia Alba as state mangrove tree so as to help create awareness about the importance of mangroves and marine biodiversity among the students and people which will help support its conservation.

Organizations in news

20. TRAFFIC:

- TRAFFIC is a leading wildlife trade monitoring network across the world.
- It is a non-governmental organisation working on wildlife trade in the context of both biodiversity conservation and sustainable development.
- It is a joint program of the World Wildlife Fund (WWF) and the International Union for Conservation of Nature (IUCN).

Context:

- TRAFFIC recently released a report on Illegal Trade of Leopards in India

21. Wildlife Institute of India (WII)

- WII is an autonomous institution under the Union Ministry of Environment, Forest and Climate Change based in Dehradun.
- Its functions include conducting specialised research in areas of study like Endangered Species, Biodiversity, Wildlife Management, Wildlife Policy, Wildlife Forensics, Habitat Ecology, Spatial Modelling, Eco-development, and Climate Change.
- The quadrennial tiger survey is conducted by the WII in coordination with the Environment Ministry.

Context:

- The Wildlife Institute of India (WII) is set to release a report on leopard sightings as part of its global tiger census.

HEALTH ISSUES

Issues relating to development and management of social sector/services relating to health

1. National Digital Health Mission

- » Prelims: National Health Authority, National Health stack, National health mission
- » Mains: Significance and concerns regarding the National digital health mission

Background:

- The National Health Policy (NHP) 2017 had laid significant emphasis on leveraging digital technologies for enhancing the efficiency effectiveness of all healthcare delivery services.
- In line with the National Health Policy suggestion, the Prime Minister in his Independence Day speech had stated the government's intention to implement a National Digital Health Mission (NDHM).
- Recently, the National Health Authority (NHA) has released the draft Health Data Management Policy of the National Digital Health Mission (NDHM) for public consultations.

Details:

- The National Health Authority (NHA), which runs the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, would be designing and implementing the NDHM.
- The NDHM envisages digitizing all data relating to all patients available not just with government and private hospitals but also with diagnostic centres, laboratories and individual practitioners of all systems of medicine.
- Under the National Digital Health Mission, every Indian will be given a digital health ID which will contain information regarding disease, medical reports, medicine prescribed and consultant doctor details of a person.
- Healthcare providers such as hospitals, laboratories, insurance companies, online pharmacies, telemedicine firms will be expected to participate in the health ID system.
- While the core systems of NDHM like Health ID, Digi-Doctor and Health Facility Registry shall be owned, operated and maintained by the Government of India, Private stakeholders will be given an equal opportunity to integrate with the core system and create their own products.
- The NDHM would be a voluntary programme.

Privacy provisions:

- The draft Health Data Management Policy of the National Digital Health Mission (NDHM) states that patients who opt for the health ID will be given complete control and decision-making power over the manner in which their personal data and any sensitive data associated with them is collected and processed.
- Those processing the data, including health information providers and health information users, are expected to uphold the patient privacy.

Significance of NDHM:

Patient-centric healthcare:

- The National Digital Health Mission (NDHM) aims to empower the citizens and make the health care system more patient centric.
- The system will lead to convenience for the patient, given that the patient will not need to store and carry old records. The digital access to patient data can lead to more effective diagnosis.
- The digital data will also help in providing prompt and accurate treatment, especially in emergencies by avoiding repetition of medical history taking and unwarranted tests.

Increase affordability:

- Digital health can help ensure the delivery of health services to a large population at affordable costs.

Improved accessibility:

- NDHM will help improve access by providing a big boost to consultation through telemedicine with specialist doctors for patients in smaller towns and remote locations.
- The introduction of telemedicine and e-pharmacy will bring in more inclusivity. NDHM can help provide quality healthcare to rural masses and bridge the divide between urban and rural India.
- It will lead to quality care and better access to healthcare facilities and doctors.

Quality healthcare:

- Providing a unique identification to doctors as well as health facilities can lead to streamlining several issues of quality and accountability.

Integrating the stakeholders:

- Capturing data relating to patients and their digitizing could help all stakeholders including the patients, the doctors who attend to them and the healthcare facilities where they seek treatment.

- The NDHM will help revitalize India's healthcare delivery system by connecting doctors, hospitals and other healthcare providers in an integrated digital health infrastructure.

Data value:

- The use of machine learning and artificial intelligence techniques to analyse the data generated from the records will help learn disease patterns, predict the onset of ailments and suggest seasonal outbreaks, bringing efficiencies and effectiveness in healthcare.

Impetus to entrepreneurship:

- The NDHM brings a huge opportunity for digital health start-ups to work with providers and insurers to help build the continuum of patient centric care. NDHM provides opportunities for innovation in the healthcare sector.

Concerns regarding NDHM:

Implementational challenges:

- To achieve the proposed shift in the storage and retrieval of medical records in the country, the digital integration of interfaces of various stakeholders in the healthcare sector will have to be achieved.
- Given the large participation of the private sector in the healthcare delivery system in India, the challenge would be to bring the private health care sector under the NDHM and ensure both reliability and quality of the information recorded.
 - * Currently, 66 percent of treatment of all ailments is met by private hospitals and clinics (as per NSS 75th Round: Key Indicators of Social Consumption in India: Health, Ministry of Statistics and Programme Implementation, Government of India, 2017-18).
 - * A large share of diagnostic centres and pathology labs are run by the private sector.
- A similar attempt made by the UK's National Health Service (NHS) in 2005 failed due to lack of co-operation from all the health service providers.

Lack of digital penetration:

- The low penetration of digital technology in rural areas will be a challenge in ensuring the potential of inclusivity and accessibility offered by NDHM.

Extensive costs:

- The implementation of the NDHM would require the healthcare institutions in the government as well as the private sector to upgrade their available resources and data maintenance practices.
- There would be considerable costs involved in the transition to a new system. Public health professionals estimate the cost in thousands of crores for all government and private HIPs to upgrade their hardware and connectivity systems, training of present staff, the entry of data afresh, apart from other indirect costs.

- This would not be financially viable for independent practitioners in allopathic and the Indian systems of medicine who run small dispensaries especially in rural areas, where there is no practice of even storing patient data on computers. Complying with the digitization protocols would entail cost burdens on them.

Data leakage:

- Data privacy and security issues would be a prime concern in the NDHM.
- Despite the claims that patient data safety and confidentiality would be ensured, the data is vulnerable given that it is getting stored in a decentralised system holding transferable data.
- Despite the provisions like local storage of data, only anonymized data will be shared upwards, and patients' consent will be taken every time for sharing any personal identifiable information, there are serious concerns over patient privacy.
- Dealing with ethical issues, breach of privacy, and dealing with social stigma are significant challenges for the NDHM.

Inefficient use of scarce resources:

- The NDHM will entail huge financial resources for its implementation.
- Digitization is not the immediate problem facing the health sector. While the digitization of healthcare data could help, what many Indians face are unaddressed issues in the health sector.
- Unreliable healthcare facilities in both the government and private sectors, difficulties in getting timely care, availability of beds and hygienically maintained hospital premises, availability of doctors physically or online, and the continuous neglect of preventive and community health initiatives constitute bigger problems in the health sector and require urgent attention and resources.
 - * Currently, total health expenditure (both private and public) in India is just 3.6 per cent, while public spending on health is just above 1 per cent of the country's GDP, which is a low compared to the countries that have some of the best digital health systems in the world.

Limited benefits:

- Many tertiary hospitals and medical colleges rarely consider diagnostic reports from peripheral centres or even the prescriptions of previous doctors and often repeat the procedures. This would render past records redundant for the patients.
- With regard to insurance coverage, insurance schemes do not need the entire medical history of the patient and can do with the cards issued under the Rashtriya Swasthya Bima Yojana and the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana.

- The NDHM may not be the best way to go about addressing data gaps and suggests that instead, the existing practices and systems for the compilation of data as in the Integrated Disease Surveillance Programme and the Health Management Information System (IDSP-HMIS) could have been reformed for better efficiency and effectiveness.

Federal provisions:

- Health is under the State List. The national-level digitization plan without consultation with the state governments is a cause of concern.

Questions over accuracy:

- While using the generated data there is a presumption that all the data entered in each patient's file is accurate, which might not be true in all cases.

Existing measures in India:

National Health stack:

- The National Health Stack (NHS) envisages a centralized health record for all citizens of the country in order to streamline the health information and facilitate its effective management.
- It aims to create a unified health identity of citizens.
- The NHS seeks to employ the latest technology including Big Data Analytics and Machine Learning Artificial Intelligence.
- A registry of over eight lakh doctors, 10 lakh pharmacists and over 60,000 hospitals is under preparation. At a later stage, online pharmacies, insurance companies and other stakeholders will be added to the 'Stack'.
- The scheme intends to replace existing data generation systems with new homogenised software for all machines in the health sector in the country with a central processor that will extract the relevant data from individual records.

National Health Mission:

- The National Health Mission through the IT network is connected to most public health centres even in tribal areas. Personal health data are generated by name until the primary health centre level but not transmitted to higher levels except aggregated numerical data.
- Many States have achieved some breakthroughs in the area of digital health within the framework of the National Rural Health Mission (NRHM).

Way forward:

Ensure robust public health infrastructure:

- The digital health mission must be backed up by high-quality public health infrastructure. The absence of a robust public health infrastructure will rob the NDHM of its potential benefits. This would require enhanced funding from the government for the healthcare sector.

- Integrated management of health data must be based on a larger reorganisation and integration of the health system.

Upholding patient privacy:

- There is a need to ensure that collected data is used in a manner that is respectful of the citizens' privacy. Having something like the Data Protection Act in place is essential.
- There is the need to ensure that the proposed framework is in compliance with all applicable laws and international standards that define the set of frameworks of consent for the collection and processing of health data by healthcare practitioners and other entities, and other relevant standards related to data interoperability and data sharing.

Issues relating to development and management of social sector/services relating to health

2. Reversing health sector neglect with a reform agenda

- » Prelims: Pradhan Mantri Jan Arogya Yojana
- » Mains: Universal health coverage and governmental efforts

Context:

- The COVID-19 pandemic has renewed the calls for effective universal health coverage (UHC) in India.

India's attempts:

- The government has launched the Ayushman Bharat–Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) health insurance as a tool for achieving UHC.
- Plans are underway to extend coverage to the non-poor population under AB-PMJAY, which currently covers the bottom 40% of the population.
- Private health care is being encouraged in India.

Concerns:

- The government seems to be taking the health insurance route to UHC driven by private players, rather than strengthening the public provisioning of health care.
- The universal insurance does not translate to universal access to services given the stark maldistribution of healthcare facilities (almost two-thirds of corporate hospitals are concentrated in major cities)
- The governmental expenditure into the health sector remains abysmally low and inadequate.

Way forward:

- The fact that states with higher per-capita public spending on health have fared better against COVID-19 can be invoked to back the reform argument. There is the need to ensure better access, equity, and quality in health care.

- Experience suggests that the public sector could be the only effective alternative and this calls for higher expenditure into the health sector
- Civil society would need to utilise this opening to generate widespread public consensus and pressure for healthcare reform.

Issues relating to development and management of social sector/services relating to health

3. COVID-19 intensifying in Rural India

- » Prelims: National Rural health mission
- » Mains: Strengthening rural health capacity

Details:

- Apart from the concern that COVID-19 cases have been growing at a relatively quick pace in the recent past, more worryingly the hotspot of the pandemic seems to have shifted to rural areas where the health infrastructure is fragile.
- The health infrastructure is not equally spread between rural and Urban India. While the rural areas account for around 65% of India's total population, about 65% of all government hospital beds are in urban areas.
- Only 20% of the total doctors in India are serving in the rural areas.

Issues relating to development and management of social sector/services relating to health

4. eSanjeevani

- » Prelims: eSanjeevani provisions
- » Mains: Significance of tele-medicine

Context:

- 1.5 lakh tele-consultations completed through 'eSanjeevani' and 'eSanjeevaniOPD'.

About the National Teleconsultation Service:

- The Health Ministry launched the National Teleconsultation Service to facilitate telemedicine aiming to provide healthcare services to patients in their homes.
- This offers communication between doctors and patients who are geographically separated.
- There are two types of telemedicine services:
 - * eSanjeevani: Doctor-to-Doctor service. This is being deployed in 155,000 Health and Wellness Centres under Ayushman Bharat

- * eSanjeevani OPD: Doctor-to-Patient (teleconsultation). This is the government's flagship telemedicine technology. The panel of doctors on the service are drawn by the state governments. The patients do not have to pay any fees for the teleconsultation service. They are also given ePrescriptions (electronic prescriptions).

- The government has also interlinked 50 government medical colleges in the country for tele-education, e-Learning and online medical consultation under the National Medical College Network (NMCN) scheme.

What is telemedicine?

- As per the World Health Organisation, telemedicine is the delivery of health care services, where distance is a critical factor, by all health care professionals using IT for diagnosis, treatment and prevention of disease and injuries, research and evaluation, etc., all in the interests of advancing the health of individuals and their communities.
- It involves the use of various types of ICTs (information communication technologies). It comprises videoconferencing, transmission of still medical images, document sharing, remote monitoring of vital signs, etc.
- It facilitates patients' and rural practitioners' access to specialist health services and support.

Issues relating to development and management of social sector/services relating to health

5. Tuberculosis & Chikungunya inhibiting Flavonoid Molecules

- » Prelims: TB and Chikungunya transmission and causative pathogens
- » Mains: Measures required for combating contagious diseases and preventive healthcare

Context:

- The first synthetic path for tuberculosis & chikungunya inhibiting flavonoid molecules deciphered.

Details:

- Flavonoid molecules, like rugosa flavonoids, podocar flavone, and isoflavone, found to inhibit tuberculosis and chikungunya, have so far been isolated from plants.
- A team of scientists from the Agharkar Research Institute (ARI), Pune, an autonomous institute of the DST, have discovered the route to synthesize these molecules in the lab.
- This discovery is the first synthetic route for producing flavonoid molecules related to the treatment of tuberculosis and chikungunya.

Significance of the discovery:

- Flavonoids are normally isolated from plants.
- However, inconsistency in natural products can occur in different seasons, places, and species.
- Along with these hurdles, over-exploitation of medicinal plants puts an extra burden on the environment.
- To overcome these problems, such products can be developed by synthetic protocols in the laboratory by simple and cost-effective methods.
- The synthetic natural products possess a structure and medicinal properties similar to the natural product.

What are flavonoids?

- Flavonoids are a group of phytonutrients present in almost all vegetables and fruits.
- They, along with carotenoids, are responsible for the varied colors of fruits and vegetables.
- There are more than 6000 types of flavonoids.
- They are associated with health benefits being good antioxidants, having anti-inflammatory properties and also offer benefits for the immune system.
- Most Ayurvedic products are rich in flavonoids. Flavonoids are mostly present in tomato, onion, lettuce, grape, apple, strawberry, peach, and other vegetables.
- A diet rich in flavonoids protects from diseases related to heart, liver, kidney, brain, and other infectious diseases.

Diseases in news

6. Fluorosis

- Fluorosis is a crippling disease resulting from the deposition of fluorides in the hard and soft tissues of the body due to excess intake of fluoride through drinking water/food products/industrial pollutants over a long period.
- It results in dental fluorosis, skeletal fluorosis, and non-skeletal fluorosis.
 - * Severe forms of skeletal fluorosis result in marked disability.
 - * Non-skeletal forms of fluorosis are earlier manifestations, which develop long before the onset of typical changes in teeth and skeletal bones these are seen as gastrointestinal symptoms and may overlap with other diseases leading to misdiagnosis.

Treatment

- Dental and skeletal fluorosis is irreversible and no treatment exists, the only remedy is prevention by keeping fluoride intake within safe limits. Easy detection of fluorides in water can help prevent this public health risk.

SOCIAL ISSUES

Population and associated issues

1. India's population trajectory

- » Prelims: Total fertility rate, replacement fertility rate
- » Mains: Reasons for declining TFR in India

Context:

- Study by the Seattle-based Institute for Health Metrics and Evaluation (IHME).

Details:

- The study estimates that India's population will peak by mid-century at around 1.61 billion. It also estimates that by 2100, India's total population will be around 1.09 billion and could also be as low as 724 million.
 - * India's current population stands at 1.35 billion.
- The IHME study's observation is in line with the widely-used United Nations projections of India becoming the largest population country by around the mid century.
- However the two projections exhibit large divergence on their prediction of the population number by 2100. While the UN predicts a population of 1.45 billion by 2100, the IHME study predicts a total population of around 1.09 billion.

Possible causes for divergence:

- The IHME population projections accuracy is subject to the assumptions made. The IHME study assumes an average Total fertility Rate (TFR) of 1.29.
 - * Total fertility rate (TFR) refers to the total number of children born or likely to be born to a woman in her lifetime if she were subject to the prevailing rate of age-specific fertility in the population.
- Since the assumed TFR is less than the replacement level fertility, it is resulting in a sharp population decline.
 - * Replacement level fertility is the total fertility rate at which a population exactly replaces itself from one generation to the next, without migration. This rate is roughly 2.1 children per woman for most countries, although it may modestly vary with mortality rates.
- The assumption for the TFR for India is based on data regarding contraceptive use in the National Family Health Survey (NFHS) and potential for increasing contraceptive use.
- However, there are concerns that the contraceptive use in the NFHS is poorly estimated, and as a result, unmet need for contraception may be lower than that estimated by the IHME model, generating implausibly low fertility projections for 2100.

Significance of the study:

- Despite the divergence in the projection of numbers for 2100, the UN's projections and the IHME projections both predict that India's population will peak by mid-century and subsequently decline driven by a sharp reduction in fertility.
- The high population would pressurize the developmental process in India given the scarce resource base.
- Ideally the population policy should focus on peaking at the earliest and then decreasing. A major aspect of this would be the need to decrease the TFR in India.

Fertility decline:

- In the 1950s, India's Total fertility rate (TFR) was nearly six children per woman and today it stands at 2.2.
- The massive push for family planning coupled with forced sterilisation during the 1970's led to a 17% decline in TFR from 5.9 in 1960 to 4.9 in 1980. Between 1992 and 2015, TFR has fallen by 35% from 3.4 to 2.2.
- Around 18 States and Union Territories have a TFR below 2, below the replacement fertility levels.

Possible causes for declining TFR:

Family planning programme:

- This involved measures like sterilisation, condom distribution and intrauterine device (IUD) insertion.
- Between 1975 and 1994, family planning workers were assigned targets on sterilisations, condom distribution and intrauterine device (IUD) insertion. There were concerns that such targets often led to coercion. Following the Cairo conference on Population and Development in 1994, the family planning has lost primacy in the Indian policy discourse.

Disincentive system:

- Punitive policies designed to punish people with large families include measures like denial of maternity leave for third and subsequent births, limiting benefits of maternity schemes and ineligibility to contest in local body elections for individuals with large families.
- These public policies aimed to encourage the small family norm.
- However, these policies were mostly ignored in practice.

Aspirational revolution:

- The socioeconomic transformation of India since the 1990s seems to have played an important role in decreasing the TFR in India.
- Agriculture has become an increasingly smaller part of the Indian economy and aspirations for jobs outside agriculture have grown.

- While farmers preferred more children as a resource in their agricultural work, the new parents aspire to ensure quality education for their children. Given the scarcity of their monetary resources, they prefer to limit the number of their children as this allows them to invest more in each child. Subsequently parents have begun to rethink their family-building strategies.
- While the fertility decline in western countries can be mainly attributed to retreat from the family, Indian parent's aspirations for their children seems to be driving the fertility decline in India.

Conclusion:

- While the demographic data suggests that the aspirational revolution is already under way, the need of the hour is to hasten the fertility decline by ensuring that the health and family welfare system are able to provide contraception and sexual and reproductive health services on demand.

Social Issues-Related to women

2. Reviewing the age of marriage for girls

- » Prelims: Prohibition of Child Marriage Act, 2006
- » Mains: arguments both in favour of and against increasing the minimum age for marriage for girls

Context:

- The Indian Prime Minister has stated in his Independence Day speech that the government may take a relook at the age of marriage of women.

Background:

- The Budget Speech of 2020 proposed the setting up of a task force to look into the issue of age of a girl entering motherhood to help lower maternal mortality rates and malnutrition levels. In June 2020, the government announced a 10-member panel for this purpose.
- The committee has missed its July 31 deadline to finalise its report and give recommendations.

Details:

- When a girl is married too early and has a child before the age of 20 years, available evidence highlights the detrimental effect it has on the health and growth of the baby as well as the health of the mother.
 - * Scientific studies have shown that children born to adolescent mothers (10-19 years) were more likely to be stunted (shorter for their age) than those born to young adults (20-24 years), and adult mothers.
 - * Children born to adolescent mothers also had higher prevalence of low weight as compared to adult mothers.
- Given the relation between age of a girl entering motherhood and the age of a girl at marriage, the government has indicated its willingness to take strong decisions about the age of marriage of girls.

- Increasing age at first marriage, age at first birth, can be a promising approach to improve maternal and child nutrition.

Counter arguments:

- The National Coalition Advocating for Adolescent Concerns has asserted that increasing the legal age of marriage for girls will only expand the number of married persons deemed underage and criminalise them and may render underage married girls without legal protection.
- There are also arguments that the Prohibition of Child Marriage Act, 2006 instead of curbing child marriages, has only played as a weapon in the hands of parents to punish their daughters for elopement and is used in conjunction with other laws to punish boys in self-arranged marriages.
- The reasons for early marriage vary across the country. The issue of poor nutritional status in teenage mothers is also due to poverty and lack of safety driving early marriage in girls.
- Some have argued that lack of proper education, poor economic status among teenage mothers also contribute to poor nutritional outcomes for the mother and child and emphasize the need to act on these factors first before lowering the marriage age.
 - * Studies have shown the association between there is a link between the mother's educational level, living conditions, health conditions, decision-making power and the health status of mother and child. Poverty of the mother plays the greatest role of all by far in relation to her undernourishment and that of her child.
 - * A woman from a poor background and lower education might be more likely to become pregnant early. In other words, instead of early pregnancy causing malnourishment, they may both be the consequences of poverty.

Way forward:

Nutritional support:

- The best way to go about breaking the vicious cycle of malnutrition would be by ensuring nutritional security for the mothers.
- In the short term there is the need to ensure nutritional programmes for girls and women through a range of institutional mechanisms from Anganwadis to schools.

Focus on empowerment:

- While legal enactment to prevent child marriages is necessary, there is also the need to simultaneously work towards empowering the girls by ensuring education, ensuring economic and social empowerment of women and girls.
- There is the need for well resourced initiatives aimed at increasing girls' access to education and health, creating enabling opportunities for economic independence of the girls, which will result in

empowerment of the girls. This will not just delay marriage but lead to a long term, positive health and education outcomes.

Social Issues-Related to women

3. Cyber Gender violence

- » Prelims: Laws against digital crimes
- » Mains: Increasing digital gender violence and steps to counter it

Context:

- Increasing instances of cybercrimes and cyber bullying of girls and women.

Concerns:

Gender violence:

- Instances of non-consensual sharing of images online to threaten and shame girls and women amount to a form of gender violence and raise serious questions about the existing mindsets of the youngsters indulging in such acts.

Growing digital presence:

- There is the growing trend of digital presence in the form of social media usage.
- As the boundary between the real and the virtual world becomes increasingly blurred, the perceived risks of the use of technology for nefarious purposes have only increased.

Challenge posed by the pandemic:

- COVID-19 seems to have only increased the challenges that women face. The National Commission for Women has reported a surge in domestic violence and cybercrimes, which has made girls and women more vulnerable as they face violence and abuse inside their homes and online.

Wrong solutions:

- Deactivating social media handles or deleting so-called provocative photos are being used as a quick fix measure. However, this approach does not address the real problem which seems to be the existing gender norms and norms of masculinity.

Way forward:

Mainstreaming the issue:

- Societies must sensitize children and young women and men of the issue of gender violence.
- Schools should adopt Gender-based Violence programmes and curricula, to mainstream the issue of gender violence which will allow the possibility of healthy discussions on the issue.

Educational intervention:

- There should be efforts made to shape positive mindsets among the young. This could involve educational interventions. Such educational interventions will enable the society to move towards the ideal of gender equality.
- This could involve engagement between school communities, civil society organisations and governments to define alternatives for pre-existing gender norms.

Engaging Men:

- There is the need to engage men to achieve gender equality.
- Community-based behavioural change programme need to be designed to provide young boys with the skills and knowledge they need to challenge existing gender norms and take action to end violence and discrimination against women and girls.

Social movement:

- The movements towards gender equality and the eradication of violence against women like the Riot Grrrl and #MeToo movement are gaining traction. These movements point to the fact that positive changes can be affected only when people come together to confront the dominant social norms.
- There is the need for a social movement involving everyone to redefine the existing gender norms and norms of masculinity.

Safer digital spaces:

- A major measure to prevent and counter cyberbullying would involve the creation of safe digital spaces and addressing the issues of privacy.

Social Issues-Related to women

4. Women in Science and Technology sector

- » Prelims: Statistics related to women in S&T sector
- » Mains: Glass ceiling effect and associated concerns

Context:

- The release of the Science and Technology Indicators (STI), 2018 report.

Background:

Science and Technology Indicators (STI) report:

- The STI report is a periodic compilation of the state of scientific research in India.
- The STI is prepared by a division of the Department of Science Technology, the National Science and Technology Management Information System.

Details:

Low women representation:

- Male scientists account for a higher proportion of the total scientists in India's R&D establishments. The ratio of women to men scientists is the range 1:6 to 1:4.

- This indicates the inadequate representation of women scientists in the R&D domain.
 - * There has been the trend of large drop in the number of women between the doctoral and professional stages due to social pressure on women to have a family which is seen as incompatible with a professional career.
 - * There are also patriarchal attitudes in hiring practices which might be leading to lower women hiring.

Private sector performance better:

- Data from the STI report notes that India's private sector research companies employ a larger proportion of women in core research and development activities than government-funded major scientific agencies.
- Private sector companies seem to have a greater commitment in ensuring that women scientists are fairly represented in recruitment, promotions and appraisal processes than in many scientific organisations.

Social Issues-Related to women

5. Impact of the lockdown on the reproductive health of women

- » Prelims:: Maternal mortality rate, MTP act.
- » Mains: Concerns with limited access to reproductive health for women

Context:

- The ramifications of the pandemic on women's lives.

Issues:

- Global reports of inability to access contraceptives and abortion services during the long lockdown have surfaced. According to WHO, a recent survey of responses from 103 countries found that 67% reported disruption in family planning and contraception services.
- The reports warn of dire consequences, such as unwanted pregnancies, an increase in domestic violence, and maternal mortality.

Indian Scenario:

- As per a recent estimate by Marie Stopes International (MSI), out of the 2 million women who missed out on services between January and June, 1.3 million were in India alone.
- India listed abortions as essential services under the lockdown, but the disruption of transport services hampered access to centres of care, and lack of awareness about these services being available during this period was a factor.

- A report has been released by Marie Stopes International based on the survey recording responses of 1,000 women aged 16-50 in India on their experiences with respect to sexual and reproductive healthcare before and during the COVID-19 pandemic.
- The report notes that a staggering 90% or 9.2 lakh women in India estimated to require abortion services could not access them between January and June because of the stringent COVID-19 lockdown. A large number of women couldn't get any kind of sexual and reproductive health services.
- The inability to access sexual and reproductive health services in India could lead to as many as 10 lakh unsafe abortions, 6.5 lakh unintended pregnancies and 2,600 maternal deaths in the country.
- The need for contraceptive services remains high in India, with over 1 in 3 women (35%) reporting a need for contraceptive advice, as per the MSI study. A study in six states by the Foundation for Reproductive Health Services India showed a severe shortage of medical abortion drugs in pharmacies.

Way forward:

- Providing uninterrupted abortion and contraceptive counselling, devices and care services are essential to safeguard the reproductive rights of women, and protect them from abuse.
- Services to facilitate abortion and contraception must be made available in the cities and rural areas. These essential services must continue through measures such as telemedicine, incentives to local clinics to open their doors.

Social empowerment of women

6. Permanent Commission for Women in the Indian Army

- » Prelims:: Short service commission, statistics related to women in the armed forces
- » Mains: Significance of the current development and challenges

Context:

- The granting of permanent commission for women in the Indian Army.

Background:

- In a landmark judgment, the Supreme Court of India had ruled allowing women to serve as permanently commissioned (PC) officers in 10 combat support arms and services of the Indian Army and had also directed the Central Government to consider removing the embargo on command appointments for women officers.

- * Unlike male officers who after joining under the SSC scheme can opt for a permanent scheme after the completion of 10 years, there is no such option available to women SSC officers, except in the streams of Judge Advocate General, Army Education Corps (AEC) and the Military Police.
- * Women are not allowed to serve in combat units such as the Infantry and the Armoured Corps.
- Following this judgment, the government issued formal sanction offering PC to women officers of the Indian Army.
 - * The order specifies grant of PC to Short Service Commissioned (SSC) women officers in ten streams of the Indian Army i.e., Army Air Defence (AAD), Signals, Engineers, Army Aviation, Electronics and Mechanical Engineers (EME), Army Service Corps (ASC), Army Ordnance Corps (AOC), and Intelligence Corps in addition to the existing streams of Judge and Advocate General (JAG) and Army Educational Corps (AEC).
- Consequent to the receipt of the formal Government Sanction Letter for grant of Permanent Commission (PC) to Women Officers in the Indian Army, the Army HQ is in the process of convening a Selection Board for screening women officers for grant of PC.
 - * Women Officers who have joined the Indian Army through the Women Special Entry Scheme (WSES) and Short Service Commission Women (SSCW) are being considered.

Arguments against grant of greater role for women in armed forces:

- The central government in its submission to the SC had held that motherhood, childcare, prolonged absence due to pregnancy and psychological limitations would act as challenges to the women to meet the exigencies of army service.
- The natural processes of menstruation and pregnancy make women particularly vulnerable in combat situations. Such positions usually leave the commanding officer with no privacy and during adverse situations the lack of sanitation can have an impact on their health.
- The requirement to work in difficult terrains, isolated posts and adverse climate conditions would require high physical standards and the government has submitted that women aren't fit to serve in ground combat roles.
- The government had also put forward the danger of women being taken as prisoners of war as a concern in inducting women into combat roles.

Women in the armed forces:

- So far, women make up only 3.89% of the Indian army, 6.7% of the navy and 13.2% of the air force, excluding the various medical services, which indicate there are lesser women in the armed forces.

- The IAF has allowed women to become fighter pilots, and the Army has sent them to tough UN peacekeeping missions globally and has also allowed them entry into non combat roles.
- Women officers are already commanding platoons, companies and second in command positions successfully.

Significance of PC to women:

For Women in the army:

Job security:

- With the grant of PC, women officers will now not be forced to look for alternative careers after 14 years thus ensuring job security.

Attendant employee benefits:

- The grant of PC will accrue many other employee benefits such as pension and ex-servicemen status for the women army recruits.

Professional growth for women:

- The grant of permanent commission to women will provide clarity on their career paths and also place women officers on an equal footing with men for promotions and professional growth. Women officers could be considered for command roles. They could enrol for 'In service career courses' and even opt for higher studies.
- This will pave the way for women taking up larger roles within the Army.

For the army:

- The availability of experienced women officers in permanent cadre would help address the issue of shortage of officers in the Indian Army.
 - * As per the available records, the shortage of officers in the Indian Army is estimated at 18% of the authorised strength.

For society:

- The grant of permanent commission to women has helped address the issue of regressive patriarchal mindsets. It breaks gender stereotyping of Women being physiologically weaker than men and provides equal opportunities for women in the Army.

Way forward:

Implementation:

- There is a need to sincerely implement the new reform. This would require a change in the current mindset and need gender sensitization among the stakeholders.
- There is the possibility of challenges in implementing the new reforms but the solution to these should not be guided by gender stereotyping.
- Administrative issues should not be cited as a barrier to women's entry in the Armed Forces. It is the responsibility of the Government to create both administrative and social infrastructure for the easy induction of women into the Armed Forces.

Maintaining professional standards in the army:

- The physical and mental standards for the role must be uniform and gender-neutral.
- The professional standards must be adhered to without any gender bias and Women should be judged on the basis of their capabilities.

Addressing other issues:

- Currently, there is no provision for women to choose defence as a long-term career right at the outset as a PC officer. There is the need to provide women with an opportunity to directly join the services as permanently commissioned officers as against the current mode of entry being only as short service commission cadre.
- Women who are already in combat support arms and services must also be allowed a role in combat positions.
 - * A women combat squadron should be designed and studied extensively before any further development or decisions are made.

Social empowerment of women

7. Daughters have Equal Right to Inherit Property, says

SC

- » Prelims:: Hindu succession act and amendments, Mitakshara law
- » Mains: Significance of the verdict

Context:

- Supreme Court observations regarding the provisions of the Hindu Succession (Amendment) Act, 2005.

Background:

Mitakshara law:

- Mitakshara is one of the schools belonging to Hindu law dealing with property rights, and succession. Mitakshara law is still in practice across most of India except for West Bengal and Assam where the Dayabhaga system is practiced.
 - * The Mitakshara is a legal treatise on inheritance, written by Vijnaneshwara, a scholar in the Western Chalukya court in the 12th century.
- Mitakshara law provides the principle of division of ancestral property held by the Hindu joint family. Partition of such landholding among offsprings is possible even with the father still living unlike the Dayabhaga system.
- As per the law, the right to Hindu joint family property is by birth. So, a son immediately after birth gets a right to the property. The Mitakshara School of coparcenary recognizes the birth right of son, son's son, son's son's son.

- The system of devolution of property is by survivorship. The share of coparcener in the joint family property is not definite or ascertainable, as their shares are fluctuating with births and deaths of the co-parceners.

Hindu Succession Act, 1956:

- The Mitakshara School of Hindu Law was codified as the Hindu Succession Act, 1956.
- The Hindu Succession Act, 1956 only recognised males as legal heirs. Traditionally, only male descendants of a common ancestor along with their mothers, wives and unmarried daughters are considered a joint Hindu family.
 - * The law applied to everyone who is not a Muslim, Christian, Parsi or Jew by religion. Buddhists, Sikhs, Jains and followers of the Arya Samaj, the Brahmo Samaj are also considered Hindus for the purposes of this law.
- The law applies to ancestral property and to intestate succession in personal property — where succession happens as per law and not through a will.

Hindu Succession (Amendment) Act, 2005:

- The Hindu Succession (Amendment) Act, 2005 is an amendment to the Hindu Succession Act, 1956.
- The Hindu Succession (Amendment) Act, 2005 aimed to remove gender discriminatory provisions regarding property rights in the Hindu Succession Act, 1956 by balancing the property rights of male and female siblings. The amended Hindu Succession Act gives daughters equal rights to ancestral property.
 - * The 174th Law Commission Report had also recommended this reform in Hindu succession law.
 - * Even before the 2005 amendment, Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu had made this change in the law, and Kerala had abolished the Hindu Joint Family System in 1975.
- The Hindu Succession (Amendment) Act, 2005 had a retrospective effect with the provision that partitions or testamentary disposition that had taken place prior to December 20, 2004 would remain valid and unaffected by the change. This led to the interpretation that the daughters' coparcenary rights, being prospective, would not come into effect unless both the coparcener father and his daughter were alive on September 9, 2005- the date the law came into effect. This interpretation was upheld by the Supreme Court in its 2015 judgment in the Prakash and Others vs. Phulavati case.

Details:

- The Supreme Court has recently held that a Hindu woman's right to be a joint heir to the ancestral property is by birth and does not depend on whether her father was alive or not when the law was enacted in 2005.

- The court has recognised that the 2005 amendment conferred equal status as a coparcener on daughters in Hindu families governed by Mitakshara law, and this right accrued by birth.
- The Supreme Court has held that daughters have an equal birthright with sons to inherit joint Hindu family property.

Significance of the verdict:

Upholding the spirit of the 2005 amendment:

- The decision of the Supreme Court corrects an anomaly in the interpretation of the 2005 amendment to the Hindu Succession Act, 1956. Though the Hindu Succession (Amendment) Act, 2005 took reformatory steps towards ending gender discrimination with respect to property inheritance, the wrong interpretations of its provisions had disabled many Hindu women to claim ancestral property.
- By locating the origin of the coparcenary right in one's birth, the SC's decision has allowed the application of this prospective legislation to be retroactive.
- The SC judgment has sought to give full effect to the reformatory intent of the Hindu Succession (Amendment) Act, 2005 by setting at rest doubts arising from varying interpretations.

Gender equality:

- SC decision on coparcenary rights of women is in line with the aim of ending gender discrimination. The judgment helps uphold the daughter's rights as being equal to that of a son and endorses gender equality.
- This is in consonance with the right of equality as enshrined under Article 14, 15, & 21 of the constitution of India.

Social Issues-Related to Children

8. Worst Forms of Child Labour Convention of ILO

- » Prelims: Conventions of the ILO and those ratified by India
- » Mains: Tackling the social evil of child labour and the corresponding government initiatives

Context:

- Ratification of convention no.182 of the International Labour Organization by Tonga.

Background:

Worst Forms of Child Labour Convention, 1999 (No. 182):

- The Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour, known in short as the Worst Forms of Child Labour Convention, was adopted by the International Labour Organization (ILO) in 1999 as ILO Convention No 182.

- It is one of eight ILO fundamental conventions.

Eight core International Labour Organization (ILO) Conventions:

- The Forced Labour Convention, 1930 (No. 29)
- The Abolition of Forced Labour Convention, 1957 (No. 105)
- The Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)
- The Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
- The Equal Remuneration Convention, 1951 (No. 100)
- The Discrimination (Employment and Occupation) Convention, 1958 (No. 111)
- The Minimum Age Convention, 1973 (No. 138)
- The Worst Forms of Child Labour Convention, 1999 (No. 182)
- Under Convention No 182, a country commits itself to taking immediate action to prohibit and eliminate the worst forms of child labour.
- Convention 182 prohibits the sexual exploitation of children, trafficking, deployment in armed conflict and other conditions that compromise their overall well-being.

Details:

- Recently, Tonga formally deposited the ratification instruments for the ILO Convention No 182.
- This marks an historic event as it is the first time for an International Labour Convention to be ratified by all member states. This marks the first universal ratification of a global labour standard.
- India ratified Convention 182 and the instrument prescribing the minimum age of work for children in 2017. This signals India's commitment to eliminate child labour.

Significance:

- The Convention no 182 complements the ILO's efforts under the 1973 Minimum Age Convention to prevent the employment of children below a lower age threshold.
 - * The ILO Convention no 138 concerning Minimum Age for Admission to Employment, requires the ratifying states to pursue a national policy designed to ensure the effective abolition of child labour and to raise progressively the minimum age for admission to employment or work.
- Under the influence of Convention no 182 and no 138, millions of young boys and girls have been rescued from hazardous conditions of work. Subsequently, there has been significant increase in enrolments in primary education.

- The ILO conventions in general provide the necessary framework to counteract the predominance of informality in the conditions of work.

Challenges:

- Despite the impressive progress being made in the elimination of child labour, significant challenges remain.
 - * An estimated 152 million are trapped in child labour and 72 million of them are engaged in hazardous work. This would entail significant ground to be covered to achieve the ambitious goal of total abolition of child labour by 2025.
 - * The COVID-19 pandemic threatens to undo the recent gains. COVID-19 pandemic has led to widespread job losses, deterioration in conditions of work, decline in household incomes and temporary school closures. These could lead to increase in child labour.

Additional information:

- The United Nations General Assembly (UNGA) has unanimously adopted a resolution declaring 2021 as the International Year for the Elimination of Child Labour and has asked the International Labour Organization to take the lead in its implementation

Social Issues-Related to Transgender

9. Centre sets up Council for transgender

- » Prelims: National council for Transgender persons, composition and functions
- » Mains: Challenges faced by the transgender community and steps to counter them

Context:

- The Ministry of Social Justice and Empowerment has constituted the National Council for Transgender Persons.

National Council for Transgender Persons – Composition:

- The council is formed as per the Transgender Persons (Protection of Rights) Act, 2019.
- It is headed by the Union Social Justice Minister.
- The council comprises representatives from the central and state government as well as the members of the community.
- Five members of the community and five experts, from non-governmental organisations, have also been named to the commission.
- The tenure of the community members and experts shall be three years.
- The council will have joint secretary-level members from the ministries of health, home, minority affairs, education, rural development, labour and law. In addition, there will be a member from the department of pensions, Niti Aayog, National Human Rights Commission and National Commission for Women.

Functions:

- According to the legislation, the council has five main functions:
 - * Advising the central government on the formulation of policies, programmes, legislation and projects with respect to transgender persons.
 - * Monitoring and evaluating the impact of policies and programmes designed for achieving equality and full participation of transgender persons.
 - * Reviewing and coordinating the activities of all the departments.
 - * Redressing grievances of transgender persons.
 - * Performing such other functions as prescribed by the Centre.

Social Issues-Regionalism

10. Regionalism

- » Prelims: Article 16 of the Indian constitution
- » Mains: Concerns associated with nativism

Context:

- The recent announcement by the Madhya Pradesh Chief Minister that only those domiciled in the state would be eligible for government jobs in the State.

Details:

- India has been witness to many versions of the 'sons of the soil' argument over decades.
- Some states are trying to introduce various types of domicile eligibility for job seekers, in private and government jobs. Some states are pushing measures to give priority to locals in employment in the private sector while some states are pushing for reservation of government jobs for the locals.

Concerns:

Mainstreaming of nativism:

- The developments seem to denote a certain mainstreaming of nativism with more political parties and States appearing to be adopting the 'sons of the soil' argument.
- Similar demands have been made in the states of Maharashtra, Karnataka, Gujarat, Andhra Pradesh, Haryana and Telangana in recent years.
- Apart from the regional parties which have always focused on local sentiments, even the national parties seem to be taking forward the 'sons of the soil' argument.

Against national integration:

- The calls for reservation for locals go against the spirit of national integration.

Diversionary tactics:

- Such moves are meant to incite local passions in order to divert public attention from the real challenge of generating employment for the country's increasing youth population.
- India has a severe unemployment crisis and nativism cannot solve this problem.

Bad economic policy:

- The corporates often view increasing nativism with scepticism.
- Migrant populations fulfil a market demand created by gaps in skills and preferences. The move to restrict migrant inflow can lead to lack of requisite human resource in the region.
- Nativism can aggravate the employment crisis by creating a hostile environment to investment, growth and employment generation.

Conclusion:

- There is the need to guard against the rising tide of nativism while accepting the exceptions provided in the legal and constitutional scheme of India to manage its remarkable diversity.
 - * States requiring a certain proficiency in the local language to be employed in government jobs, which is for administrative reasons cannot be counted as regionalism
 - * A restriction on movement of people into tribal areas of India does not amount to regionalism.

Tribes in news**11. Wancho**

- They are a tribal people inhabiting the Patkai hills of Longding District in the state of Arunachal Pradesh
- The Wancho language belongs to the Tibeto-Burman family.
- The Wancho, together with the Nocte and a small minority of the Konyak, still retain the belief of Animism.
- Tattooing plays a major role among the Wancho tribe.
- The prime festival of the Wancho is Oriah, a festival between March to April
- The Wancho are traditionally governed by a council of elderly chieftains, known as Wangham or Wangsa.

GEOGRAPHY

Geography-Structure of the sun

1. Sun's coronal magnetic field

- » Prelims: Solar phenomenon, layers of the sun
- » Mains: Impact of solar phenomena on the earth

Context:

- An international team of solar physicists have measured the global magnetic field of the sun's corona, or outer atmosphere, for the very first time.

Details:

- This development could help answer some of the solar phenomena.

Temperature profile of the sun:

- The core of the Sun is at a temperature of about 15 million degrees, while its outer layer, the photosphere is only 5700 degrees hot. The sun's corona or outer atmosphere, which stretches up to several million kilometres beyond its surface, is much hotter than the surface (one million degrees or more).
- This is unusual given that while the surface is cooler than the interior, the atmosphere of the Sun (corona) rises substantially.
- Popular explanations with respect to the coronal heating involve the magnetic field of the corona.

Solar eruptions:

- The surface of the Sun is dynamic. There are multiple mechanisms of eruptions of the Sun, such as solar flares and coronal mass ejections.
 - * A solar flare is a sudden flash of increased brightness on the Sun, usually observed near its surface.
 - * A coronal mass ejection is a significant release of plasma and accompanying magnetic field from the solar corona.

Magnetic reconnection:

- Magnetic reconnection is a process where opposite polarity magnetic field lines connect and some of the magnetic energy is converted to heat energy and also kinetic energy which leads to the generation of heating, solar flares, solar jets, etc.

Geography-Geographical features and their locations

2. Himalayan Geothermal Springs

- » Prelims: Geothermal springs, Himalaya formation and geology

- » Mains: Economic significance of geothermal springs, ecological concerns

Context

- Himalayan Geothermal Springs release a huge amount of carbon dioxide in the atmosphere.
- A study by the Wadia Institute of Himalayan Geology, an autonomous institute under the Department of Science & Technology, Govt. of India, investigated and characterized the gas emissions from these springs.

Details

- The Himalayas hosts about 600 geothermal springs having varied temperature and chemical conditions.
- Carbon outflux from Earth's interior to the exosphere through volcanic eruptions, fault zones, and geothermal systems contribute to the global carbon cycle that affects the short and long term climate of the Earth.
- The study found that the Himalayan geothermal springs, which cover about 10,000 square km in the Garhwal region of the Himalayas, show a significant discharge of carbon dioxide (CO₂) rich water.
- The study suggested that CO₂ in these thermal springs are sourced from metamorphic decarbonation of carbonate rocks present deep in the Himalayan core along with magmatism and oxidation of graphite.
- Most of the geothermal water is dominated by evaporation followed by weathering of silicate rocks. Isotopic analyses further point towards a meteoric source for the geothermal water.

Geothermal springs:

- A geothermal spring is a spring produced by the emergence of geothermally heated groundwater that rises from the Earth's crust.
- They are also called hot springs or hydrothermal springs.
- They form when water deep below the Earth's surface is heated by rocks or other means, and rises to the Earth's surface.

Terms/Places in News

3. Omega Centauri

Details:

- It is a globular cluster in the constellation of Centaurus.
- It is the largest globular cluster in the Milky Way at a diameter of roughly 150 light-years.

- It is estimated to contain approximately 10 million stars, making it the most massive globular cluster in the Milky Way.
- It is at a distance of 15800 light-years from Earth and is visible to the naked eye.
- A globular cluster is a spherical collection of stars that orbits a galactic core. Such clusters are tightly bound by gravity.
 - * Stars of a globular cluster are formed from the same gaseous cloud. Therefore, generally, all the stars in a globular cluster would be homogenous in their chemical composition.
- Omega Centauri is an exception to this rule. Its different stars do not show the same metal content.

Context:

- Study by a team of scientists from the Indian Institute of Astrophysics (IIA), an autonomous institute under the Department of Science & Technology (DST) on numerous stars of Omega Centauri.

4. Betelgeuse

- Betelgeuse is an aging, red supergiant star.
- Betelgeuse is the second brightest star in the constellation Orion.

5. Santa Ana Winds

- Santa Ana are dry, warm (often hot) winds that blow westward through Southern California toward the coast.
- They're usually seasonal, and typically occur between October and March and peak in December.
- As they flow towards the coast and cross deserts of the Great Basin, they become very dry and warm. The lack of humidity in Santa Ana winds dries out vegetation, making the vegetation vulnerable to wildfires. These winds also fan the flames and helps spread them.

Context:

- California is witnessing large scale wildfires.

6. Perseids Meteor Shower

- The Perseids are one of the brighter meteor showers.
- They occur every year between July and August and tend to peak around mid-August.
- Perseids are made of tiny space debris from the comet Swift-Tuttle.

7. Mount Sinabung

- Mount Sinabung in Indonesia erupted recently.
- Indonesia is home to many active volcanoes, due to its position on the "Ring of Fire", which is characterized by active volcanoes and frequent earthquakes.

EDUCATION

Issues relating to development and management of social sector/services relating to Education, Human resources

1. Technology as an education enabler

- » Prelims: Provisions of the NEP,2020
- » Mains: Significance and concerns associated with tech enabled education

Context

- The National Education Policy (NEP) 2020.

Details:

- The integration of technology in the teaching-learning process for enhancing teaching-learning outcomes is an important policy prescription of the National Education Policy (NEP) 2020.
- The NEP emphasises on the vital linkage between education and technology.
- An autonomous body called National Educational Technology Forum (NETF) will be entrusted with the task of advising institutions on use of technology, capacity building, providing directions for research and innovation and creating avenues for exchange of ideas.

Arguments against the adoption of new technology:

- Some sceptics argue that given the existing digital divide and associated challenges on equity the emphasis on new technology may go against the ideals of equity and inclusion.

Accessibility:

- The lack of resources like digital devices and internet connection can act as structural hindrances to the access of technology based education.
- The urban-rural disparity in conduct of online classes is alarmingly high indicating the disparity in access.

Non-inclusive:

- Students from marginalised social groups face severe challenges due to academic non-integration.
- A large share of the student population is from the lower social strata of the society. A significant proportion of these students are from government schools, under-developed regions, remote villages and urban margins. They are more likely to have had the regional language as a medium of instruction in schools. Given the predominance of English as the medium of instruction in digital learning modes, such students face difficulties.
- Given that the institutional mechanisms to bridge the gaps are also inadequate there is lack of access to quality educational experience and equitable academic outcome.

Arguments in favour of adoption of new technology:

Self paced learning:

- Digital education is capable of tackling the temporal restrictions on learning.
- In technology-mediated learning, the pace of the learning is mostly not determined by the teacher and the students can learn at their own pace. They have the freedom to learn according to their convenience.
- This feature of self-paced and student-centred learning can provide greater support to marginalised learners and help teachers to assume a new role of facilitator.
- The technologies like big data, Artificial intelligence, Machine Learning can help tailor the courses as per the student's abilities and interests.

Reach students in remote areas:

- Digital education is also capable of tackling the spatial restrictions on learning. E- Learning opportunities can allow students from rural areas and hinterlands without the means and resources to shift to cities for educational purposes an opportunity to learn from the best institutes.

Affordable and quality education:

- The e-learning system would be able to reach a higher number of students at much lower costs. This could ensure affordable and quality education for everyone.
- Opportunities provided by digital technology can act as a potential source for promoting egalitarianism in higher education, if access to technology is democratised and values of inclusion is institutionalised.

Better learning outcomes:

- The skill gap of graduating students is often pointed out by the industries.
- Technology can play a key role in providing additional learning inputs. This could enable better learning outcomes among the students.
- Ex: The use of Virtual reality technology can help students visualize real components and processes, helping them understand the concepts better.

Conclusion:

- Though the NEP's emphasis on technology is a welcome step, the context and purpose of technology adoption are equally important steps.
- Universities and colleges should invest in ICT infrastructure keeping the larger goals of affordable, quality and inclusive education.

- This can help ensure the country's transformative journey towards a digitally empowered society and knowledge economy.

Issues relating to development and management of social sector/services relating to Education, Human resources

2. Three-Language Formula

- » Prelims: Three language formula, anti-Hindi agitations in post independence India, constitutional provisions.
- » Mains: Arguments in favour of and against the three language policy

Context

- Tamil Nadu Chief Minister Edappadi K. Palaniswami has rejected the possibility of implementing the three-language formula advocated in the National Education Policy (NEP 2020) in the state of Tamil Nadu.

Background:

Language provisions under the NEP, 2020:

- One of the recommendations of the New Education Policy is that the medium of instruction will be in Home Language/Mother tongue/Regional Language till at least Grade 5, and preferably till Grade 8 and beyond.
 - * The RTE Act 2009 also states that the medium of instruction, as far as practicable, shall be the mother tongue.
- The NEP 2020 also says the three-language formula will be implemented. However, education being a Concurrent Subject, It is up to the State governments to decide on how this would be implemented in schools under their jurisdiction.

Three language formula:

- The three-language formula for language learning was formulated in 1968 by the Ministry of Education of the Government of India and made part of the National Policy on Education, 1968.
- The three-language formula provides for the study of "Hindi, English and modern Indian language (preferably one of the southern languages) in the Hindi speaking states and Hindi, English and the Regional language in the non-Hindi speaking States".

The issue of language:

- The language of education has been an emotive and political issue over the years. There have been agitations against the imposition of Hindi in the southern states in general and Tamil Nadu in particular. Tamil Nadu has been traditionally opposed to any attempt to introduce Hindi as a compulsory language of learning or administration.

- * The origin of the linguistic row goes back to the debate on official language. In the Constituent Assembly, Hindi was voted as the official language by a single vote and English was allowed to continue to be used as an associate official language for 15 years. The Official Languages Act came into effect on the expiry of this 15-year period in 1965. This was the background in which the anti-Hindi agitation took place.

- * Tamil Nadu witnessed widespread agitations in 1965 when the then Congress state government had attempted to make Hindi the state's official language.

- * Opposition from Tamil Nadu in 2019 had forced the Centre to amend the draft NEP and withdraw a proposal to teach Hindi as a third language in schools in non-Hindi speaking States. Yet in the recently approved NEP, the three-language formula finds a place.

- Despite the clarification that the NEP, 2020 would not lead to the imposition of any language, this has failed to convince some sections.

- Currently, the three language system is not followed in Tamil Nadu. Tamil Nadu follows the two-language policy of Tamil and English.

- * Education is a state subject and the implementation of any policy lies with the states.

Relevant constitutional provisions:

- Article 29 of the Constitution of India states that any section of the citizens who have a "...distinct language, script or culture of its own shall have the right to conserve the same."
- Article 351 gives power to the union government to issue a directive for development of the Hindi language.

Arguments in favour of the three language formula:

Cognitive development of the child:

- Important committee's with respect to the issue have noted that learning languages are an important part of a child's cognitive development. Its implementation promotes multilingualism and multilingual skills would add to the cognitive skills of the children.

Promoting national unity:

- The proponents favouring the three-language formula argue that its implementation promotes national unity by having a common link language.
- The adoption of the two language formula in states like Tamil Nadu and Tripura is criticized for depriving students of an opportunity to learn Hindi, often touted as a national link language.

Promotion of Hindi Language:

- Article 351 of the constitution notes that efforts should be made to promote Hindi language as the link language and as a medium of expression for all the elements of the composite culture of India.

Arguments against the three language formula:

Burden on the students:

- The three-language formula is also a bad idea in the present form with regard to children actually acquiring language skills.
- The three language formula will have a very heavy cognitive burden on a young child of five to seven years as each of the Indian languages has a very large number of visual units (aksharas) between 400 and 700, to be mastered in a limited time frame. This formulation is developmentally inappropriate for young children.
- Several surveys, like ASER, have shown that a vast majority of children are failing to learn to read with comprehension even in one language.

Homogenizing move:

- The critics of the three language formula have alleged that its implementation is an attempt to 'homogenise' the diverse linguistic fabric of the country which consists of many regional languages.

Opposition from states:

- The three language formula faces implementational challenges in a multilingual country like India. A few states have not adopted the formula in principle. Hindi is not taught in the States of Tamil Nadu and Tripura and Puducherry.

Politicization:

- Language being an emotive issue can be misused by the regional political parties to whip up regional sentiments. This could prove to be detrimental to national unity.

Implementational challenges:

- The three language formula is also not implemented effectively in states where it is in place.
- The state governments often do not have adequate resources to implement the three –language formula. The lack of an adequate number of teachers and teachers with the necessary language skills remains a challenge.

Successful model in states with two language formula:

- States like Tamil Nadu which have always followed the two language formulae have performed well in terms of socio-economic development.
- Given the already successful model of language policy, attempts to change this are not necessary.

Way forward:

Age appropriate learning:

- The focus in primary education should be on using the children's home language, ensuring that they develop strong oral and reading and writing proficiency in the language used as the medium of instruction (the state language).

- English should, initially, be taught only in an oral, communicative manner until Grade 3.
- Additional languages could be formally introduced at subsequent stages like from middle school. The target could be for developing some oral proficiency through exposure to natural and communication-oriented exposure to the language in Grade 6 or later. Also, this additional language should not be a mandatory requirement and the choice should depend on the child or parent or the school.

Choosing the link language:

- Any language that's supposed to become a unifier language for the country must have the necessary pull factors.
- English could act as the necessary link language, with English also emerging as a global link language.

Voluntary learning over imposition:

- Given that compulsion is often met with resistance. Instead of imposing new languages, voluntary learning of Hindi should be promoted through schools and institutes like Dakshina Bharat Hindi Prachar Sabha. There would be no opposition to the voluntary learning of Hindi.
 - * The Dakshina Bharat Hindi Prachar Sabha was established in Chennai by Mahatma Gandhi in 1918. The institution imparts Hindi teaching at various levels to anyone who enrolls for its programme.
- There has also been the increasing multilingualism being observed across the country given the high internal migration. This can be encouraged further.
 - * Out of necessity, many in the State of Tamil Nadu have picked up conversational Hindi to engage with the migrant population that supplies the labour needs of the state.

Consultation with states:

- The three language formula has to be implemented in consultation with the State Governments. India's federal nature and diversity demand that no language is given supremacy over another.
- The States could be allowed to follow their own language policy.

HISTORY

Religious and social reformers of 19th century

1. Mahatma Ayyankali

- » Prelims: 19th century social and religious reformers from south India
- » Mains: Causative factors and impact of social and religious reform movement of 19th century

Details:

- Pioneer social reformer Ayyankali was born in Kerala on 28th August 1863.
- He was one of the first reformers to hail from a Dalit family and fought hard against the social injustices of the time.
- He fought for the basic rights of the depressed classes including the right to education, right of access to public roads, right to the dignity of clothing, etc.

Context:

- PM remembers Mahatma Ayyankali on his Jayanti.

Indian Independence movement personalities

2. Lokmanya Bal Gangadhar Tilak

- » Prelims: Newspapers, educational organizations associated with Tilak
- » Mains: The contributions of Tilak to the Indian independence movement

Details:

- 1st August, 2020 marks the 100th death anniversary of Lokmanya Bal Gangadhar Tilak.

Contributions:

- Along with two other leaders, Lala Lajpat Rai and Bipin Chandra Pa, Tilak is credited with starting the extremist phase of INC, which focused on mass mobilization of masses.
- He was involved with the publication of two nationalist newspapers Kesari (Marathi) and Mahratta (English).
- Bal Gangadhar Tilak gave the slogan of "Swaraj is my birthright and I shall have it!" during Indian struggle for independence.
- He was the first national leader who envisioned the formation of linguistic states.
- He is well known for his home rule movement of 1916.
- Tilak founded the Deccan Education Society (1884) along with his associate Gopal Ganesh Agarkar and others.

South Indian Dynasties

3. Renati Chola

- » Prelims: South Indian Dynasties
- » Mains: The contribution of the Cholas to cultural, social and economic development of the region

Details:

- The Telugu Cholas of Renadu (also called as Renati Cholas) ruled over Renadu region, the present day Kadapa district.
- Renandu Cholas were the feudatories of the Chola dynasty.
- They are said to be the first kingdom to use Telugu in administration and inscriptions, instead of Sanskrit.

Context:

- A rare inscription dating back to the Renati Chola era has been unearthed in a village of Kadapa district of Andhra Pradesh.

DISASTER MANAGEMENT

Disaster and Disaster Management

1. Landslides in Kerala

- » Prelims: Landslide prone areas in India, types of landslides
- » Mains: Causative factors and Disaster management cycle of landslides

Context:

- Landslide in Idukki district of Kerala had claimed 22 lives and rendered several families homeless.

Background:

Landslides:

- A landslide is defined as the movement of a mass of rock, debris, or earth down a slope under the direct influence of gravity.
- Landslides can be triggered by natural factors such as earthquakes, volcanic activity, soil erosion and slow weathering of rocks or can be due to human developmental activities like deforestation and quarrying.
- Landslides result in loss of lives and property.
- Landslides are a major natural hazard in the areas of the Himalayas, the north-eastern hill ranges, the Eastern and Western Ghats, the Nilgiris, and the Vindhyas.

Landslides in Kerala:

- Landslides or landslides have been a recurrent phenomenon in the Western Ghat state of Kerala.
- Data from the Geological Survey of India shows that Kerala has experienced 67 major landslide events and several minor ones from 1961-2013.
- In 2019, Wayanad district witnessed multiple landslides that claimed several lives and destroyed multiple hamlets.
- The National Landslide Susceptibility Mapping (NLSM) programme of the Geological Survey of India notes that nearly 13 of the State's 14 districts are prone to landslides.
 - * As part of a National Landslide Susceptibility Mapping (NLSM) programme, the Geological Survey of India mapped States facing high landslide risk to assess the vulnerability of the districts to landslides. This included states in the Western Ghats, the north-eastern States, Jammu and Kashmir and Uttarakhand.
 - * The objective of the NLSM maps is to help State and district authorities incorporate the risk of landslides into zoning laws.

- The high population density of Kerala (over 800 per square kilometre) makes the state more hazard-prone to landslides as compared to other states.
- The landslide season in Kerala starts with the onset of the south-west monsoon every year.

Reasons for high number of landslides in Kerala:

Heavy rainfall in Kerala:

- Kerala has been receiving heavy monsoon rainfall. Most districts have received three or four times more rain than what is normal.
- Lying in the Western Ghats, Kerala receives high monsoonal rainfall.

Topography:

- Given the hilly topography of the state, Kerala is prone to landslides.

Climate change:

- Climate change has brought out a new climate normal. Frequent high-intensity bursts of rain will co-exist along with long dry spells. This would only increase the threat of natural calamities like landslides.

Developmental activities:

- Extensive deforestation for developmental work has led to an increased possibility of soil erosion.
- Given the hilly topography of Kerala, human activities like quarrying and the unscientific cutting of slopes for road construction have only increased the risk of soil erosion.

Way forward:

- The strategy to counter the risk posed by landslides must be based on the four pillars of disaster management: Mitigation, Preparedness, Response and Recovery.

Mitigation:

- Methods of preventing landslides: modifying slope geometry, using chemical agents to reinforce slope material, installing structures such as piles and retaining walls, and rerouting surface and underwater drainage, restriction of certain types of land use where slopes are vulnerable.
- Methods of reducing the impact of landslides: Restriction of population from landslide-prone areas.

Preparedness:

- Important preparatory strategies could involve monitoring and landslide prediction. The National Landslide Susceptibility Mapping (NLSM) programme of the Geological Survey of India could help assess the vulnerability of the districts and this could allow the concerned states to plan accordingly.

- Installing early warning systems based on the monitoring of ground conditions like slope displacement, strain in soil and rocks, groundwater levels can help warn the residents and authorities of the risks.
- Landslide Education, Awareness and Capacity Building among the residents and the local administration must be an important preparation strategy.
- The district and state disaster management apparatus should be ready for intervention at a short notice.

Response:

- Ensuring medical service to the injured people.
- Providing emergency shelters for those who lost their homes.
- Opening up of access road in case of blocks. This could ensure an uninterrupted flow of resources to the affected region.

Recovery:

- Given the overwhelming evidence available indicating the effect of developmental activities in the increased incidence of landslides, there is the need to ensure strict enforcement of environmental regulations and zoning laws. If necessary such laws must be made more stringent.
- There is a need for new models of development. Development goals must be pursued without breaching environment regulations.

Disaster and Disaster Management

2. Oil spill in Mauritius

- » Prelims: SAGAR policy of India, Oil sappers.
- » Mains: Challenges of oil spills and India's HADR policy in Indian ocean

Context

- India has sent copters and equipment to help Mauritius deal with an oil spill.

What caused the Mauritius oil spill?

- Japanese bulk carrier MV Wakashio struck a coral reef off the capital, Port Louis, in July 2020 resulting in an oil spill of over 1,000 tonnes into the Indian Ocean.
- The ship was carrying an estimated 4,000 tonnes of oil.

Concerns:

- It has raised concerns over the ecological damage caused to the region.
- The accident had taken place near two environmentally protected marine ecosystems and the Blue Bay Marine Park Reserve, which is a wetland of international importance.

How dangerous are oil spills?

- Oil spills affect marine life by exposing them to harsh elements and destroying their sources of food and habitat.
- According to the US National Oceanic and Atmospheric Administration (NOAA), both birds and mammals can die from hypothermia as a result of oil spills.
 - * The insulating ability of fur-bearing mammals such as sea otters is destroyed by oil.
 - * It also decreases the water repellency of birds' feathers, without which they lose their ability to repel cold water.

How are oil spills cleaned?

- Skimming: involves removing oil from the sea surface before it is able to reach the sensitive areas along the coastline.
- In situ burning: means burning a particular patch of oil after it has concentrated in one area.
- Releasing chemical dispersants: helps break down oil into smaller droplets, making it easier for microbes to consume, and further break it down into less harmful compounds.

India's Assistance to Mauritius:

- India's assistance is in line with its policy to extend humanitarian assistance and disaster relief to its neighbours in the Indian Ocean region, guided by the Prime Minister's vision of SAGAR (Security and Growth for All in the Region).
 - * India has dispatched over 30 tonnes of technical equipment and material on board an Indian Air Force (IAF) Aircraft to Mauritius to help the island nation deal with the oil spill on its south-east coast.
 - * The indigenous Dhruv Advanced Light Helicopter (ALH) and Chetak helicopters given by India to Mauritius are being used extensively for rescue missions to clear the oil spill.
 - * A 10-member technical response team, consisting of Indian Coast Guard (ICG) personnel specially trained for dealing with oil spill containment measures, has also been deployed to Mauritius.

Disaster and Disaster Management

3. Odisha floods

- » Prelims: River systems of Odisha
- » Mains: Flood mitigation measures

Details:

- Over 14 lakh people were affected due to floods in five river systems of Odisha falling under Mahanadi, Subarnrekha, Burhabalanga, Baitarani and Brahmani river systems.

- The Hirakud Reservoir is built across the Mahanadi River.

Disaster management strategy-Preparedness

4. Tsunami Ready

- » Prelims: Indian Tsunami Early Warning Centre (ITEWC)
- » Mains: Disaster management cycle of Tsunamis

Details:

- Tsunami Ready is a community performance-based programme initiated by the Intergovernmental Oceanographic Commission (IOC) of UNESCO to promote tsunami preparedness through the active collaboration of public, community leaders, and national and local emergency management agencies.
- The initiative is modelled after the US National Ocean and Atmospheric Administration (NOAA) National Weather Service's successful Tsunami Ready program.

Objectives of the programme:

- To improve the coastal community's preparedness for tsunami emergencies.
- To minimize the loss of life and property.
- To ensure a structural and systematic approach in building community preparedness through fulfilling the best-practice indicators set by the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS) of UNESCO-IOC.
- Fulfilment of the guidelines ensures communities have a strong end-to-end tsunami early warning and mitigation system with a particular focus on community awareness and preparedness to respond.

Intergovernmental Oceanographic Commission (IOC):

- IOC-UNESCO was established in 1960 as a body with functional autonomy within UNESCO and is the only competent organization for marine science within the UN system.
- The purpose of the Commission is to promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States.
- The IOC is recognized through the United Nations Convention on the Law of the Sea (UNCLOS) as the competent international organization in the fields of Marine Scientific Research and Transfer of Marine Technology.

Tsunami Warning system in India:

- The Indian Tsunami Early Warning Centre (ITEWC), INCOIS is the nodal agency to provide tsunami advisories to India.
 - * INCOIS is the Indian National Centre for Ocean Information Services, an autonomous body under the Ministry of Earth Sciences.
- INCOIS is also providing tsunami advisories to the Indian Ocean Region (25 countries) as a Tsunami Service Provider under the responsibility assigned by IOC-UNESCO.
- To create awareness and preparedness about tsunamis, INCOIS regularly organizes Tsunami Standard Operating Procedure (SOP) workshops, training sessions and seminars for state and district level Disaster Management Officials (DMOs) of the coastal states.
- ITEWC also conducts tsunami mock exercises (called IOWave) twice a year in coordination with the Ministry of Home Affairs and the national and state-level disaster management agencies.
- To implement and monitor the implementation of Tsunami Ready and IOWave Exercises in India, the Ministry of Earth Sciences established a National Board under the chairmanship of Director, Indian National Centre for Ocean Information Centre (INCOIS).
- The members of the board are drawn from:
 - * Earth Sciences Ministry
 - * National Disaster Management Authority (NDMA)
 - * Ministry of Home Affairs (MHA)
 - * Odisha State Disaster Management Authority (OSDMA)
 - * Andaman & Nicobar Islands Directorate of Disaster Management (DDM)
 - * INCOIS
- Based on the National Board recommendations, UNESCO-IOC has approved the recognition of two communities viz., Venkatraipur and Noliasahi as Tsunami Ready Communities. The two communities are villages in Odisha.
- With this recognition, India is the first country to implement Tsunami Ready in the Indian Ocean Region and Odisha is the first state.

Context

- UNESCO-IOC Tsunami Ready Recognition to Odisha Communities.

Disaster management-Institutions

5. National Disaster Response Force

- » Prelims: NDMA, 2005 provisions and NDRF composition
- » Mains: Significance of NDRF

Origin:

- The National Disaster Response Force was set up as per the provisions of the National Disaster Management Act (NDMA), 2005.
- The National Disaster Management Act (NDMA), 2005 was passed in the backdrop of the 2001 earthquake and 2004 tsunami, to institutionalize responsibility and accountability for disaster response.
 - * NDMA laid down a legal framework for disaster response at the national, state and district levels.
 - * The National Disaster Management Authority is chaired by the Prime Minister.
 - * The Act paved the way for establishing Disaster Management Authorities at the national, state and district levels, setting up the National Disaster Response and Mitigation Funds, and formation of the National Disaster Response Force (NDRF).

The constitution of NDRF:

- The NDRF was raised in 2006, initially with eight battalions, and now has 12 spread across the country.
- Each battalion, which has a sanctioned strength of 1,150 rescuers, caters to particular states as their areas of responsibility.
- In case required, teams from other battalions are moved for emergency response.
- The NDRF functions under the purview of the Ministry of Home Affairs (MHA) and is headed by a Director-General.

Personnel and training of the NDRF:

- The NDRF gets personnel and officers on deputation from the Central Armed Police Force (CAPF) for a period of seven years.
- After serving their tenure, personnel will go back to their force.
- Currently, the NDRF has battalions staffed by personnel from the Central Reserve Police Force (CRPF), Border Security Force (BSF), Central Industrial Security Force (CISF), Indo Tibetan Border Police (ITBP) and Sashastra Seema Bal (SSB).
- Sections of personnel are given specialized training in deep diving, special search and rescue, collapsed structure search and rescue, Chemical Biological Radiological Nuclear emergencies and also psycho-social intervention.

- Some of the personnel further undergo specialized training with national and international institutions including those on chemical and biological warfare situations

Significance:

- The National Disaster Response Force (NDRF) has played critical roles during both natural calamities and man-made disasters in India. The NDRF is equipped and trained to handle a range of difficulties, from borewell accidents to chemical, biological and radioactive emergencies.
- The preemptive availability and pre-positioning of NDRF teams anticipating emergency situations, facilitated by the nationwide presence of its battalions, have made sure that damages are contained.

Note:

- It has been recently announced that four more NDRF battalions will be raised, and teams of women rescuers will also be inducted.

GOVERNANCE

Important aspects of governance, transparency and accountability

1. Right to Information

- » Prelims: Assam accord, section 8 of the RTI act, Official secrets act, 1923.
- » Mains: Major judicial observations with respect to the right to information

Context:

- The All Assam Students' Union's decision to release the High Level Committee report.

Background:

- A High Level Committee (HLC) was constituted by the Home Ministry in July 2019, to recommend measures to implement Clause 6 of the Assam Accord and define "Assamese People".
 - * The Clause 6 of the Assam Accord states that: "Constitutional, legislative and administrative safeguards, as may be appropriate, shall be provided to protect, preserve and promote the cultural, social, linguistic identity and heritage of the Assamese people."
- The HLC finalised its report by mid-February 2020. With the Central government apparently "sitting idle" over the report, the All Assam Students' Union (AASU), which was represented in the HLC, released the report recently based on the argument of people's right to know.

Details:

- The All Assam Students' Union move to release the High Level Committee report marks a significant development in the right to information campaign.
- Some of the major judicial observations with respect to the right to information have been discussed below.

State of U.P. v. Raj Narain case (1975):

- Though in the State of U.P. v. Raj Narain case (1975), the Supreme Court carved out a class of documents that demand protection like Cabinet papers, foreign office despatches, papers regarding the security of the state and high-level interdepartmental minutes, one of the judges held a pragmatic view that the citizens have a right to know every public act. It was argued that the right to know is derived from the concept of freedom of speech.

S.P. Gupta v. President of India case (1981):

- In the S.P. Gupta v. President of India case (1981) one of the judges had famously remarked that the current emphasis should be on the right of a citizen to know

than on his 'need to know' the contents of official documents, recognizing the growing tendency in democratic countries to liberalise the restrictions placed on the right of the citizens to know what is happening in the various public offices.

- The Supreme Court in S.P. Gupta case also held that the observance of secrecy in the functioning of government and the processes of government could promote and encourage corruption and misuse or abuse of authority in the absence of public accountability.

Yashwant Sinha v. Central Bureau of Investigation case (2019):

- In Yashwant Sinha v. Central Bureau of Investigation (2019), the Supreme Court held that there is no provision by which the government could either restrain the publication of documents marked as secret or prevent placing of such documents before a court of law which may have been called upon to adjudicate a legal issue concerning the parties.
 - * It referred to Section 8(2) of the Right to Information Act, 2005 which provides that a citizen can get a certified copy of a document even if the matter pertains to security or relationship with a foreign nation, if a case is made out, thus making it clear that the right to know can be curtailed only in limited circumstances and if there is an overriding public interest.
- The court referred to the decision of the U.S. Supreme Court in New York Times v. United States (1971) wherein the adjudicating judge declined to recognise the right of the government to restrain publication of the Pentagon Papers.
- The SC didn't accept the argument from the government that the provisions of the Official Secrets Act, 1923 had been violated while filing for the review petition in the Rafael case.
 - * The Official Secrets Act, 1923 is applicable to government servants and citizens and provides the framework for dealing with espionage, sedition, and other potential threats to the integrity of the nation.
 - * The law makes spying, sharing 'secret' information as punishable offences. If guilty, a person may get up to 14 years' imprisonment, a fine, or both.
 - * The information could be any reference to a place belonging to or occupied by the government, documents, photographs, sketches, maps, plans, models, official codes or passwords.

Conclusion:

- Recognizing that the right to know flows from the right to information, there is the need for more transparency in government functioning.
- Governments must effectuate the citizen's right to know and be more transparent in public interest, as long as the security of the country is not jeopardised.

Additional information:

- The Vohra Committee report dealt with the issue of nexus between politicians and criminals.
- It studied the problem of the criminalisation of politics and of the nexus among criminals, politicians and bureaucrats in India.

Important aspects of governance, transparency and accountability

2. PMO denies RTI plea seeking info on PM-CARES

- » Prelims: Section 8 of the RTI act, PM-CARES fund
- » Mains: Significance of right to information

Context:

- The Prime Minister's Office (PMO) has denied a Right to Information (RTI) request related to the PM-CARES Fund.

Details:

- RTI request has been denied on the grounds that providing it would "disproportionately divert the resources of the office".
- The provisions under Section 7(9) of the Act have been invoked to deny information.
 - * Section 7(9) of the Act says, "An information shall ordinarily be provided in the form in which it is sought unless it would disproportionately divert the resources of the public authority or would be detrimental to the safety or preservation of the record in question."
 - * Section 8 (1) of the Act lists the various valid reasons for exemptions under the Act, which would allow denial of information.
- Notably, previous High Court judgment and multiple orders of the Central Information Commission (CIC) have previously held that, under the RTI Act, this rationale can only be used to change the format of information provided, not deny it altogether.

Important aspects of governance, transparency and accountability

3. No need to audit PM CARES: SC

- » Prelims: NDRF, PM-CARES fund, CAG duties and functions

- » Mains: Need for transparency in governance

Context:

- The Supreme Court judgement on PM CARES.

SC Judgement:

- The Supreme Court has endorsed the PM CARES Fund as a "public charitable trust" to which donors contribute voluntarily.
- It said that there is no occasion for the Comptroller and Auditor General (CAG) to audit a public charitable trust independent of budgetary support or government money.
- The Bench also refused to direct the transfer of funds from the PM CARES Fund to the National Disaster Response Fund (NDRF), saying that they were two separate entities.
 - * The NDRF is a statutory fund created under Section 46 of the Disaster Management Act, 2005.
 - * The court held that individuals and organisations are free to contribute to NDRF and there is no prohibition on the same.

Role of Civil services in a democracy

4. Premature retirement

- » Prelims: Provisions regarding premature retirement
- » Mains: Provisions to ensure accountability among the civil servants

Context:

- The Department of Personnel and Training (DoPT) notification on the guidelines on premature retirement of government servants.

Details:

- As per the guidelines the appropriate authority can retire an official by giving a notice of not less than three months in writing or three months' pay and allowances in lieu of such notice.
- The rule will apply on officials who are in Group 'A' or Group 'B' service. The authority can also retire a government servant in the Group 'C' service or post.
 - * There are minimum age and service requirements set for the application of the premature retirement provisions. However non-adherence to the timelines, due to certain administrative exigencies will not take away the powers of the authority to prematurely retire an official.
- At any time after a government servant has completed 30 years' qualifying service, the official being prematurely retired will be entitled to pension.

- There would be a quarterly performance review of the government servants who are due to attain the age of 50/55 years, or to complete 30 years of service. This would be carried out by a senior officer in the ministry, department or cadre.
- An administrative structure for this purpose has been recommended in the form of a Review Committee and Representation Committee at the respective ministries.
- The broad criteria to be followed by the Review Committee while making the recommendations for premature retirement includes the issues of doubtful integrity, ineffectiveness and fitness/competence to continue in the post held.

Significance:

- Given the proposed grounds for recommendation for premature retirement, this provision will help strengthen the administrative machinery by developing responsible and efficient administration at all levels.
- It can lead to higher efficiency, economy and speed in the disposal of government functions and thus aid in public service.

Welfare schemes for vulnerable sections of the population

5. States can have sub-groups among SC/STs, says court

- » Prelims: Article 341 and 342 provisions
- » Mains: Performance of the reservation system, need for sub-classification of SCs and STs.

Context:

- Supreme Court judgement on sub-classification of Scheduled Castes and Scheduled Tribes in the Central List.

Judgement:

- A five-judge Bench of the Supreme Court has held that States can sub-classify Scheduled Castes and Scheduled Tribes in the Central List to provide preferential treatment to the "weakest of the weak".
- "Citizens cannot be treated to be socially and educationally backward till perpetuity; those who have come up must be excluded like the creamy layer," the judgment said.
- With this, the Bench took a contrary view to a 2004 judgment delivered by another Coordinate Bench of five judges in the E.V. Chinnaiah case.
 - * The Chinnaiah judgment had held that allowing the States to unilaterally make a class within a class of members of the Scheduled Castes would amount to tinkering with the Presidential list.

- Justice Mishra disagreed with this and reasoned that sub-classifications within the Presidential/Central List does not amount to tinkering with it as no caste is excluded from the list.

Significance:

- The judgment notes that ST and SC in the Central List do not constitute a homogenous group and that reservation has created inequalities within the reserved castes itself.
- The judgment is significant as it fully endorses the push to extend the creamy layer concept to the Scheduled Castes and Scheduled Tribes.

Additional information:

- The Central List of SC and ST are notified by the President under Articles 341 and 342 of the Constitution.
- The consent of the Parliament is required to exclude or include castes in the List.
- Thus, States cannot unilaterally add or pull out castes from the List.

Government policies and interventions

6. Need for cross ministry co-ordination and collaboration

- » Prelims: National clean air programme and smart cities mission targets and objectives
- » Mains: Criticality of cross ministry co-ordination and collaboration for better effectiveness of government schemes and programmes

Context:

- Evaluation of the Government schemes: National Clean Air Programme and Smart Cities Mission.

Background:

The National Clean Air Programme (NCAP):

- The NCAP was launched in January 2019 to address the issue of urban air pollution.
- The main objective of the NCAP is to reduce particulate matter (PM2.5 and PM10) pollution by 20-30% by 2024 in 102 non attainment cities.

The Smart Cities Mission:

- The Government of India under the Ministry of Housing and Urban Affairs launched the Smart Cities Mission in 2015.
- The objective is to promote sustainable and inclusive cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions.
- It is mandatory for the smart cities to report on their air quality under the Smart Cities Mission.

Details:

- A survey on the deteriorating air quality in Smart Cities in Maharashtra has pointed out that there is poor convergence between civic bodies and Smart City Corporations on air quality plans prepared under the National Clean Air Programme (NCAP) and the Smart Cities Mission.

Concerns:

Poor convergence:

- The Smart City corporations are often disconnected from the urban local body. This has led to a situation where they lack the capacity to fundamentally conceive and execute “smart solutions” to address multi-sectoral problems like air pollution.

Underutilization:

- There has been the installation of air pollution monitoring systems across the cities.
- However, the focus of air quality management in these cities has been only on displaying air quality measures without thinking about how to use this data to formulate a plan to tackle the problem of air pollution.
- This has led to a situation where there has been severe underutilization of infrastructure and data generated by the air pollution monitoring systems. This has not served the purpose of improving the functionality of the city.

Lack of smart solutions:

- The action plans made by the cities under the NCAP are very generic and not city-specific.
- This goes against the ‘smart’ principle of preparing plans based on the actual parameters of the city.

Lack of access to information:

- A key characteristic of a ‘Smart City’ would be the reliance on data and technology-driven solutions. This would require the availability of freely accessible data.
- While Smart Cities were supposed to bring data and transparency to urban development projects, there is lack of easily accessible information for the public resulting in the absence of accountability.

Other notable initiatives of the government

7. Trifood Project

- TRIFOOD aims to enhance the income of tribals through better utilization of and value addition to the MFPs (minor forest produce) collected by the tribal forest gatherers.
- To achieve this, as a start, two Minor Forest Produce (MFP) processing units will be set up – one in Raigad (Maharashtra) and the other in Jagdalpur (Chhattisgarh).

- The project will be implemented by TRIFED of the Tribal Affairs Ministry along with the Ministry of Food Processing.
- The units that will be set up will procure the raw material from the Van Dhan Kendras in the state.
- The fully processed products will be sold across the country in Tribes India outlets, and franchisee stores.
- Also, TRIFED plans to identify and train tribal entrepreneurs who can also sell the products.
- The ultimate aim of the project is to transform tribal lives and livelihoods and secure incomes.

8. Swasthya Portal

- The online portal will act as a one-stop solution presenting all information pertaining to tribal health and nutrition-related to Scheduled Tribes.
- It offers health and nutrition information about the tribal population of India.
- It has a dashboard, knowledge repository, partner segment, Sickle Cell Diseases (SCD) support corner.
- The dashboard presents data curated from multiple sources for the 177 identified high priority tribal districts.
- In addition, the portal also has research studies, innovations and best practices on tribal communities curated from multiple sources related to tribal health and nutrition.
- The portal will be managed by the Ministry of Tribal Affairs’ Centre of Excellence (CoE) for Knowledge Management in Health and Nutrition.

9. Student Entrepreneurship Programme (SEP) 2.0

Context:

- Atal Innovation Mission and Dell Technologies Launch Student Entrepreneurship Programme 2.0.

About SEP 2.0:

- SEP 1.0 was launched in January 2019 where the top six teams of ATL Marathon got a chance to transform their innovative prototypes into fully functioning products, which are now available in the market.
- In the second version of the programme, students and innovators of the Atal Tinkering Labs will work with Dell volunteers.
- They will receive mentor support; prototyping and testing support; end-user feedback; intellectual property registration and patenting of ideas, processes, and products; manufacturing support; as well as the launch support of the product in the market.
- In SEP 2.0, the top 8 teams from the Marathon will convert their prototypes to products.

10. India Water Resources Information System (India-WRIS)

Context

- The Ministry of Jal Shakti launched a new version of India Water Resources Information System.

About SEP 2.0:

- The portal contains information related to Water Resources through dashboards for rainfall, water levels & discharge of rivers, water bodies, groundwater levels, reservoir storages, evapo-transpiration and soil moisture.
- It also has modules on water resources projects, water bodies, hydro-met data availability and tools for GIS layer editing.
- The portal is open to the public and accessible through indiawris.gov.in.
- The first version of the India-WRIS was launched in July 2019. This is the second version with added functionalities.
- The key features of the system are water information easily made available to users and the general public, for decision-makers, water managers, farmers & experts, direct access to hydro-met information from Central and State agencies, real-time data available with one click, variety of modules for different needs, latest technologies, continuous development and improvement.

MISCELLANEOUS

1. Table Top Runways- Kozhikode plane crash

Context

- An Air India flight with 190 people on board crashed at Kozhikode in Kerala. The flight skidded off the tabletop runway and fell into a 50-foot valley breaking into two portions.
 - * This follows another similar accident at the Mangaluru airport in 2010.

Background

Tabletop runways

- A tabletop runway is essentially a runway built over a hill by leveling the surface. They are generally constructed by chopping off the top of a hill.
- It has one or both ends adjacent to a steep face and dropping into a gorge.
- Tabletop airports in India:
 - * Lengpui (Mizoram)
 - * Shimla and Kullu (Himachal Pradesh)
 - * Pakyong (Sikkim)
 - * Mangaluru (Karnataka)
 - * Kozhikode and Kannur (Kerala).

Safety concerns of tabletop runways

- A tabletop runway creates an optical illusion for the pilots and requires a very precise approach by the pilot for the landing.
- The failure to gauge the right landing spot can lead to overshooting the runway. Hence there is very less scope for error in tabletop runway landings.
- Owing to safety issues flying bigger aircrafts including the Airbus A330 and Boeing 777 into this airport is prohibited as these wide-bodied aircraft require longer distances to slow down.

Details of the crash

- The Air India Express-operated aircraft overshot Kozhikode airport's runway and fell feet down a slope, resulting in the aircraft splitting into two.
 - * Overshot: To cause an aircraft to fly too far along a runway during landing
- The Boeing aircraft attempted to land amidst heavy tailwinds and rain on the table-top runway.
 - * It failed to hold on the runway due to poor weather conditions, and skidded for more than 75 m.
 - * A runway that is subjected to a downpour causes a layer of water to form over the surface that reduces the friction and causes the plane to skid if the brakes are applied

- The aircraft seemed to have touched down at higher than usual speed, giving pilots less time to bring it to a halt at a runway that is shorter than usual.
- According to an aviation safety report submitted to the Ministry of Civil Aviation in 2011, the runway at Calicut International airport was unsafe for flight operations due to inadequate safety area along the runway and at the end of the runway to safeguard against planes skidding off. There had been no effort on the part of the Airports Authority of India (AAI) to rectify the safety infringements.

TABLETOP RUNWAY ATOP CHOPPED-OFF HILL



Path of the Air India Express aircraft minutes before it touched the ground at Kozhikode airport. Bad weather conditions complicated the approach for the pilots. Flight path: Flightradar24; Map: Google Earth



Runway 10/28 at Calicut International Airport in India is a classic example of a "tabletop"

Steps for improving the safety of tabletop airports:

Implementing the recommendations of the committee:

- The aviation safety report submitted to the Ministry of Civil Aviation in 2011 has some important recommendations which have to be implemented at the earliest at the Kozhikode airport.
 - * Increasing the safety area at the end of the runway.
 - * To clean the runway of rubber that gets deposited after every flight. This could prevent skidding on the runway.

Safety assessment:

- Proper safety assessment is to be carried out to assess the risk associated with the operation in such airports.
- Runways will have to meet the required Navigation Performance approach.

Safety features:

- Safety features like the RESA, or Runway End Safety Area are mandatory. This helps to limit the consequences when there is an aircraft overrun during landing, a rejected take-off, or even undershoots the landing area.
- Engineered Materials Arrestor/Arresting System, made of engineered lightweight and crushable cellular cement/concrete can be used at the runway ends where it can act as a safety barrier and successfully stop an aircraft overrun.
- Ground arresting systems for aircraft like the one used in the airfields of the Indian Air Force can be used.

Aids to the pilot:

- Technical upgrades like making the runways of such airports Instrument Landing System (ILS) enabled. This removes the possibility of human errors.
- Appropriate visual aids have to be provided to the pilots. This could involve a visual reference system to alert the pilot (while landing) of the remaining distance to be covered.

Rigorous training:

- Appropriate Crew Resource Management training for all pilots should be strictly enforced.
- This could include classroom and simulator training. The training done on the simulator for landing in low visibility, heavy rain and winds should be emphasized on.

Stand by rescue facilities:

- The role of the Rescue and Fire fighting service should not be neglected despite all the precautions taken.

2. Illicit Liquor

Context:

- Consumption of illicit liquor has led to the death of more than 100 people in Punjab.

Background:

- There have been many instances of large-scale loss of life due to consumption of illicit liquor in the recent past.
- Such major incidents have been reported recently in Uttar Pradesh, Uttarakhand and Assam.

Details:

Health impact:

- The illicit liquor vendors in a bid to keep the costs low almost invariably use toxic methanol instead of ethanol.

- Consumption of illicit alcohol produces long-term health impacts. Illicit liquor apart from causing death in few cases has also been reported to also cause permanent damage in the form of blindness and tissue damage.

Apathy by government:

- The typical state government response in such cases has been providing financial relief for the affected families without addressing the root cause of the problem.
- Notably, many States have accorded low priority to revamping the excise administration and policing, resulting in low regulation of the illicit liquor trade.

Issue of corruption:

- There are also allegations that often corrupt bureaucracies allow the sale of illicit liquor by illicit liquor vendors in lieu of some share in the sales proceeds.
- Illicit liquor is sold openly by small-time vendors in some places without the fear of the state.

Impact of the pandemic:

- The issue has become further complicated during the COVID-19 pandemic, as people desperate for alcohol consumed hand sanitiser as a substitute, most recently in Andhra Pradesh.
- People with limited means to consume commercial alcohol often turn to the cheaper illicit liquor.

Way forward:

Priority area for the state:

- The state must show determination to end the sale of illicit liquor. Governments should regulate the quality of legal alcoholic drinks, while actively tracing and tracking illicit alcohol.

Ensuring health infrastructure:

- The capability of the health system in every district needs to be raised, to reduce the damage from methanol through immediate, simple detoxification therapies.

Public health campaign:

- A sustained public health campaign to wean people away from the drinking habit and to warn them about the effects of contaminants in illicit liquor are key interventions which can help reduce the instances of fatalities caused by the consumption of illicit liquor.
- The health communication about harm from alcohol is particularly relevant during the pandemic, since there is evidence of reduced immunity to viruses among those who are chronic alcohol consumers.

Cooperation with community:

- To succeed in its efforts against the sale of illicit liquor, the state can consider cooperation with the community, particularly from women's groups. This would allow the administration to address the issue at the grass root level with the involvement of active stakeholders like women who often have to bear the brunt of alcohol consumption.

3. Swachh Survekshan 2020

- For the fourth year in a row, Indore has been ranked the cleanest city in the country, according to the Swachh Survekshan 2020 report.
- Swachh Survekshan 2020 is the world's largest cleanliness survey. The Ministry of Housing and Urban Affairs has been conducting the Swachh Survekshan since 2016 to encourage cities to improve urban sanitation.
- It ranked a total of 4,242 cities, 62 Cantonment Boards and 92 Ganga Towns and saw the participation of 1.87 crore citizens.
- The competition has been able to imbibe a spirit of healthy competition among the citizens with respect to improving the cleanliness of their cities.

4. Srisailem project

- The Srisailem Dam is constructed across the Krishna River on the border of Mahabubnagar district, Telangana and Kurnool district, Andhra Pradesh.
- Srisailem Dam has the hydroelectric station with the second-largest working capacity in the country, after Tehri Dam.
- The dam was constructed in a deep gorge in the Nallamala Hills in between Mahabubnagar and Kurnool districts.

Context:

- Nine people have been killed in a fire in one of the units of the state-run hydel station of the Srisailem project on the Telangana side of the inter-state border across River Krishna.

5. International Youth Day

Context:

- August 12 is observed as International Youth Day.

About International Youth Day:

- The day was designated by the United Nations and it was observed for the first time in 2000.
- It is meant as an opportunity for governments and others to draw attention to youth issues worldwide.
- The purpose of the day is to draw attention to a given set of cultural and legal issues surrounding youth.
- The theme for the International Youth Day 2020 is "Youth Engagement for Global Action".

6. Millennium Alliance

- The Millennium Alliance is an innovation-driven and impact-focused initiative leveraging collaborative resources to identify test and scale Indian innovations that address global development solutions.
- It is a consortium of partners (Public-Private Partnership) including the Department of Science and Technology, Govt. of India, United States Agency for International Development (USAID), Federation of Indian Chambers of Commerce and Industry (FICCI), UK Government's Department for International Development (DFID), Facebook and Marico Innovation Foundation.
- The programme is currently running in its sixth year and has played a catalytic role in providing funding, capacity building, and business development support to Indian social enterprises.

PRACTICE QUESTIONS

1. Consider the following statements with respect to the President of India:

1. The President of India is elected for 5 years, is eligible for immediate re-election and can serve for consecutive two terms only.
2. The process of impeachment of the President can begin in either the Lok Sabha or the Rajya Sabha.
3. The President can resign from his office at any time by addressing the resignation letter to the Lok Sabha.

Which of the given statement/s is/are incorrect?

- A. 2 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 1, 2 and 3

2. Mullaperiyar Dam dispute is between which of the following states?

1. Karnataka
2. Kerala
3. Tamil Nadu
4. Andhra Pradesh

Choose the correct option:

- A. 1, 2 and 3 only
- B. 2 and 3 only
- C. 1, 3 and 4 only
- D. 1 and 3 only

3. Arrange the following core sectors in the ascending order of their respective weights in the Index of Industrial Production:

1. Steel
2. Natural Gas
3. Coal
4. Crude Oil
5. Cement

Choose the correct option:

- A. 5, 2, 4, 3, 1
- B. 5, 4, 2, 1, 3
- C. 3, 5, 2, 4, 1
- D. 2, 3, 4, 3, 1

4. Consider the following statements:

1. La Nina occurs because of the cooling of the central and eastern tropical Pacific Ocean.
2. It causes greater than normal monsoons in India and Southeast Asia.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

5. Consider the following statements:

1. The atmosphere of Venus is denser than the Earth's atmosphere.
2. Venus rotates in the clockwise direction in retrograde rotation.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

6. Consider the following statements with respect to Bal Gangadhar Tilak:

1. He is the founder of the Deccan Education Society.
2. He launched the Home Rule League in Madras.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

7. Dhole is placed under which of the following categories in the IUCN Red List?

- A. Critically Endangered
- B. Endangered
- C. Vulnerable
- D. Extinct in the Wild

8. Consider the following statements with respect to Barakah nuclear power plant:

1. It is the largest Nuclear Power Plant in the world.
2. It is the United Arab Emirates' first nuclear power station.
3. It is located in the Persian Gulf coast.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

9. Consider the following statements with respect to Gautama Buddha:

1. He was born in Lumbini.
2. Gautama Buddha delivered his first Sermon at Sarnath.
3. He attained Mahaparinirvana at Bodh Gaya.
4. The first Buddhist Council was held in Kushinagar.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3 only
- B. 1 and 2 only
- C. 1, 2, 3 and 4
- D. 1, 2 and 4 only

10. Who was the Lieutenant-Governor of Punjab when the Jallianwala Bagh Massacre took place?

- A. a. Michael O'Dwyer
- B. b. Reginald Dyer
- C. c. Louis William Dane
- D. d. Edward Douglas Maclagan

11. Consider the following statements with respect to the Government of India Act 1919:

1. A bicameral legislature was set up at the Centre.
2. Dyarchy was introduced in the provinces.
3. It required that three of the six members of the Viceroy's Executive Council were to be Indian.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 1, 2 and 3
- D. 1 only

12. Consider the following statements with respect to Shyok River:

1. It originates in the Rimo Glacier.
2. Galwan River, Nubra River are its tributaries.
3. It is called the "River of Death".

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 3 only
- C. 2 and 3 only
- D. None of the above

13. Consider the following statements with respect to 'Falcon 9':

1. It is a two-stage rocket designed and manufactured by NASA.
2. The first commercial crewed mission to the International Space Station (ISS) was launched aboard Falcon 9.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

14. Consider the following statements with respect to Indian Leopard:

1. It is classified under the endangered category in the IUCN Red List.
2. It is included in Appendix I of CITES.
3. A dedicated quadrennial leopard survey is carried out by the Wildlife Institute of India in coordination with the Environment Ministry.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 2 only

15. International Space Station program is a joint project of which of the following space agencies?

1. Indian Space Research Organisation
2. National Aeronautics and Space Administration
3. ROSCOSMOS
4. European Space Agency
5. Japan Aerospace Exploration Agency

6. Canadian Space Agency

7. Israel Space Agency

Choose the correct option:

A. 1, 2, 3, 4 and 5 only

B. 2, 3, 4, 5 and 7 only

C. 2, 3, 4, 5 and 6 only

D. 1, 2, 3, 4, 5, 6 and 7

16. Consider the following statements with respect to Electronic Vaccine Intelligence Network (eVIN):

1. It is an indigenously developed technology system that digitizes vaccine stocks and monitors the temperature of the cold chain through a smartphone application.

2. It is being implemented under the National Health Mission (NHM).

3. eVIN was first rolled out in Sikkim.

Which of the given statement/s is/are incorrect?

A. 3 only

B. 2 and 3 only

C. 1 and 3 only

D. 1 and 2 only

17. Consider the following statements with respect to Sir Creek:

1. It is a strip of water disputed between India and Pakistan in the Rann of Kutch marshlands.

2. The Creek opens up in the Arabian Sea.

3. The Creek was originally called Ban Ganga.

Which of the given statement/s is/are correct?

A. 1 only

B. 1 and 3 only

C. 2 and 3 only

D. 1, 2 and 3

18. Consider the following statements with respect to Kharai camels:

1. These camels can swim.

2. They are found only in Rajasthan.

3. Kharai Camels can live in both coastal and dry ecosystems.

Which of the given statement/s is/are correct?

A. 1 and 3 only

B. 2 and 3 only

C. 1, 2 and 3

D. None of the above

19. Namdapha National Park is located in:

A. Assam

B. Arunachal Pradesh

C. Manipur

D. Sikkim

20. Consider the following statements with respect to River Son:

1. The river rises in the hills of the Chota Nagpur plateau.

2. It passes along the Kaimur Range.

3. It is a left-bank tributary of River Ganga.

Which of the given statement/s is/are correct?

A. 1 and 2 only

B. 2 and 3 only

C. 2 only

D. 1, 2 and 3

21. Consider the following statements with respect to Qualified Institutional Placements (QIP):

1. It is a tool for raising capital with limited regulatory compliance.

2. In a QIP, only equity shares can be issued.

3. Only qualified institutional buyers are allowed to participate in a QIP issuance.

Which of the given statement/s is/are correct?

A. 1 only

B. 1 and 2 only

C. 1 and 3 only

D. 1, 2 and 3

22. Consider the following statements with respect to "Pokkali rice":

1. It is a variety of rice known for its saltwater tolerance.

2. It has got a Geographical Indication Tag.

3. It is extensively cultivated in Tamil Nadu.

Which of the given statement is/are correct?

A. 1 only

B. 1 and 2 only

C. 1, 2 and 3

D. 2 only

23. Which of these states have Geographical Indication Tag for Basmati Rice?

1. Punjab
2. Haryana
3. Uttarakhand
4. Madhya Pradesh

Choose the correct option:

- A. 2 and 3 only
- B. 1, 2 and 3 only
- C. 3 and 4 only
- D. 2, 3 and 4 only

24. Consider the following statements with respect to River Sarayu:

1. The river originates from Lake Mansarovar in the Himalayas and is also known as the Ghaghra.
2. Sarayu flows through Uttarakhand and Uttar Pradesh.
3. Ayodhya is situated on the banks of this river.

Which of the given statement/s is/are incorrect?

- A. 2 only
- B. 3 only
- C. 1 and 2 only
- D. None of the above

25. Consider the following statements with respect to the United Nations Human Rights Council (UNHRC):

1. The UNHRC has 47 members elected for two-year terms.
2. Members are not eligible for immediate re-election after serving two consecutive terms.
3. Eastern European states are allotted the maximum number of seats amongst all the regional groups.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 2 and 3 only
- D. 1 and 3 only

26. Consider the following statements with respect to Uranium:

1. All uranium isotopes are radioactive
2. Largest viable deposits of Uranium are found in Australia, Kazakhstan, and Canada.
3. Uranium is weakly radioactive and remains so because of its long physical half-life.

Which of the given statement/s is/are correct?

- A. 2 and 3 only
- B. 2 only
- C. 1 and 2 only
- D. 1, 2 and 3

27. Consider the following statements:

1. An atomic bomb derives its explosive and destructive force from Nuclear Fusion.
2. Sun generates its energy by the nuclear fusion of hydrogen nuclei into helium.
3. Nuclear fusion is also called a thermonuclear reaction as it takes place at extremely high temperatures.

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 2 only
- C. 2 and 3 only
- D. 1 and 3 only

28. Consider the following statements:

1. Tsunami Ready is a community performance-based programme initiated by the Intergovernmental Oceanographic Commission (IOC) of UNESCO to promote tsunami preparedness.
2. India is the first country to implement Tsunami Ready in the Indian Ocean Region.
3. Indian National Centre for Ocean Information Services is the nodal agency to provide tsunami advisories to India.

Which of the given statement/s is/are incorrect?

- A. 2 only
- B. 3 only
- C. 1 and 2 only
- D. None of the above

29. Consider the following statements with respect to Eravikulam National Park:

1. It is home to the largest population of Nilgiri Tahr.
2. It is located in Tamil Nadu.
3. It is a part of the Nilgiri Biosphere Reserve.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2 and 3

30. Consider the following statements with respect to Arabian Sea humpback whales:

1. They are the only non-migratory population of humpback whales in the world.
2. They are listed under the endangered category in the IUCN Red List.

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

31. "Astrakhan", recently in news is located in which country:

- A. Afghanistan
- B. Lebanon
- C. Russia
- D. Indonesia

32. Which of the following pairs are correctly matched?

1. Garuda Shakti – Maldives
2. Mitra Shakti – Sri Lanka
3. Ekuverin – Indonesia
4. Surya Kiran – Nepal

Choose the correct option:

- A. 1 and 4 only
- B. 1, 2, 3 and 4
- C. 2 and 4 only
- D. 1, 2 and 3 only

33. Which of the following statement/s is/are correct?

1. Article 148 of the Indian Constitution provides for the office of Comptroller and Auditor General (CAG).
2. There are no qualifications prescribed for the post of CAG
3. CAG holds office for a period of 6 years or up to the age of 65, whichever is earlier.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

34. Which of the following statement/s is/are correct?

1. Madhya Pradesh has the largest tribal population in India
2. Among the 75 listed Particularly Vulnerable Tribal Groups (PVTG) the highest numbers are found in Chhattisgarh.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

35. Which of the following statement is incorrect?

1. The National Food Security Act, 2013 aims to provide subsidized food grains to all the citizens of the country.
2. Under the provisions of the National Food Security Act, 2013, beneficiaries of the Public Distribution System (or, PDS) are entitled to 5 kilograms of cereals per family per month at the subsidized prices.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

36. Which of the following statement/s is/are correct?

1. The core of the sun records the highest temperature for the sun, with temperature decreasing as one move outwards towards the photosphere and corona.
2. Magnetic reconnection contributes to the solar eruptions in the form of sun flares and coronal mass ejections.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

37. Consider the following statements with respect to 'Loya Jirga':

1. It is a special type of legal assembly, in the traditional code of laws of the Pashtun people.
2. It is a mass national gathering that brings together representatives from the various ethnic, religious, and tribal communities in Afghanistan.
3. It is an official decision-making body and its decisions are legally binding.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 2 only

38. Consider the following statements:

1. Teachings of Buddha are known as Dhamma.
2. Buddha's birth is called 'Dharmachakrapravartan' or 'Turning of the wheel of law'.
3. The First Buddhist Council was held at Vaishali under the patronage of Kalasoka.

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 2 and 3 only
- C. 2 only
- D. 1 and 3 only

39. Consider the following statements with respect to Matheran:

1. It is located in the Western Ghats in Maharashtra.
2. It has been notified as an eco-sensitive region.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

40. Consider the following statements with respect to River Tungabhadra:

1. It is a right bank tributary of River Krishna.
2. It originates in the Western Ghats at Gangamula.
3. The river flows east across the Deccan Plateau.
4. It joins River Krishna in Andhra Pradesh state and then empties into the Bay of Bengal.

Which of the given statement/s is/are incorrect?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 3 and 4 only
- D. None of the above

41. Consider the following classifications in the IUCN Red List:

1. Asian Elephant – Critically Endangered
2. Bengal Florican – Critically Endangered
3. African Elephant – Vulnerable
4. Great Indian Bustard – Critically Endangered

Which of these is/are correct?

- A. 2, 3 and 4 only
- B. 1 and 3 only
- C. 2 and 4 only
- D. 1, 2, 3 and 4

42. Consider the following statements with respect to the Chicago Convention:

1. The Convention establishes rules of airspace, aircraft registration and safety, and details the rights of the signatories in relation to air travel.
2. International Civil Aviation Organisation is a specialized agency of the UN established to manage the administration and governance of the Convention.

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

43. Consider the following statements with respect to Melghat Tiger Reserve:

1. It is located in Madhya Pradesh.
2. It is among the first nine tiger reserves notified under the Project Tiger.
3. River Tapi flows through the Reserve.
4. It consists of Ambawarba and Narnala sanctuaries.

Which of the given statement/s is/are incorrect?

- A. 1 and 2 only
- B. 1 only
- C. 4 only
- D. 1 and 3 only

44. Tropical Cyclone "Nisarga" was named by:

- A. India
- B. Sri Lanka
- C. Bangladesh
- D. Pakistan

45. A Special Mention Account is:

- A. An account that shows symptoms of bad asset quality before it is identified as a Non-Performing Asset.
- B. Account recording a nation's transactions with the rest of the world.
- C. An account with an overdraft limit to Pradhan Mantri Jan DhanYojana account holder up to ₹ 10,000.

- D. An account that has been classified as a Non-Performing Asset.

46. Consider the following statements with respect to the Defence Acquisition Council (DAC):

1. It is the highest decision-making body in the Defence Ministry for deciding on new policies and capital acquisitions for the three services (Army, Navy and Air Force) and the Indian Coast Guard.
2. It is chaired by the Prime Minister.
3. It was formed in 2001 after the Group of Ministers' recommendations on 'Reforming the National Security System'.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
B. 1 and 3 only
C. 1, 2 and 3
D. 2 and 3 only

47. Which of the given statement defines Total Fertility Rate (TFR)?

- A. The fertility rate at which a population exactly replaces itself from one generation to the next, without migration.
- B. The fertility rate at which a population exactly replaces itself from one generation to the next.
- C. The average number of children born to women during their reproductive years.
- D. The number of live births per thousand of the population per year.

48. Consider the following statements with respect to the United Nations Convention on the Law of the Sea (UNCLOS):

1. It is an international agreement that resulted from the 3rd UN Conference on the Law of the Sea.
2. India has not ratified UNCLOS.
3. UN has no direct operational role in the implementation of UNCLOS.

Which of the given statement is/are correct?

- A. 1 only
B. 1 and 2 only
C. 1 and 3 only
D. 2 and 3 only

49. "Great Hornbill" is the state bird of which of the following states?

1. Arunachal Pradesh
2. Assam

3. Kerala
4. Karnataka
5. Nagaland

Choose the correct option:

- A. 1 and 3 only
B. 1, 2 and 5 only
C. 2, 4 and 5 only
D. 1 only

50. Which of the following statement/s is/are correct with respect to Absciscic acid?

1. It is a plant hormone that modulates plant growth and development.
2. It is instrumental in increasing the tolerance of plants to different kinds of stress.
3. It is a plant growth promoter.

Choose the correct option:

- A. 1 and 3 only
B. 1 and 2 only
C. 1, 2 and 3
D. 2 and 3 only

51. Consider the following statements with respect to Pakke Tiger Reserve:

1. It is located in the in the foothills of the eastern Himalaya in Arunachal Pradesh.
2. It shares a boundary with Nameri National Park in Assam.
3. Papum Reserve Forest lies to the east of Pakke Tiger Reserve.
4. Four Hornbill species are found in the tiger reserve.

Which of the given statement/s is/are correct?

- A. 1 and 4 only
B. 1, 2 and 3 only
C. 2 and 3 only
D. 1, 2, 3 and 4

52. Consider the following statements with respect to land boundaries of Nagaland:

1. Arunachal Pradesh – North
2. Assam – South
3. Manipur – West

Choose the correct option:

- A. 1 only
B. 1 and 2 only
C. 2 and 3 only
D. 1, 2 and 3

53. 'Island of Crete' is located in:

- A. Eastern Mediterranean Sea
- B. South China Sea
- C. Indian Ocean
- D. Black Sea

54. Consider the following statements with respect to African swine fever:

- 1. It is a respiratory disease of pigs.
- 2. It is caused by type A influenza virus.
- 3. It does not affect humans and spreads from animals to other animals only.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 3 only
- D. 1, 2 and 3

55. Nyishi tribes belong to which state?

- A. Madhya Pradesh
- B. Assam
- C. Arunachal Pradesh
- D. Manipur

56. 6th Schedule of Indian Constitution consists of provisions for the administration of tribal areas in which of the following states?

- A. Assam, Meghalaya, Mizoram and Tripura
- B. Assam, Meghalaya, Manipur and Tripura
- C. Assam, Mizoram, Manipur and Tripura
- D. Assam, Nagaland, Meghalaya and Manipur

57. Which of the following tribes are predominantly found in the North eastern states of India?

- 1. Nyishi
- 2. Galo
- 3. Kuki
- 4. Konyak
- 5. Rengma

Options:

- A. 1, 2 and 3 only
- B. 3, 4 and 5 only
- C. 1, 3 and 5 only
- D. 1, 2, 3, 4 and 5

58. Article 129 of the Indian Constitution deals with which of the following provisions?

- A. Advisory jurisdiction of the Supreme Court
- B. Contempt power of the Supreme Court
- C. Judicial predominance in appointment process
- D. Provisions of judicial review.

59. Which of the following statement/s is/are correct?

- 1. Godavari's origin is at Triambakeshwar.
- 2. Pranhita is the largest tributary of the Godavari
- 3. The Jayakwadi dam is built across the Godavari

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

60. Which of the following statement/s is/are correct?

- 1. T cells are developed in the thymus gland.
- 2. T cells are a type of leukocyte.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

61. Which of the following are the left bank tributaries of River Godavari?

- 1. Dharna
- 2. Penganga
- 3. Mula
- 4. Manjra
- 5. Pench

Choose the correct option:

- A. 1, 2, 4 and 5 only
- B. 2 and 5 only
- C. 2, 3, 4 and 5
- D. 1, 3 and 4 only

62. Who among the following British officials was assassinated by Madan Lal Dhingra?

- A. Lord Curzon
- B. Curzon Wyllie
- C. Sir Joseph Bampfylde Fuller
- D. Lord Mayo

63. Consider the following statements with respect to PM-CARES Fund:

1. Both Prime Minister's National Relief Fund (PMNRF) and PM CARES fund are chaired by the Prime Minister.
2. PM-CARES Fund does not get any budgetary support and consists entirely of voluntary contributions from individuals or organizations.
3. Spending from PMNRF requires approval from Parliament.
4. PM CARES Fund is barred from accepting donations and contributions from individuals and organizations based in foreign countries.

Which of the given statement/s is/are incorrect?

- A. 2, 3 and 4 only
- B. 1, 2 and 3 only
- C. 3 and 4 only
- D. 1, 2 and 4 only

64. Consider the following statements with respect to Common Services Centre (CSC) programme:

1. It is an initiative of the Ministry of Human Resource Development.
2. They are the access points for the delivery of various electronic services to villages in India.
3. It is also one of the approved projects under the Integrated Mission Mode Projects of the National eGovernance Plan.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 2 only
- C. 1, 2 and 3 only
- D. 2 and 3 only

65. Consider the following statements with respect to the Teesta River:

1. It is a tributary of the River Brahmaputra.
2. The river flows through the states of Sikkim and West Bengal.
3. The Teesta River dispute is one of the most contentious issues between India, Bhutan and Bangladesh.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

66. Consider the following statements with respect to the International Solar Alliance (ISA):

1. The Paris Declaration established ISA as an alliance dedicated to promoting solar energy among its member countries.
2. It is headquartered at Gurugram in India.
3. Countries that do not fall within the Tropics can join the ISA and enjoy all benefits as other members, along with voting rights.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1 and 3 only
- C. 1 and 2 only
- D. 1, 2 and 3

67. Consider the following statements:

1. Both DNA and RNA are made up of nucleotides.
2. DNA is double-stranded and RNA is single-stranded.
3. Both DNA and RNA contain Adenine, Guanine, Cytosine and Thymine.

Which of the given statement/s is/are incorrect?

- A. 1 and 2 only
- B. 3 only
- C. 1 and 3 only
- D. 1 only

68. Rekhapida, Pidhadeul, Khakra are the features of which of the following temple architecture?

- A. Odisha
- B. West Bengal
- C. Assam
- D. Tamil Nadu

69. Which of the following country/s has/have not signed the United Nations Convention on the Law of the Sea (UNCLOS)?

1. France
2. Greece
3. Turkey
4. Israel

Choose the correct option:

- A. 3 and 4 only
- B. 1 and 3 only
- C. 1, 2 and 3 only
- D. 2 and 4 only

70. N.N Vohra committee report is associated with:

- A. Criminalisation of Politics
- B. Banking Reforms
- C. Draft National Education Policy
- D. Panchayati Raj Institutions

71. Consider the following statements:

- 1. In India, the first coal mine was opened at Raniganj in West Bengal.
- 2. Odisha has the largest coal reserves in India.
- 3. Commercial mining is prohibited in the coal sector in India.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 only
- D. 1, 2 and 3

72. Which of the following countries border Libya?

- 1. Mali
- 2. Morocco
- 3. Tunisia
- 4. Egypt
- 5. Sudan

Choose the correct option:

- A. 1, 2 and 4 only
- B. 3, 4 and 5 only
- C. 1, 3, 4 and 5 only
- D. 2, 4 and 5 only

73. Which of the following report/s is/are released by the International Monetary Fund?

- 1. World Economic Outlook
- 2. Global Financial Stability Report
- 3. World Development Report
- 4. Ease of Doing Business Report
- 5. Global Risks Report

Options:

- A. 1 only
- B. 1 and 2 only
- C. 1, 2, 3 and 5 only
- D. 3, 4 and 5 only

74. Barakah is located in which of the following countries?

- A. Iran
- B. UAE
- C. Saudi Arabia
- D. Syria

75. Which of the following statement/s is/are correct with respect to the Election Commission of India?

- 1. Currently, the Election Commission of India is a three-member body with one Chief Election Commissioner and two election commissioners.
- 2. In case of a difference of opinion in the Election Commission of India, the matter is decided by the majority.
- 3. The Chief Election Commissioner and the election commissioners have equal powers and receive equal salaries.
- 4. Election commissioners cannot be removed from office except on the recommendation of the Chief Election Commissioner.

Options:

- A. 1 and 2 only
- B. 2, 3 and 4 only
- C. 1, 2, 3 and 4
- D. 1 and 4 only

76. Which of the following statement/s is/are incorrect?

- 1. The corporate social responsibility (CSR) provision is based on India's Companies Act, 2013.
- 2. India became the first country to legislate the need to undertake corporate social responsibility (CSR) activities and mandatorily report CSR initiatives.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

77. The Swachh Survekshan is commissioned by which of the following ministries?

- A. Ministry of Urban Development
- B. Ministry of Rural Development
- C. Ministry of Environment, Forest and Climate Change
- D. Ministry of Health and Family Welfare

78. Which of the following are autonomous councils listed under the Sixth Schedule of the Indian Constitution?

1. Karbi Anglong
2. Chakma
3. Lai
4. Mara
5. Bodoland
6. Dima Hasao

Options:

- A. 1, 5 and 6 only
- B. 1, 2 and 5 only
- C. 1, 2, 3, 4, 5 and 6
- D. 3, 5 and 6 only

79. The Maitree Super Thermal Power Project is a collaborative project between India and which of the following countries?

- A. Germany
- B. Bangladesh
- C. Sri Lanka
- D. France

80. Which of the following best describes Stagflation?

- A. It is a condition where the inflation rate remains stagnate over an extended time period.
- B. It represents a decrease in the rate of inflation.
- C. It is a decrease in the general price level of goods and services.
- D. It represents a situation in which the inflation rate is high and the economic growth rate slows.

81. Consider the following statements with respect to Bioindicators:

1. Lichens are indicators of air quality.
2. Algal blooms indicate an increase of nitrates and phosphates in lakes.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

82. Consider the following statements about the distribution of coal in India:

1. Anthracite is found only in Jharkhand.
2. Bituminous coal is found in Jharkhand, Odisha, West Bengal, Chhattisgarh, and Madhya Pradesh.

3. Lignite is found in the regions of Rajasthan, Tamil Nadu, and Jammu and Kashmir.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 3 only

83. Which of the following is/are the functions of the Central Water Commission (CWC)?

1. It is responsible for the monitoring of the flood situation during monsoons.
2. It is responsible for the appraisal of project reports pertaining to major inter-state project proposals.
3. It is responsible for coordination with states for establishing river basin organisations as per National Water Policy, the examination of project reports, etc.
4. It is responsible for the monitoring of water resource projects at the central level.

Which of the given statement/s is/are correct?

- A. 2 and 3 only
- B. 3 and 4 only
- C. 1, 2 and 4 only
- D. 1, 2, 3 and 4

84. Consider the following statements with respect to Indian Gaur:

1. It is the state animal of Goa.
2. It is classified as Endangered in the IUCN Red List.
3. Indian Gaurs can only be found in India.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 1, 2 and 3
- D. 2 and 3 only

85. Consider the following statements:

1. Human trafficking is prohibited under the Constitution of India under Article 23.
2. India has ratified the SAARC Convention on Preventing and Combating Trafficking in Women and Children for Prostitution.
3. The Government of India has not ratified the United Nations Convention against Transnational Organized Crime (UNTOC).

Which of the given statement/s is/are incorrect?

- A. 2 only
- B. 2 and 3 only

- C. 3 only
- D. 1 and 3 only

86. Consider the following statements with respect to the Attorney General of India:

1. The Attorney General of India (AGI) is appointed by the President of India under Article 76.
2. The AGI has the right of audience in all courts in India as well as the right to participate in the proceedings of the Parliament, including the right to vote.
3. The Attorney General's remuneration is determined by the Parliament.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

87. Consider the following statements with respect to National Council for Transgender Persons - Composition:

1. Social Justice Minister appoints the chairperson of the Council.
2. The council comprises representatives from five states appointed on a rotational basis.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

88. Consider the following statements with respect to River Krishna:

1. It is an east-flowing river and merges with the Bay of Bengal.
2. The river originates at Mahabaleshwar in Maharashtra.
3. Nagarjunsagar-Srisailem Tiger Reserve is located in the Krishna River basin.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

89. Consider the following statements with respect to Peacock Island:

1. It is located in Coringa Wildlife Sanctuary.
2. It is the world's smallest inhabited river island.
3. It houses a temple dedicated to the god Shiva and is also known as Umananda Island.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 2 and 3 only
- C. 1 only
- D. 1, 2 and 3

90. Consider the following statements with respect to the Bonda Tribe:

1. They are classified as a particularly vulnerable tribal group (PVTG).
2. Bondas live in the state of Odisha.
3. They speak the Remo language.

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 1 and 3 only
- C. 2 only
- D. None of the above

91. The IUCN Red List classifies the Golden Langur as:

- A. Extinct in the wild
- B. Critically Endangered
- C. Endangered
- D. Vulnerable

92. Consider the following statements with respect to Giant Meter wave Radio Telescope (GMRT):

1. It is an array of thirty fully steerable parabolic radio telescopes.
2. It is located in the state of Maharashtra.
3. It aided in the observation of the Ophiuchus Supercluster explosion.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

93. Consider the following statements with respect to the National Clean Air Programme:

1. It aims to achieve a national-level target of 20-30% reduction of PM_{2.5} and PM₁₀ concentration by 2024.
2. It is a programme executed by the Central Pollution Control Board (CPCB).
3. 2015 is the base year for the National Clean Air Programme.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

94. Consider the following statements with respect to Earth Observation Satellites:

1. They are intended for uses such as environmental monitoring, meteorology, map making and disaster management.
2. The Earth-observation satellites include the Resourcesat, RISAT series and the Oceansat series.
3. They are placed in geostationary orbit only.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 1, 2 and 3
- D. 2 and 3 only

95. Which of the following was India's first aircraft carrier?

- A. INS Vikrant
- B. INS Viraat
- C. INS Shardul
- D. INS Vikramaditya

96. Consider the followings statements with respect to SCO Regional Anti-Terrorist Structure (RATS):

1. It is a permanent organ of the Shanghai Cooperation Organisation formed in 2004.
2. It is headquartered in Tashkent, Uzbekistan.
3. It serves to promote cooperation of member states against terrorism, separatism and extremism.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1 and 3 only
- C. 1, 2 and 3
- D. 3 only

97. Consider the following statements with respect to Pulikkali:

1. It is a folk dance performed on the streets of Kerala as a part of Onam celebrations.
2. It is performed to the rhythm of traditional percussion instruments such as mridangam and ghatam.
3. The main theme of this folk art is tiger hunting.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

98. Consider the following statements with respect to UMANG App:

1. It is a common unified platform for the delivery of services of various Government Departments through the mobile platform.
2. It was developed by the National e-Governance Division (NeGD), Ministry of Electronics & IT (MeitY).
3. The app hosts services such as Digilocker and e-RaktKosh.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. 1, 2 and 3
- D. 1 and 3 only

99. Consider the following statements with respect to Export Preparedness Index 2020:

1. It is the first report to examine the export preparedness and performance of Indian states.
2. It ranks states on Policy, Business Ecosystem, Export Ecosystem, and Export Performance.
3. Coastal States are among the best performers in EPI 2020.

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. None of the above

100. Greece is bordered by which of the following countries?

1. Albania
2. Bulgaria
3. Macedonia
4. Turkey

5. Romania
6. Serbia

Choose the correct option:

- A. 1, 2, 3 and 4 only
- B. 2, 3, 4 and 5 only
- C. 1, 3 and 6 only
- D. 2, 3, 4, 5 and 6 only

101. Consider the following statements with respect to compensation cess:

1. The cess will not be payable by exporters and those persons who have opted for compensation levy.
2. The cess will compensate the states for any revenue loss on account of the implementation of GST.
3. The input tax credit of this cess can be used to pay taxes like CGST, SGST or IGST.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 1, 2 and 3 only
- D. 2 and 3 only

102. Which of the following tribes are Particularly Vulnerable Tribal Groups residing in the Andamans?

1. Great Andamanese
2. Jarawas
3. Onges
4. Shompens
5. North Sentinelese

Choose the correct option:

- A. 1, 2 and 4 only
- B. 1, 2, 3 and 5 only
- C. 1 and 5 only
- D. 1, 2, 3, 4 and 5

103. Consider the following statements:

1. Articles 341 and 342 of the Constitution of India define as to who would be Scheduled Castes and Scheduled Tribes with respect to any State or Union Territory.
2. The Central List of Scheduled Castes and Tribes is notified by the President.
3. The consent of the Parliament is required to exclude or include castes in the List.

Which of the given statement/s is/are incorrect?

- A. 2 only
- B. 1 and 3 only

- C. 1, 2 and 3
- D. None of the above

104. Consider the following statements with respect to the Insolvency and Bankruptcy Code (IBC):

1. It provides for a time-bound and market-linked resolution of stressed assets.
2. It does not provide for the initiation of insolvency proceedings against personal guarantors of corporate debtors.
3. Any person aggrieved by the order of the National Company Law Tribunal may make an appeal to the High Court.

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. None of the above

105. Consider the following statements:

1. The first hour of every parliamentary sitting is termed as Question Hour and is mentioned in the Rules of Procedure of the House.
2. Zero Hour is an informal device, not mentioned in any rules of the Parliament.
3. The time immediately following the Question Hour is known as "Zero Hour".

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. 1, 2 and 3
- D. None of the above

106. Which of the following are the tributaries of River Mahanadi?

1. Mand
2. Ong
3. Parry
4. Musi
5. Hasdeo

Choose the correct option:

Options:

- A. 1, 2, 3 and 5 only
- B. 1, 3 and 4 only
- C. 1, 2 and 3 only
- D. 3, 4 and 5 only

107. Which of these islands are parts of the Lakshadweep Islands:

1. Kavaratti
2. Agatti
3. Minicoy
4. Amini
5. Kalpeni

Options:

- A. 1, 2 and 3 only
- B. 2, 3 and 4 only
- C. 1, 2, 3 4 and 5
- D. 1 and 3 only

108. Which of the following are NOT constitutional bodies?

1. Central Board of Direct Taxes
2. GST Council
3. National Human Rights Commission
4. Finance Commission
5. National Commission for Backward Classes

Options:

- A. 1, 3 and 5 only
- B. 1 and 3 only
- C. 1, 3, 4 and 5 only
- D. 2, 4 and 5 only

109. Which of the following statement/s is/are correct?

1. Kavkaz 2020 is a multilateral military exercise involving only the SCO member nations.
2. Kavkaz has been an annual military exercise since its inception in 2011.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

110. Which of the following statement/s is/are correct?

1. Seonath, Ib, Hasdeo and Bhargavi river are the major tributaries of the Mahanadi river.
2. The Hirakud dam is an earthen dam built across the Mahanadi River.

Options:

- A. 1 only
- B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

111. The Senkaku islands lie in which of the following?

- A. South China Sea
- B. Yellow Sea
- C. East China Sea
- D. Philippine Sea

112. Which of the following are correctly matched?

1. Spitzer telescope: Infrared
2. Chandra Observatory: X-ray
3. Compton observatory: Gamma ray
4. Hubble: UV, Visible and near-infrared

Options:

- A. 1,2,3 and 4
- B. 3 and 4 only
- C. 1,2 and 3 only
- D. 2 and 4 only

113. Which of the following is/are correctly matched?

1. Kandhamal Haladi: Odisha
2. Channapatna toys: Karnataka
3. Tirur Betel leaves: Tamil Nadu
4. Tawlhlohpuan : Mizoram

Options:

- A. 1, 2 and 4 only
- B. 1, 2 and 3 only
- C. 1, 2, 3 and 4
- D. 1 and 2 only

114. Which of the following statement/s is/are correct with respect to National Clean Air Programme?

1. The main objective is to reduce carbon monoxide, sulphur dioxide and nitrous oxide levels by 20-30%.
2. The target of emission reduction is to be attained in all the cities and towns with a population of above 2 lakhs by the year 2024.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

115. Which of the following statement/s is/are INCORRECT?

1. The members of the parliamentary standing committees are always elected from among the members of the legislature.
2. The members of the parliamentary standing committees have a term of 5 years.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

116. Which of the following rivers originate in Odisha?

1. Mahanadi
2. Subarnrekha
3. Burhabalanga
4. Baitarani
5. Rushikulya
6. Sabari

Options:

- A. 1, 2, 3, 4, 5 and 6
- B. 3, 4, 5 and 6 only
- C. 3, 5 and 6 only
- D. 2, 3, 4 and 5 only

ANSWER KEYS

1	C
2	B
3	A
4	C
5	C
6	A
7	B
8	C
9	B
10	A
11	C
12	D
13	B
14	D
15	C
16	A
17	D
18	A
19	B
20	C

21	C
22	B
23	B
24	D
25	B
26	D
27	A
28	D
29	A
30	D
31	C
32	C
33	D
34	A
35	C
36	B
37	A
38	B
39	C
40	D

41	A
42	D
43	B
44	C
45	A
46	B
47	C
48	C
49	A
50	B
51	D
52	A
53	A
54	D
55	C
56	A
57	D
58	B
59	D
60	C

61	B
62	B
63	C
64	D
65	A
66	C
67	B
68	A
69	A
70	A
71	C
72	B
73	B
74	B
75	C
76	D
77	A
78	C
79	B
80	D

81	C
82	B
83	D
84	A
85	C
86	A
87	B
88	D
89	B
90	D
91	C
92	D
93	B
94	A
95	A
96	C
97	A
98	C
99	D
100	A

101	A
102	D
103	D
104	C
105	D
106	A
107	C
108	B
109	D
110	B
111	C
112	A
113	A
114	D
115	C
116	B

MAINS PRACTICE QUESTIONS

GS Paper 1

Geography

1. What do you mean by Magnetic reconnection phenomenon with respect to the sun's surface? Explain its contribution to the phenomenon of coronal heating and coronal mass ejection. (10 marks, 150 words) (GS paper 1/Geography)
2. India's population policy should focus on ensuring a sustainable Total Fertility Rate (TFR). Comment. Also discuss the factors that have contributed to the decreasing TFR in India. (15 marks, 250 words)(GS paper 1/ Population and associated issues)

Social Issues

1. In light of the increasing instances of cybercrimes and cyberbullying of girls and women, discuss the challenges involved and suggest suitable measures to address these challenges. (10 marks, 150 words)(GS paper 1/ Social issues)
2. The recent Supreme Court decision on the coparcenary rights of women with respect to inheritance is in line with the spirit of gender equality as espoused in the Hindu Succession (Amendment) Act of 2005. Comment. (10 marks, 150 words)(GS paper 1/ Social Issues)
3. Increasing the age at first marriage for women can be a promising approach to improve maternal and child nutrition and health. Examine. Suggest suitable measures in this direction. (10 marks, 150 words)(GS Paper 1/Social Issues)
4. For India, a country setting out to bolster its contraception and abortion services outreach, the pandemic and consequent lockdowns have dealt a blow. Examine the statement and suggest the way forward. (15 Marks, 250 Words) (GS Paper 1/ Social Issues)
5. Discuss how the COVID-19 pandemic threatens to undo the recent gains made in reducing child labour in India. Also suggest necessary measures to address this threat. (10 marks, 150 words)(GS paper1/ Social issues)
6. The mainstreaming of nativism in India is a cause of concern. Comment. (10 marks, 150 words)(GS Paper 1/Regionalism)

GS Paper 2

Polity and Governance

1. With the freedom of speech and expression being recognised as a fundamental right, is a law for criminal contempt asynchronous with India's democratic system? Critically analyse. (15 Marks, 250 Words) (GS Paper 2/Polity and Governance)
2. In the backdrop of several questions being raised about the constitutionality of governors' actions on many occasions in the recent past, discuss the discretionary powers of the Governor mentioned in the Constitution of India and how these discretionary powers have led to controversies. (15 Marks, 250 Words) (GS Paper 2/Polity and Governance)
3. Discuss the provision of preventive detention in India and the constitutional safeguards in place to address the possible misuse of this provision. (10 marks, 150 words)(GS paper 2/Polity and Governance)
4. With increasing references to the doctrine of constitutional morality in the Judgments by the higher judiciary, discuss what is meant by constitutional morality. Also discuss the significance and the associated concerns with the doctrine of constitutional morality. (15 marks, 250 words)(GS Paper 2/Polity and Governance)
5. What is meant by judicial review? What are the constitutional articles which provide for the provision of judicial review? Discuss the evolution of the concept of judicial review in the constitutional history of India. (15 marks, 250 words)(GS paper 2/ Polity and Governance)
6. Discuss the major judicial observations with respect to the often contradicting need to balance the right to information of

the people and the need to maintain secrecy in sensitive issues. (10 marks, 150 words)(GS Paper 2/Polity and Governance)

7. In the backdrop of Centre-State friction over pending compensation payments under the Goods and Services Tax (GST) regime, the Central Government should act in the spirit of cooperative federalism. Discuss. (15 Marks, 250 Words) (GS Paper 2/ Polity and Governance).
8. Discuss the salient provisions of the Epidemic Diseases Act of 1897 and analyze its shortcomings in dealing with the current pandemic crisis. (10 marks, 150 words)(GS Paper 2/Government Policies and Interventions)
9. Analyze the arguments both in favour of and against the issuance of immunity certificates for COVID-19. (15 marks, 250 words) (GS paper 2/Governance)
10. The post COVID world would be more digitised than before. In this backdrop, India should make it a priority to ensure basic digital literacy and Internet connectivity for all the citizens. Elucidate. (15 Marks, 250 Words)(GS Paper 2/Governance)
11. Discuss the salient features and the role of the recently established National Recruitment Agency. (10 Marks, 150 Words) (GS Paper 2/ Governance)

Education

1. Discuss the arguments both in favour of and against the three-language formula advocated in the National Education Policy (NEP 2020). Suggest a suitable way forward with respect to this provision. (15 marks, 250 words)(GS paper 2/Education)
2. The integration of technology in the teaching-learning process can lead to significant advantages in the Indian educational system. Examine. (10 marks, 150 words)(GS Paper 2/Education)
3. The recently approved National Education Policy, 2020 is a major step forward towards ensuring universal, more inclusive, holistic and quality education for children. Examine. (15 marks, 250 words)(GS paper 2/Education)
4. Analyze the significant aspects as well as the lacunae in the recently approved National Education Policy of 2020. (15 marks, 250 words) (GS Paper 2/Education)
5. The graded autonomy model for the educational institutes envisaged in the National Education Policy (NEP) 2020 could act as a double-edged sword. Examine. (10 marks, 150 words)(GS Paper 2/Education)

Health

1. The proposed National Digital Health Mission (NDHM) has several associated benefits as well as challenges. Analyze. (15 marks, 250 words)(GS Paper 2/Health)
2. The COVID-19 pandemic has brought to light the need for India to push thoroughgoing reforms in ensuring effective universal health coverage. Examine the statement and suggest the best way forward. (15 Marks, 250 Words)(GS Paper 2/Health)
3. In the light of the indications of the COVID-19 pandemic hotspot shifting to the rural areas in India, analyze the concerns and suggest remedial short and long term measures. (10 marks, 150 words)(GS paper 2/Health)
4. What are the ethical issues to consider while distributing a COVID-19 vaccine? Suggest the best way forward to ensure equitable global distribution of the vaccine. (15 Marks, 250 Words). (GS Paper 2/Health)

International Relations

1. Achieving lasting peace in Afghanistan will require patience and compromise among all parties. In light of this statement, discuss the challenges involved in the Afghan peace process. (15 Marks, 250 Words)(GS Paper 2/International Relations)
2. India's policy of using non-military countermeasures like the moves to isolate China economically and in international organizations has its limitations. Comment. (10 marks, 150 words)(GS paper 2/International Relations)
3. In the light of the current geo-political situation, India will need to recalibrate its idea of 'strategic autonomy' in foreign relations policy. Comment. (15 marks, 250 words)(GS Paper 2/International relations)

4. Given the conflict-ridden history of the Arab-Israeli ties, the recent deal between Israel and UAE comes as a welcome relief for the region. Examine. (10 marks, 150 words)(GS paper 2/International Relations)
5. Analyse the geopolitical implications of the Israel-UAE pact. (15 Marks, 250 Words)(GS Paper 2/international Relations)
6. In the light of the tension in the eastern Mediterranean Sea region over differing maritime claims, discuss the provisions of the United Nations Convention on the Law of the Sea (UNCLOS) of 1982. (10 marks, 150 words)(GS Paper 2/International Relations)
7. Despite the deepening relations between Russia and China which seem to be indicative of a growing strategic convergence, the Russia-China relationship does face significant challenges. Comment. (15 marks, 250 words)(GS Paper 2/International Relations)
8. Constitutional crises in India's neighbourhood have a major impact on India's 'Neighbourhood First' policy. Examine. (15 Marks, 250 Words) (GS Paper 2/ International Relations)

GS Paper 3

Economy

1. The key to economic revival in India would be to improve confidence and sentiments in the entire economic ecosystem involving the people (consumers), entrepreneurs and the bankers, by using suitable fiscal and monetary policies. Comment. (15 marks, 250 words) (GS Paper 3/Economy)
2. Given the calls for increased public spending to revive the Indian economy, analyze the options available to finance such a public spending programme. (15 marks, 250 words)(GS paper 3/Economy)
3. The GST compensation payment has been an area of concern over the previous year. Discuss the underlying concerns and suggest possible solutions to this issue. (15 marks, 250 words)(GS paper 3/Economy)
4. The COVID-19 pandemic crisis has threatened every dimension of food security in India. In light of this statement, discuss the risks to food security in the country and suggest measures. (15 Marks, 250 Words)(GS Paper 3/Economy)
5. The newly launched Agriculture Infrastructure Fund (AIF) is a welcome measure in the domain of agri-marketing but its effectiveness will depend on addressing the implementation challenges. Comment. (15 marks, 250 words)(GS paper 3/Economy)
6. What is meant by supply chain resilience? Discuss the significance of achieving supply chain resilience. Evaluate the challenges for India in this respect and suggest suitable policy measures. (15 marks, 250 words)(GS paper 3/Economy)
7. In the light of the World Bank's decision to halt its annual 'Doing Business' report to undertake a systematic review and assessment, discuss the concerns regarding the flaws of the index. (15 marks, 250 words)(GS paper 3/Economy)
8. Evaluate India's strengths and weaknesses as an alternative destination for foreign investments leaving China. Also suggest suitable measures to promote India as an attractive foreign investment destination. (15 marks, 250 words)(GS paper 3/Economy)
9. Lower than expected GST revenues have resulted in delayed and pending compensation payments to states. Discuss the available solutions to tackle this issue. (15 Marks, 250 Words)(GS Paper 3/Economy)
10. Considering the varying economic, social and political factors in different states, critically comment on the impact of the agricultural marketing reforms announced as a part of the Atma Nirbhar Bharat Abhiyaan. (15 Marks, 250 Words) (GS Paper 3/ Economy).
11. Discuss the measures to be taken for India's electric vehicle goals to flourish. What are the challenges involved? (15 Marks, 250 Words). (GS Paper 3/Economy)

Environment and Ecology

1. Outline the evolution of Environment Impact Assessment (EIA) in India and critically examine the draft Environment Impact Assessment (EIA) notification 2020. (15 Marks, 250 Words) (GS Paper 3/Environment and Ecology)
2. Despite the increase in the tiger population in India, there continues to be concerns regarding tiger conservation efforts in

India. Comment. (10 marks, 150 words)(GS Paper 3/ Environment and Ecology)

3. Critically analyse the government policies for dealing with and mitigating the hazards of air pollution in India. (15 Marks, 250 Words)(GS Paper 3/Environment and Ecology)

Internal Security

1. Possession of nuclear weapons not only provides credible deterrence capability against the use of nuclear weapons, but also prevents war and promotes stability. Critically examine. (10 marks, 150 words)(GS paper 3/Internal Security)
2. As against the popular perception that nuclear risks have reduced since the end of the cold war, the risks of a nuclear war have only increased over the years. Comment. (15 marks, 250 words)(GS paper 3/Internal Security)
3. Political instability in parts of West Asia and North Africa is allowing the Islamic State space to operate. Discuss how the re-emergence of the Islamic State could pose a serious challenge. (15 Marks, 250 Words)(GS Paper 3/Security)
4. Discuss the challenges for India in achieving self-reliance in defence production and suggest suitable measures to overcome such challenges. (15 Marks, 250 Words)(GS Paper 3/Defence and Internal security)

Science and Technology

1. Enumerate the major aspects of the Science Technology and Innovation Policy, 2013. Discuss the major challenges in the domain of Research and Development in the Indian scenario and suggest suitable policy measures to address these challenges. (15 marks, 250 words)(GS paper 3/Science and Technology)
2. What are the challenges posed by the growing global space industry? Discuss the various aspects that India needs to consider while formulating its space vision. (15 Marks, 250 Words) (GS Paper 3/Science and Technology)

Disaster Management

1. In the light of the recent landslides in Kerala, discuss the reasons for the high vulnerability of the state to landslides. Suggest appropriate disaster management strategies. (15 marks, 250 words)(GS paper 3/Disaster Management)

Miscellaneous

1. In the light of repeated instances of large-scale loss of human life due to consumption of illicit liquor in India, discuss the associated concerns and suggest suitable measures to address these concerns. (10 marks, 150 words)

INTERVIEW TRANSCRIPT

Candidate Details:

- Name: Neha Jain
- AIR: 12 (CSE-2013)
- Optional: Sociology

Personal Details:

- Education: B. Tech. in Computer Science and Engineering from Harcourt Butler Technological Institute, Kanpur.
- Home town: Kanpur, Uttar Pradesh
- Hobbies: Sketching and Painting, pursuing Buddhist Philosophy

Work-experience

- Software engineer in IBM Software Labs, Bangalore.

Chairman of the Interview Board: Smt. Alka Sirohi

Questions asked by the interview board

Questions based on Hobbies

- Questions related to painting.
 - * Material used.
- Questions related to Buddhist philosophy.
 - * Buddhist view on god

Questions on Home town

- Current issues in Kanpur and suggestions for improving the situation

History

- The issue of Jammu and Kashmir.

Education

- The increase in the market of coaching institutes and the issues.
- Measures needed to strengthen government education.

International relations

- Questions on India – Pakistan bilateral relations.

Optional Subject

- General questions on Sociology like what does Sociology study?
- Prominent Indian Sociologists and their theories
- Concept of Sanskritization
- Increasing role of technology in human's life and its effects on Children
- Questions on the concept on empowerment

Sports

- Question on Tour de France