

Climate Ambition Summit

Raising the bar for climate action

Climate Ambition Summit 2020



India-Bangladesh Ties

Major pillar of India's
'neighbourhood first'
policy



Prime Minister Wi-Fi Access Network Interface (PM-WANI)

Impetus to Digital
India vision



Nutritional Challenge in India

The long road to
food security



The Indian Agriculture Acts of 2020

The perils of deregulated
imperfect markets

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Incredible Results

CSE 2019

4 Ranks
in top 10

13 Ranks
in top 50

22 Ranks
in top 100



Rank 3
Pratibha Verma



Rank 6
Vishakha Yadav



Rank 8
Abhishek Saraf



Rank 10
Sanjita Mohapatra

CSE 2018

11 Ranks
in top 50

28 Ranks
in top 100

183 Ranks
in the final list



Rank 11
Pujya Priyadarshni



Rank 16
Dhodmise Trupti Ankush



Rank 21
Rahul Jain



Rank 24
Anuraj Jain



Rank 31
Mainak Ghosh

CSE 2017

5 Ranks
in top 50

34 Ranks
in top 100

236 Ranks
in the final list



Rank 3
Sachin Gupta



Rank 6
Koya Sree Harsha



Rank 8
Anubhav Singh



Rank 9
Soumya Sharma



Rank 10
Abhishek Surana

CSE 2016

8 Ranks
in top 50

18 Ranks
in top 100

215 Ranks
in the final list



Rank 2
Anmol Sher Singh Bedi



Rank 5
Abhilash Mishra



Rank 12
Tejaswi Rana



Rank 30
Prabhash Kumar



Rank 32
Avdhesh Meena

CSE 2015

5 Ranks
in top 50

14 Ranks
in top 100

162 Ranks
in the final list



Rank 20
Vipin Garg



Rank 24
Khumanthem Diana Devi



Rank 25
Chandra Mohan Garg



Rank 27
Pulkit Garg



Rank 47
Anshul Agarwal

CSE 2014

6 Ranks
in top 50

12 Ranks
in top 100

83 Ranks
overall selections



Rank 4
Vandana Rao



Rank 5
Suharsha Bhagat



Rank 16
Ananya Das



Rank 23
Anil Dhameliya



Rank 28
Kushaal Yadav



Rank 39
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Month	Batch (April)	Batch (May)	Batch (June)	Batch (July)	Batch (August)	Batch (September)	Batch (October)
April, 2020	Polity						
May, 2020	Economics	Economics					
June, 2020	Modern History	Modern History	Modern History				
July, 2020	Geography	Geography	Geography	Geography			
August, 2020	Ethics, Essay, Governance	Polity	Polity	Polity	Polity		
September, 2020	Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Economics	Economics	Economics	Economics	
October, 2020	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	Modern History	Modern History	Modern History	Modern History
November, 2020	Environment + S&T + CSAT	Environment + S&T + CSAT	Environment + S&T + CSAT	Environment + S&T + CSAT	Geography	Geography	Geography
December, 2020		Ethics, Essay, Governance	Ethics, Essay, Governance	Ethics, Essay, Governance	Ethics, Essay, Governance	Polity	Polity
January, 2021			Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Economics
February, 2021				World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	Internal Security, AH, MH, Art & Culture, IR
March, 2020					Environment + S&T + CSAT	Environment + S&T + CSAT	Environment + S&T + CSAT
June, 2021						Ethics, Essay, Governance	Ethics, Essay, Governance
July, 2021							World History, PI, DM, Society & Social Justice

*AH - Ancient History | MH - Medieval History | IR - International Relations | PI - Post Independent India | DM - Disaster Management
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YEAR LONG TIMETABLE
 (Evening Batch)
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Month	Batch (April)	Batch (May)	Batch (June)	Batch (July)	Batch (August)	Batch (September)	Batch (October)
April, 2020	Geography						
May, 2020	Modern History	Modern History					
June, 2020	Economics	Economics	Economics				
July, 2020	Polity	Polity	Polity	Polity			
August, 2020	Internal Security, AH, MH, Art & Culture, IR	Geography	Geography	Geography	Geography		
September, 2020	Ethics, Essay, Governance	Ethics, Essay, Governance	Modern History	Modern History	Modern History	Modern History	
October, 2020	Environment + S&T + CSAT	Environment + S&T + CSAT	Environment + S&T + CSAT	Economics	Economics	Economics	Economics
November, 2020	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	Polity	Polity	Polity
December, 2020		Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Geography	Geography
January, 2021			Ethics, Essay, Governance	Ethics, Essay, Governance	Ethics, Essay, Governance	Ethics, Essay, Governance	Modern History
February, 2021				Environment + S&T + CSAT	Environment + S&T + CSAT	Environment + S&T + CSAT	Environment + S&T + CSAT
March, 2020					World History, PI, DM, Society & Social Justice	Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR
June, 2021						World History, PI, DM, Society & Social Justice	Ethics, Essay, Governance
July, 2021							World History, PI, DM, Society & Social Justice

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(Weekend Batch)

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Sunday - 10:00 AM to 6:00 PM

Month	Batch (April)	Batch (May)	Batch (June)	Batch (July)	Batch (August)	Batch (September)	Batch (October)
April, 2020	Modern History						
May, 2020	Geography	Geography					
June, 2020	Polity	Polity	Polity				
July, 2020	Economics	Economics	Economics	Economics			
August, 2020	Internal Security, AH, MH, Art & Culture, IR	Modern History	Modern History	Modern History	Modern History		
September, 2020	Ethics, Essay, Governance	Ethics, Essay, Governance	Geography	Geography	Geography	Geography	
October, 2020	Environment + S&T + CSAT	Environment + S&T + CSAT	Environment + S&T + CSAT	Polity	Polity	Polity	Polity
November, 2020	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	Economics	Economics	Economics
December, 2020		Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Internal Security, AH, MH, Art & Culture, IR	Modern History	Modern History
January, 2021			Ethics, Essay, Governance	Ethics, Essay, Governance	Ethics, Essay, Governance	Internal Security, AH, MH, Art & Culture, IR	Geography
February, 2021				Environment + S&T + CSAT	Environment + S&T + CSAT	Environment + S&T + CSAT	Internal Security, AH, MH, Art & Culture, IR
March, 2020					World History, PI, DM, Society & Social Justice	World History, PI, DM, Society & Social Justice	Environment + S&T + CSAT
June, 2021						Ethics, Essay, Governance	Ethics, Essay, Governance
July, 2021							World History, PI, DM, Society & Social Justice

*AH - Ancient History | MH - Medieval History | IR - International Relations | PI - Post Independent India | DM - Disaster Management
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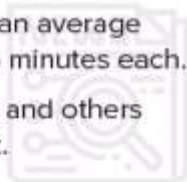
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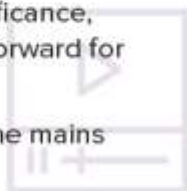
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POLITY

Indian Constitution-Features and significant provisions

1. Article 356 and an activist judiciary

- » Prelims: Provisions of Article 356, important SC judgments and committee recommendation
- » Mains: Concerns with respect to President's rule and the recent Andhra Pradesh HC order.

Context:

- The recent order of the Andhra Pradesh High Court directing the Andhra Pradesh government to come prepared to argue on the 'breakdown of constitutional machinery in the state' has resurfaced worries of possible misuse of the Article 356.

Background:

Article 356:

- Article 356 of the Constitution deals with the imposition of President's Rule in a State.
- "Constitutional breakdown" is the ground to suspend the state executive and establish the President's rule under Article 356 of the Indian Constitution.

Historical evolution of the Article 356:

- India borrowed this provision of Article 356 from the Government of India Act, 1935.
- It had its notorious counterpart in Section 93 of the government of India Act 1935 which provided for Governor's Rule in the provinces.

Arguments against Article 356:

Against democratic spirit:

- The Article 356 gives the central government the power to dismiss a democratically-elected State government, a feature that does not find a place in any liberal democratic Constitution in the world.

Gross misuse:

- Article 356 has been used/ misused more than 125 times though B.R. Ambedkar had assumed that it would remain a dead letter.
- In almost all cases it was used for political considerations rather than any genuine breakdown of constitutional machinery in the States
- The union governments have acted largely unimpeded in dismissing state governments on flimsy, whimsical grounds.

- Despite several committees recommendation and a legal precedent, the blatant misuse of this article has not been curbed.

- * Sarkaria Commission recommended that the article 356 should be invoked in extreme cases after exhausting all other options.
- * The S.R.Bommai judgement attempted to curb the blatant misuse of Article 356 of the Constitution of India by laying down certain scenarios where the imposition of President's rule was justified and certain other scenarios that weren't.
 - » One of the prerequisites that had to be followed in examining the "constitutional breakdown" was ascertaining whether objective conditions exist which render it impossible to carry out governance in the State.
 - » Accordingly, situations which can be remedied or do not create an impasse, or do not disable or interfere with the governance of the State according to the Constitution would not merit the issuance of a Presidential proclamation.

Open ended provisions:

- The provisions are not clearly defined and are prone to subjectivity, which makes it prone to misuse.
 - * Article 356 carries the marginal heading "Provisions in case of failure of constitutional machinery in States". But neither clause (1) nor for that matter any other clause in the article employs the expression "failure of constitutional machinery".
 - * If the President is satisfied that such a situation has arisen, whether on the basis of a report received from the Governor of the State or otherwise, he may, by proclamation declare President's rule

Historic opposition to the provision:

- It is worth noting that the leaders of the India freedom struggle vehemently opposed the provision, forcing the British government to suspend it.
- Paradoxically, the provision which we had opposed during our freedom struggle was found its way into the Constitution strangely in the name of democracy, federalism and stability.

Andhra Pradesh HC's interim order:

- The order of the High Court came while deciding with habeas corpus petitions filed by relatives of persons remanded in judicial custody or out on bail.
- The High Court had suo motu summoned the State counsel to assist it in deciding whether, in circumstances prevailing in the State of Andhra Pradesh, the court can record a finding that there is a constitutional breakdown in the State or not. The Andhra Pradesh High Court order intended to embark on a judicial inquiry.
- The interim order had sought the assistance of the state government asking whether it can record a finding that constitutional machinery has broken down there, requiring a declaration of President's rule.
- The Andhra Pradesh High Court could pass such an order due to the term 'otherwise' in the Article 356. But there is also similar precedence of judicial overreach on this issue.
 - * In 1997, the Patna High Court bench while being disappointed with the functioning of the then Bihar government, observed that the Governor's report was not conclusive regarding the invocation of Article 356, and the High Court could also report to the President about the breakdown of constitutional machinery in the State.

Concerns with respect to the recent development:

Violative of the doctrine of separation of powers:

- The petition by the AP government challenging the HC's stand contended that the constitutional courts do not have any judicially discoverable and manageable standards to determine if there has been a constitutional breakdown.
- The state government argued that the High Court's observation violated the Basic Structure doctrine of the Constitution. It said that the HC order is a serious encroachment on the powers of the executive as enumerated in the Constitution and thus violative of the doctrine of separation of powers.

Judicial overreach:

- The question of a "constitutional breakdown" or the failure of constitutional machinery is dealt with under Article 356 of the Constitution, whose invoking comes under the prerogative of the executive and not the judiciary.
 - * The power of sending a report either to the President or to the Governor or to record a finding in that regard, cannot be exercised by the judiciary.
- The Andhra Pradesh High Court's order represents a judicial overreach.

- Several constitutional experts have remarked that the judiciary is increasingly becoming more executive-minded than the executive itself, the observations of the Andhra Pradesh High Court underlines their belief.

Tension between High Court and the state government:

- The Supreme Court's order comes in the wake of incidents pointing to a tug of war between the judiciary and the elected government in Andhra Pradesh.
- Andhra Pradesh Chief Minister had written a letter to the Chief Justice of India complaining about the functioning of a few judges. The Chief Minister complained about the alleged hostile attitude of the High Court against him and his government.
- Though there have been previous instances of such allegations against certain judges, the current situation is unprecedented given that the current allegations have been made by a constitutional body, the Chief Minister of a state.
- The High Court ordered a CBI probe into what it termed was a social media campaign against the judges.

Supreme Court's observation:

- The Supreme Court terming the interim order passed by the Andhra Pradesh High Court as disturbing has stayed the order.

Way forward:

With respect to Article 356:

- Ideally, the word 'otherwise' should be deleted from Article 356.
- The provisions under Article 356 must be used only sparingly and it should never be used to remove a majority government.

Addressing the tussle between the state government and judiciary:

- The Supreme Court has the responsibility to put an end to this tussle between the state High Court and the state executive.
- Ordering an internal inquiry into the Chief Minister's letter would be a good beginning.

Indian Constitution-Features and significant provisions**2. Inner-Line Permit**

- » Prelims: Provisions of ILP and states which have this system
- » Mains: Significance and concerns associated with ILP system

Introduction:

- The concept of Inner Line Permit (ILP) originates from the Bengal Eastern Frontier Regulation Act (BEFR), 1873. It sought to separate the tribal-populated hill areas in the Northeast from the plains.
- It was brought to protect the British commercial interest and prevent British subjects from trading within these regions.

Details:

- The Inner Line Permit (ILP) is an official travel document issued by the concerned state government to allow inward travel of an Indian citizen into a protected area for a limited period. It is obligatory for Indian citizens from outside those states to obtain a permit for entering into the protected state.
- Arunachal Pradesh, Nagaland and Mizoram are protected by the Inner Line, and lately, Manipur was added in 2019.

Significance:

- The ILP keeps an account of people entering the state which is good for the security point of view.
- It helps protect indigenous culture and identity.
- It bars illegal migrants and thus helps prevent encroachment by outsiders.
- It also helps promote the local economy by protecting it from the stronger outside economic entities.

Concerns:

- The issue of ILP is questionable in the context of a democratic system of governance given the special provisions enjoyed by these select areas.
- Several studies have stated that it is not effective for economic growth.
 - * Impacts tourism
 - * Restriction of labour movement
 - * Since land cannot be purchased it deters industrial growth

Conclusion:

- It is often said that the present ILP system is based on the archaic laws of the country, and the states with ILP system have not shown any significant performance with regard to the protection of identity and property rights of the indigenous people.
- Apart from that, there seem to be some dilemmas between the market economy, democracy and ILP system.
- ILP is a temporary solution and not a permanent one.

- The way forward is to take all segments of society together and promote better integration while also ensuring protection of the vulnerable sections.
- Experts have called for discussion over the implementation of the ILP system involving all stakeholders.

Indian Constitution-Features and significant provisions**3. Plea in SC for uniform divorce, alimony rules**

- » Prelims: Article 44 of the Indian constitution
- » Mains: Significance of and challenges with respect to having a UCC

Context:

- The Supreme Court has agreed to examine a plea to frame uniform guidelines on divorce, maintenance and alimony for all religions.

Details:

- The petitioner has argued that divorce, maintenance and alimony laws in certain religions discriminated and marginalised women.
- The anomalies, varying from one religion to another, were violative of the right to equality (Article 14 of the Constitution) and right against discrimination (Article 15) on the basis of religion and gender and right to dignity.
- The petitioner called for the laws on divorce, maintenance and alimony to be "gender-neutral and religion-neutral".
- The petitioner also made references to Uniform Civil Code.

Uniform Civil Code (UCC):

- A Uniform Civil Code means that all sections of the society irrespective of their religion shall be treated equally according to a national civil code, which shall be applicable to all uniformly.
- It covers areas like marriage, divorce, maintenance, inheritance, adoption and succession of property.
- It is based on the premise that there is no connection between religion and law in modern civilization.
- The term, 'Uniform Civil Code' is explicitly mentioned in Part 4, Article 44 of the Indian Constitution. Article 44 says, "The State shall endeavour to secure for the citizens a uniform civil code throughout the territory of India."

Concern:

- The bench opined that framing uniform guidelines could also mean the destruction of personal laws itself.

Indian Constitution-Comparison with other constitutions

4. U.S. Electoral College set to vote

- » Prelims: Election of Indian president-procedure and associated articles
- » Mains: Comparison between the presidential system of the US and the parliamentary system of India

Context

- U.S Presidential elections.

Details:

- The electors will meet in each of the U.S.'s States to cast their votes. They are expected to vote in favour of the presidential candidate who won the popular vote in their respective States.
 - * The Electoral College is a constitutionally mandated body set up to elect the President. Electors are chosen by political parties who have fielded a candidate in the presidential election (they cannot be federal officials or members of Congress).
 - * These individuals are normally long-time party or candidate loyalists and sometimes political hopefuls themselves — they are unlikely to vote contrary to the certified outcome of the popular vote in their State.
- Both houses of the (new) U.S. Congress will convene later to count the votes of the Electoral College in a session presided over by U.S. Vice-President.

Election of President in India:

- There is no direct election for the Indian President. The appointed electoral college elects him.
- The electoral college responsible for President's elections comprises elected members of:
 - * Lok Sabha and Rajya Sabha
 - * Legislative Assemblies of the states (Legislative Councils have no role)
 - * Legislative Assemblies of the Union Territories of Delhi and Puducherry

Election related issues

5. Electoral Bond Scheme

- » Prelims: Features related to Electoral bond scheme, CIC and RTI
- » Mains: Concerns with the CIC order and the need for more transparency in electoral funding

Context

- The ruling of the Central Information Commission

on a petition challenging the State Bank of India's claims of not having to release data regarding the Electoral Bond Scheme under the Right To Information Act.

Background:

Electoral Bond Scheme:

- The Union budget in 2017, introduced the Electoral Bond Scheme as an attempt to introduce reforms in political funding.
- The key motive behind EBS was to fight the infusion of black money through political funding.
- The scheme creates banking instruments for the donation of funds to political parties facilitated by the SBI.

Concerns:

- The features like anonymity for donors and the corresponding removal of 7.5% limits for corporate donations have raised concerns and the scheme has come under criticism from regional parties, civil society organisations, legal experts, etc.
- It hides the identity of the donors along with the amount of donation. In effect, the scheme is opaque and promotes arbitrariness. It is often said that the best practices of electoral democracy will revolve around transparency and accountability but this scheme endangers it.
 - * The Supreme Court in the case *People's Union for Civil Liberties v. Union of India* (2003), held that the fundamental right of a voter to secure information about the candidates who are contesting the election was implicit under freedom of speech and expression. Therefore, the Electoral Bond Scheme is repugnant to the SC order in *PUCI* case.
- The scheme promotes in forming an unholy nexus between political parties and corporate donors. The scheme promotes and protects undisclosed quid pro quo arrangements between donors, who are likely to be corporates, and political parties.

The CIC ruling:

- The CIC while adjudicating an appeal ruled that the State Bank of India (SBI) was under no legal compulsion to reveal any details about donors and donees relating to electoral bonds under the Right to Information (RTI) Act.
- In doing so, CIC has relied on two grounds provided under Section 8 of the RTI Act, which exempts disclosure of information:
 - * that the information sought has been held in fiduciary capacity and

- * that there was no public interest involved in the application.

Lacunae in CIC observation:

- The above mentioned grounds can be challenged on the following grounds
 - * The public interest with regards to the EBS is very objective, taking the earlier order of CIC as a precedent which deemed political parties to be public authorities under the RTI Act.
 - * The funds received by parties from donors would naturally be of interest to voters in order to understand their financing and functioning.
 - * Donations by corporate entities would also be of interest to their shareholders and potential shareholders.
 - * Section 8(2) directs that when public interest takes precedence over any harm to protected interests, the information sought for may be accessed.
- The failure of the CIC in appreciating the present issue as one of high public importance and resorting to technical objections defeats the objects of the RTI Act itself.
- An exemption provided under Section 8 should be read only in a very narrow sense.
- The CIC order will only help uphold the opaqueness of the Electoral Bond Scheme.
 - * The Election Commission too has argued for more transparency in its counter-affidavit filed before the Supreme Court in 2017, and argued the case for declaration of donation received by political parties and also details about expenditure. ECI also stated that public disclosure of the information is quintessential for better transparency and accountability in the election process.

The final arbiter:

- The CIC has effectively turned its back on those seeking transparency in political funding, leaving no choice but to appeal to the apex court.
- The CIC order has effectively barred any requests for information under the Electoral Bond Scheme, leaving one with no other option but to seek intervention of the Supreme Court.
- There is no other recourse but for the Supreme Court to determine the law with regard to the scheme and the interpretation of the CIC.

Conclusion:

- Periodic free and fair elections are the life-breath of a democratic system and political funding is intertwined with corruption, thus for better governance, it is essential that the electoral bond scheme is reformed to allow public scrutiny.

- An unsettled law is as dangerous as bad law. The Supreme Court must conclusively settle the questions around the constitutionality of electoral bonds.

Election related issues

6. Are NRI's likely to get postal voting rights soon?

- » Prelims: RPA and voting rights
- » Mains: Significance of increasing voter participation in elections

Context:

- The Election Commission of India (ECI) has written to the Law Ministry over exploring the option of extending the postal ballots to eligible overseas, non-resident Indians (NRIs) for assembly elections in Kerala, Assam, Puducherry, Tamil Nadu and West Bengal.

Background:

2010 amendment to RPA:

- Up until 2010, an Indian citizen who was an eligible voter and was residing abroad for more than six months for reasons such as education, employment etc, was ineligible to vote in elections. Non-Resident Indians (NRIs) names in the electoral rolls would be deleted, thus would be ineligible to cast their votes.
- The 2010 amendment to the Representation of People Act paved way for NRIs to vote. They were considered eligible for voting in person at the polling station.
 - * The RPA envisages voters as "ordinary residents" in a constituency, thereby provides an opportunity for NRIs to vote in their respective constituency.

2017 bill:

- In 2017, a bill to amend the RPA to enable postal voting to NRIs was tabled in the Parliament.
- The bill provided for overseas voters to be able to appoint a proxy to cast their vote, provided they comply with the conditions laid down in the Conduct of Election Rules, 1961, but the bill lapsed with the dissolution of the 16th Lok Sabha.

Poor response:

- The response from overseas voters has been lukewarm in general and the bulk of the voting from overseas voters has been witnessed in the state of Kerala.
- The condition of having to be present physically has dissuaded many from casting their votes during elections.

Suggestion to improve participation of NRI's:

Postal ballots:

- There are calls for extending postal ballots to the NRI, like how it has been currently available to the 'service voters'.
 - * Service voters are those too who
 - » belong to the Army
 - » to whom the Army Act 1950 apply.
 - » serving outside the state.
 - » employed under the Government of India, in a post outside India.
 - * Electronically Transmitted Postal Ballot System(ETPBS)
 - » The Conduct of Election Rules, 1961 was amended in 2016 to allow service voters to make use of ETPBS
 - » The service voter has to download the ETPB, register their mandate and send it to the returning officer of the particular constituency via ordinary mail.
 - » The posted ballot has to reach the returning officer by 8 in the morning on the day of counting.
- To extend ETPBS to overseas voters require amending the Conduct of Election Rules 1961.
- The overseas voter has to notify the returning officer within 5 days of notification of election. The returning officer will send the postal ETPBS, the overseas voter has to download, register the mandate and send it back with an attested declaration.

Significance of ETPBS:

- The Lok Sabha election of 2019 saw an increased voter turnout courtesy ETPBS.
- An election gains credibility with increased voter turnout, ETPBS has been recognized by the International Institute for Democracy and Electoral Assistance as an effective way to allow overseas voters to cast their mandate.
- Postal ballots have been seen as a secure and convenient way to cast votes, this is seen during the US Presidential elections as well especially owing to the COVID-19 pandemic.

Conclusion:

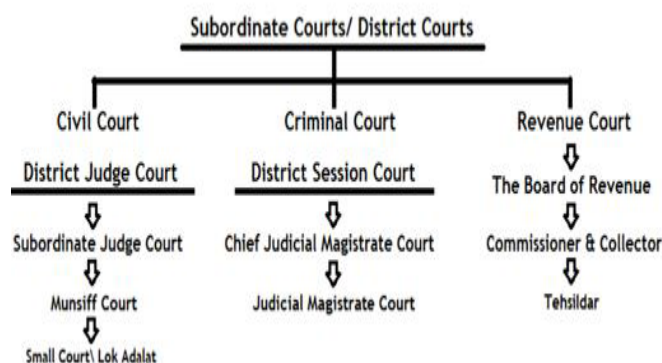
- A postal ballot system that allows for proper safeguards to ensure there are no malpractices involved will only contribute to increasing the voter turnout.
- An election in a democracy will benefit from more participation and the postal ballot offers one such opportunity and also it will enable the overseas voters to enjoy their constitutional right.

Functioning of the Indian Judiciary**7. Challenges in Indian Judiciary system**

- » Prelims: Provisions related to free legal aid in the constitution and related acts
- » Mains: Challenges in Indian judiciary system

Introduction:

- The Indian judicial setup with the Supreme Court at the apex and the High Courts along with the subordinate judiciary form the judicial organ of the state.



- The principal role of the judiciary is to protect rule of law and ensure the supremacy of law. It safeguards the rights of the individual, settles disputes in accordance with the law.
- The Indian judicial setup has been facing multiple issues like high and periodic vacancies, a huge backlog of cases, infrastructure constraints, etc. There is a need to tackle these issues to ensure rule of law is not compromised.

Concerns/challenges:

Skewed judge-population ratio:

- The judge to population metric depicts the state of the legal system in a country.
- India does not have a promising case here. The judge to population ratio in India is currently 19 judges to a million population and to further aggravate this situation, a vacancy of up to 25% is often seen.
 - * In contrast, the US has about 100 judges per million population, Canada has about 75 and the UK has about 50.
- The Supreme Court in All India Judges Association vs Union of India (2001) had directed the Government of India to increase the judge-population ratio to 50 per million population, but this has not been implemented so far.

Challenges in subordinate judiciary:

- The subordinate judiciary forms the foundation of the Indian judicial system.

- Subordinate judiciary is often the first point of contact to the common man. The functioning of the subordinate judiciary has been impeded by vacancies, infrastructural inadequacies and subsequent case backlogs.
- * The vacancy in the lower judicial system is substantial. Around 5,133 out of the 22,036 posts in the district and subordinate were vacant.

Implementational challenges of ensuring free legal aid:

Free legal aid:

- Article 39A of the Constitution of India provides for free legal aid to the poor and weaker sections of the society and ensures justice for all.
- Articles 14 and 22(1) of the Constitution also make it obligatory for the State to ensure equality before the law and a legal system which promotes justice based on equal opportunity to all.
- The Legal Services Authority Act of 1987 was enacted in pursuance of providing free legal aid, making it one of the largest legal aid programmes in the world.
- The beneficiaries include women, children, members of SC/ST among others, therefore a significant portion of the population is eligible for free legal aid.

Access to justice as a fundamental right:

- Though there hasn't been an explicit mention of access to justice as a fundamental right under Part III of the Indian Constitution, it has been acknowledged by courts as one.
- In *Anita Kushwaha vs Pushpa Sadan* (2016), the Supreme Court held that to lead a dignified life, access to justice is fundamental. Access to justice is a prerequisite to lead a quality human life.
- The Supreme Court also shed light on the need to have an adjudicatory mechanism that is accessible, affordable and speedy in nature

- The free legal aid programme hasn't been able to deliver on promised grounds.
- There is a need to have a cadre of well-trained personnel and they have to be paid rationally well to see the programme deliver on the ground.

- * A similar legal aid programme is in practice in the United Kingdom, but there, there is a system where there are identification and funding of several independent solicitor offices who provide free legal aid services to the needy population. The system is standing on solicitor offices being supported by the government.

- The programme needs the backing of the government and successive governments haven't given impetus to this programme. India needs to understand the significance of the programme and the impact it can potentially have in maintaining the rule of law and enabling access to justice.

Way forward:

- A well functioning judiciary is a sine qua non for democracy. For a common man in India, access to speedy justice at an affordable cost needs to be ensured.
- There is a need for a national policy and a mechanism to deal with vacancies and there is also a need to draft a roadmap for clearing the backlog of cases.
- The subordinate judiciary needs to be kept in mind while thinking about bringing in reforms in the judiciary, it has to ensure that the lower courts' concerns and inadequacies are not 'swept under the carpet' while trying to address the issues at the Supreme Court and High Courts.

Functioning of the Indian Judiciary

8. e-Courts Project

- » Prelims: e-courts mission
- » Mains: Significance of the e-courts project
- It is a Pan-India Project, monitored and funded by Department of Justice, Ministry of Law and Justice, Government of India for the District Courts across the country.
- The eCourts Project was conceptualized on the basis of the "National Policy and Action Plan for Implementation of Information and Communication Technology (ICT) in the Indian Judiciary – 2005" submitted by eCommittee, Supreme Court of India with a vision to transform the Indian Judiciary by ICT enablement of Courts.
- The objective of the e-Courts project is to provide designated services to litigants, lawyers and the judiciary by universal computerization of district and subordinate courts in the country by leveraging Information and Communication Technology (ICT) for improved justice delivery.

Objectives:

- To provide efficient & time-bound citizen-centric services delivery as detailed in e-Court Project Litigant's Charter.
- To develop, install & implement decision support systems in courts.
- To automate the processes to provide transparency in accessibility of information to its stakeholders.
- To enhance judicial productivity, both qualitatively & quantitatively, to make the justice delivery system affordable, accessible, cost effective, predictable, reliable and transparent.

Government policies and interventions**9. Maharashtra Shakti Act**

- » Prelims: Disha bill, Maharashtra's shakti bill.
- » Mains: Concerns associated with hastened investigation process

Context:

- Taking a cue from the Andhra Pradesh's Disha Bill of 2019, the Maharashtra government has announced that it would enact a law to deal sternly with the cases of sexual assault on women.

Details:

- The proposed Maharashtra Shakti Act of 2020 will have stern punishment for offences of sexual assault and a provision to complete the investigation within 15 days.
- The hastened process is expected to act as a strong deterrent and meant to ensure timely justice.

Time for investigation:

- The Criminal Procedure Code (CrPC) provides that:
 - * Investigation relating to offences punishable with imprisonment up to 10 years must be completed within 60 days.
 - * For offences with higher punishment (including rape), the investigation must be completed within 90 days of detaining the accused, else he or she shall be released on bail.
- To speed up the process, the CrPC was amended in 2018 and the period of investigation was reduced from 90 to 60 days for all cases of rape.
- Though every investigation has to be completed without unnecessary delay, there is no upper limit to complete investigation. Each investigation is guided by its own set of facts and circumstances.

Concerns:

Hastened process is prone to loopholes:

- Concerns have been raised that narrow timelines for investigation of sensitive cases create scope for procedural loopholes.

Factors at play:

- Generally, the time of investigation depends on the severity of the crime, the number of accused persons and agencies involved.
- In many cases of rape, the victim remains under trauma for some time and is not able to narrate the incident in detail.
- The speed and quality of investigation also depend on whether a police station has separate units of investigation and law and order (a long-pending police reform awaiting compliance of the apex court's directives).
- It also depends on the number of available IOs and women police officers, and the size and growth of the FSL and its DNA unit.

Conclusion:

- Investigation of sensitive offences should be done expeditiously. However, setting narrow timelines for investigation creates scope for procedural loopholes which may be exploited during trial.
- Therefore, instead of fixing unrealistic timelines, the police should be given additional resources so that they can deliver efficiently.

Miscellaneous**10. J&K's District Development Council polls**

- » Prelims: District Development Council system
- » Mains: Significance of ensuring grass root democracy in Jammu and Kashmir

Context:

- Recently concluded District Development Council polls in the Union Territory of Jammu and Kashmir.

Details:

- The Union Government had paved way for setting up District Development Councils by amending the Jammu and Kashmir Panchayati Raj Act, 1989.

What are DDCs?

- The DDCs will be a unit of governance in J&K, this will encompass a DDC and a District Planning Committee (DPC)
- Every DDC will have 14 directly-elected members. The 20 districts of J&K would have 280 directly-elected members

- The DDCs will serve for a period of five years, they will be involved in the preparation and approval of district plans and capital expenditure.

Significance of DDC elections:

- These are the first elections held in J&K after the state was divided into two Union Territories and Article 370 was revoked in 2019.
- The carrying out of the elections amidst the COVID-19 pandemic and security concerns has been praiseworthy.
- The DDC elections will be a step towards strengthening grass-root democracy in the region.

Miscellaneous

11. Roshni Act

Context:

- The J&K administration has sought modifications to the High Court judgment passed in October 2020, which declared the 2001 Roshni Act null and void in the Union Territory (UT) and directed authorities to end the ownership rights of occupants of government land.

Salient features of the Roshni act:

- The Roshni Act is formally known as the J&K State Lands (Vesting of Ownership to the Occupants) Act, 2001.
- It was enacted in 2001 by the then J&K state government led by Farooq Abdullah (National Conference) and sought to regularise unauthorised land.
- As per the Act, the ownership rights of land would be transferred to its occupants on the payment of a fee fixed by the government.
- 1990 was set as the cut-off date for encroachment on state land.
- The state government projected a target of Rs.25000 crore to be earned by selling the land to the occupants.
- The proceeds were to be used for hydro power projects for generating electricity, hence the name, Roshni (meaning light).
- In 2005, the PDP-Congress coalition government changed the cut-off year to 2004 from 1990 by an amendment to the Act.
- In a later amendment, the Ghulam Nabi Azad government set the premium at 25% of the market rate and the cut-off date at 2007.
- In the case of agricultural land, the ownership was given for free and the occupants only had to

pay a minor documentation fee.

Controversies surrounding the Roshni act:

- The Roshni Act has been mired in controversy.
- In 2014, the CAG report highlighted irregularities in the scheme and called it a scam. The Act was alleged to fuel corruption and the unauthorised usurpation of public lands in J&K. The report alleged that the reduction in prices of the land was done arbitrarily and in a manner that benefited politicians and influential people.
- It also flagged the meagre amount of revenue collected by the government (Rs.76.46 crore), when compared to the touted Rs.25,000 crores. The total area of land transferred was also much less than the targeted area.
- In Kashmir area, most of the land transferred under the Roshni Act had been leased out for residential purposes and to business houses. In 2015, the state vigilance organisation filed FIRs against some people who amassed vast quantities of land under the scheme but had failed to satisfy the eligibility criteria.
- A prominent case came to be known as the Gulmarg land scam, in which several top bureaucrats are accused of illegally transferring land of the Gulmarg Development Authority to private parties.
- Certain groups were against the Act because they alleged that it was a ploy to bring around a demographic change in the Jammu region.
- In October 2018, the then Governor of J&K, Satya Pal Malik repealed the Act prospectively, which meant that all pending allotments were cancelled. And, people who were already given the allotments were allowed to retain them.
- In 2019, Malik ordered a probe by the state Anti-Corruption Bureau into all dealings under the Roshni Scheme.
- After this, a petition was filed in the High Court that sought the transfer of the probe to the Central Bureau of Investigation (CBI).

High Court ruling:

- The High Court, in October 2020, ruled the Act as unconstitutional, illegal and unsustainable.
- The HC held all allotments made under the Roshni Act as void ab initio.
- It also asked the CBI to probe into the irregularities committed under the Act and directed the government to publicise the names of the prominent people that benefited under the Act.

Actions taken post the High Court ruling:

- The Jammu & Kashmir administration released a series of lists of alleged beneficiaries of the Roshni Act. Political leaders and bureaucrats have been among those named. The transfers

are being probed by the CBI.

- As per the High Court order, the J&K government decided to declare all the actions taken under the Act to be 'null and void' and to retrieve the land that was given by six months.

U-Turn by the government:

- In a U-turn of sorts, the J&K government, in a review petition, has pleaded for modifications to the HC judgement of Oct 2020.
- The petition says that declaring all allotments null and void would cause a lot of common people to suffer unintentionally. It argues that landless cultivators and individuals who are living in small dwelling areas could not be clubbed with rich and wealthy land grabbers.
- According to the government, this is to allow the CBI to focus its investigation on 'powerful and influential people who defrauded the state'.
- A petition had also been filed by the beneficiaries before the Supreme Court claiming they were not even heard by the J&K High Court as it passed the directions.

Important Supreme Court Judgments

12. SR Bommai Case

- The SR Bommai case gave one of the landmark judgements of the Supreme Court regarding the basic structure doctrine, as well as, regarding the blatant misuse of Article 356.

Background:

- SR Bommai was the Karnataka Chief Minister between August 1988 and April 1989. He led a Janata Dal government, which was dismissed on 21st April 1989 when President's Rule (Article 356) was imposed in Karnataka.
- Until that time, imposing Article 356 on states ruled by the opposition parties (to the one at the centre) was a common practice.
- In this particular case, the Bommai-led government was dismissed on the grounds that he had lost his majority because of several defections (that were politically motivated and master-minded).
- Even though Bommai presented the then Governor P Venkatasubbaiah with a copy of the resolution passed by the Janata Dal Legislature

Party, he was denied an opportunity to prove his majority in the house.

- Bommai first went to the Karnataka High Court against the Governor's decision. However, his writ petition was dismissed by the High Court.
- Then, Bommai moved the Supreme Court of India.

Disputes raised in the SR Bommai case:

- The SR Bommai case raised questions on the proclamation of President's rule in a state. The Supreme Court had to discuss the grounds and the extent of the imposition of President's rule in a State. Questions were also raised whether the imposition of President's rule is challengeable.

Bommai Case Judgement:

- In March 1994, a nine-judge constitutional bench of the SC gave the landmark judgement, which would go on to become one of the most widely cited one with respect to Article 356 and its arbitrary usage by the Central government.
- This landmark verdict put restrictions on the centre for imposing the President's Rule on states.
- It said that the power of the President to dismiss a government of a state is not absolute.
 - * It said that the President should use this power only after his proclamation (of imposing President's Rule) has been approved by both Houses of the Parliament. Until then, the President can only suspend the Legislative Assembly.
 - * In case the proclamation does not get the approval of both the Houses, it lapses at the end of a period of two months, and the dismissed government is revived. The suspended Legislative Assembly also gets reactivated.
- The SC also stated that the proclamation of the imposition of Article 356 is subject to judicial review.

SR Bommai Case Significance:

- This case ended the practice of arbitrarily dismissing the state government by the central government. Earlier, political parties used this mechanism given in the Constitution to get political mileage and settle scores with opposition parties. The Bommai verdict restricted this practice to a large extent.
- The verdict also stated in no uncertain terms that the test of majority of the government should be done in the floor of the Assembly and is not subject to the Governor's opinion.
- In this case, there was no question of a

constitutional amendment but even so, the concept of basic doctrine was applied.

- The Supreme Court held that policies of a state government directed against an element of the basic structure of the Constitution would be a valid ground for the exercise of the central power under Article 356.



The graphic features a central illustration of a person wearing a headset, representing a webinar session, surrounded by various icons like a rocket, clock, lightbulb, and documents. To the right, the text 'BYJU'S IAS Current Affairs Webinar' is displayed in a bold, purple and red font. Below this, it states '180+ hours of engaging current affairs sessions followed by doubt clearing sessions every TUESDAY and THURSDAY'. A list of three bullet points with checkmarks describes the content: comprehensive coverage of news, special lectures on the Economic Survey, Union Budget, and India Yearbook, and CSAT lectures.

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ECONOMY

Indian Economy and issues relating to growth and development

1. Economic revival beating predictions: RBI bulletin

- » Prelims: Pradhan Mantri Garib Kalyan Package, National Infrastructure Pipeline
- » Mains: Economic recovery in the post pandemic phase, Challenges/concerns and steps to be taken

Context:

- The Reserve Bank of India (RBI) bulletin suggests that India is recovering at a very healthy pace and the recovery trajectory is over and above the predictions made previously.

Background:

Economic impact of the pandemic:

- The COVID-19 pandemic has thrown the economies world over off the rails and Indian economy hasn't been an exception. The Indian economy had gone into a tailspin after the COVID-19 pandemic and the associated lockdown.
- The impact of the pandemic on the economy has been felt across all sectors.
 - * The first-quarter data of the financial year 2020-2021 coincided with the onset of pandemic and a tight lockdown, this was reflected in the GDP figures, with GDP contracting by 23.9% — the sharpest fall since quarterly growth began to be recorded in 1996.
 - * There was a GDP contraction even in the second quarter despite it being of lower magnitude.
 - * The economy is said to have entered a 'technical' recession after two successive quarters of contraction.
 - * A decline in manufacturing output, services and construction had a profound impact as these sectors generate the maximum employment.
 - * The strict lockdown had taken its toll, with job losses and salary cuts becoming the norm in the formal sector, while the informal sector silently withered.
 - * The damage to the economy in India was the sharpest among major economies.
 - * Inflation crossed the 6% mark led by rising food prices.

Rising optimism:

- With the slow easing of lockdown restrictions and gradual resumption in economic activities, the GDP rebounded minimally to witness a contraction of 7.5% in the second quarter of the financial year.
- The optimism with second-quarter data was also backed up with an improved GST collection and an expansion in manufacturing output by 0.6%.
- The demographically largest economic sector, the agricultural sector has witnessed positive growth.

RBI's view on growth prospects:

- Real GDP growth is expected to break out into positive territory in Q3 – albeit, to a meagre 0.1%.
- There is increasing belief that the economy may see some recovery in 2021.
- The RBI has noted two important factors for the recovery process.
 - * Handling of COVID-19- Efforts in dealing with the virus have paved the way for a healthy recovery, in terms of better recovery rate, reduced infections and surges being limited to localized areas. Also the improved capacity to deal with the pandemic and the hopes of an imminent vaccine option for Indians has given reasons to believe for better economic performance.
 - * Government support- The fiscal measures have slowly transformed from consumption expenditure in Pradhan Mantri Garib Kalyan Package to investment expenditure in Aatma Nirbhar 2.0 and 3.0. A Special economic and comprehensive package of INR 20 lakh crores – equivalent to 10% of India's GDP – to fight COVID-19 pandemic in India was announced. Finance Minister further announced Government Reforms and Enablers across Seven Sectors under Aatmanirbhar Bharat Abhiyaan.

Recommendations for the future by the RBI:

Revenue expenditure:

- Revenue expenditure measures that have been directed to enhance social protections to the underprivileged and also to offset labour market dislocations will have to be sustained as the recovery is expected to be not uniform across sectors.

Capital expenditure:

- The asset creation suffered in the first two quarters as the measures were directed towards social protection. However, there is a need to ramp up capital expenditure in sectors like public health, social housing, education etc.

Counterviews to the RBI observations:

COVID-19 not the sole reason for economic contraction:

- The Indian economy was showing signs of deterioration from several quarters preceding the pandemic and the poor performance of the first and second quarter of the economy in the year 2020 cannot be solely blamed on the pandemic.
 - * India's growth slowed to 3.09% between January and March of 2020, its lowest quarterly growth rate since 2012.
 - * The country's growth for the financial year 2019-20 was at a low 4.2%, various economic indicators, such as private consumption and exports, were at their lowest levels in five or more years, indicating that the economy was suffering even before the lockdown.
 - * Investment rate for the past decade has been declining, the investment rate in 2018-19 was 32.2% of GDP as against 38.9% GDP in 2011-12.
- However, COVID-19 and the lockdown increased the momentum of decline and ensured that no sector in the economy was spared.
- This means that the recovery from the pandemic may not ultimately lead to economic recovery. The underlying economic issues may hold the Indian economy from reaching its full potential.

Structural issues:

- The slowdown has been built up over the preceding 3 years on the demand side and the response has been on the supply side. Therefore, the slowdown is deeper than it was imagined, with employment and declining investment rate being major concerns.

Reasons for recovery:

- Among other things, rating agency CRISIL attributed the better-than-expected growth to pent-up demand finding expression after months of being locked up at home, cost savings for corporates (read 'retrenchments lowering staff costs') and a 'learning to live' attitude.
- The coincidence with India's festive season and a reported plateauing in activity after the Deepawali festival, make it difficult to assess if this recovery is real and sustainable.

New mutants:

- The new emerging mutation of the corona virus as seen in the UK and other countries is causing fear and anxiety.

Stressed sectors:

- The rough patch is far from over for services such as retail trade and hotels (particularly impacted by social distancing norms) and sectors such as mining and construction.

Financial sector stress:

- A large number of banks are reluctant to lend and the credit growth has slowed down. The stressed financial sector does not augur well for the economic recovery process.

Global trade condition:

- The global trade landscape is not yet clear, the restrictions at the border have brought the trade to a standstill.
- The increasing trend of protectionism does not augur well for the economy.

Way forward:

- The Indian economy has to grow at 8% in 2021-22 to offset the contraction in 2020-21, thus the 8% GDP expansion will only take the economy to where it was before the pandemic struck.

No scope for complacency:

- The RBI bulletin has sounded rare optimism in the current troubled times, however, the optimism of a quicker recovery must not lead to complacency, for the economy to recover well in the longer run, it requires constant monitoring, resumption of stalled economic activities and increased public expenditure.

Monetary policy:

- The monetary policy will dictate credit creation and its dispersal in the economy. There is the need to continue an accommodative stance by the Monetary Policy Committee.
- The monetary policy should focus on the following aspects:
 - * Interest rate reduction via changes in the policy rate.
 - * Liquidity provision through various measures.
 - * Regulatory changes such as moratorium.

Controlling inflation:

- There has been a significant injection of liquidity into the system, as per the recent monetary policy report, reserve money and money supply have increased.
- With a large injection of liquidity, inflation is expected to remain high. However, the current year, being a very indifferent year, required such

large liquidity injection. But caution has to be exercised to ensure that liquidity in the economy has to keep its pace with the availability of goods and services to ensure that inflation does not rise very high.

Fiscal initiatives:

- The current pandemic led issues in the economy requires an enhanced public expenditure, it is not the time for fiscal conservatism. The stimulus policies will help the recovery of economic activities in certain sectors.
- Government expenditures need to be increased with immediate effect. With a slower rate in government revenue, the fiscal stimulus will cause ballooning of the fiscal deficit to the range of 6% to 8% of GDP, but such is the nature of the problem at hand.
- The government should ideally identify sectors that can lead the recovery phase and increase the government expenditure in those sectors. In this way, public investment will be catalyzing economic activity.
- Consumption led growth needs to be accompanied by investment-led growth to sustain an economy for a longer period of time.
 - * The National Infrastructure Pipeline (NIP) is an excellent initiative that can propel investment into several infrastructure projects ranging in numerous sectors. Infrastructure is an enabler for growth. It is expected that for India's GDP to recover in the next five years beginning fiscal 2021 (2020-21 to 2024-25), infrastructure will play a pivotal role.
 - * Well-planned NIP will enable more infrastructure projects, power business, create jobs, improve ease of living, and provide equitable access to infrastructure for all, thereby making growth more inclusive.

Indian Economy and issues relating to growth and development

2. Suspension of Insolvency Bankruptcy Code extended till March 2021

- » Prelims: IBC, 2016 provisions/features
- » Mains: Arguments in favour of and against the moratorium on IBC provisions

Context:

- The Union Government has extended the moratorium on critical provisions of the Insolvency and Bankruptcy Code (IBC) till March 2021.

Background:

Insolvency and Bankruptcy Code (IBC):

- The Insolvency and Bankruptcy Code 2016 was enacted to radically change the process of insolvency resolution in India.
- The IBC provided a specialized forum to oversee all insolvency and liquidation proceedings for individuals, SMEs and corporates.
- IBC provides for a time-bound process to resolve insolvency. When a default in repayment occurs, creditors gain control over debtor's assets and must make decisions to resolve insolvency.

Pandemic induced worries:

- COVID-19 and the associated lockdown had thrown the economy into a tailspin. The lockdown increased the pressure on the distressed Indian markets, MSME and other small-scale business operations.

Steps taken by Government:

- The government after having taken note of the distress has taken some measures in the form of relief packages and legal amendments to deal with the situation.

Suspension of certain provisions of IBC:

- An ordinance was issued in June to bar the creditors from setting into motion insolvency proceedings for defaults arising from March 25th. The ordinance stated that the moratorium could be possibly extended for a year.
- Sections 7, 9 and 10 of the bankruptcy law were suspended for six months from March 2020 by the ordinance.
 - * Sections 7, 9 and 10 of IBC enable financial creditors to initiate insolvency proceedings against a corporate debtor. Whereas Section 9 grants these powers to operations creditors, Section 10 allows corporate debtors to initiate insolvency proceedings.
- Later, the Parliament approved Section 10A under the second amendment to the IBC that permits the government to extend the suspension of insolvency proceedings for up to a year from the date of beginning.

Threshold of loan defaults:

- The threshold for loan defaults was increased from Rs.1 lakh to Rs.1 crore.

Details:

- The March ordinance had set the suspension of IBC provisions up to 25th of December 2020, but the Finance Minister has announced that moratorium will complete its full cycle of one year.

State of economy:

- The suspension of IBC being extended till the end of the year is not a surprise since the economy is still recovering from the pandemic. The extension of suspension suggests that the economy is still a long way off from recovery.
- Though the second-quarter GDP data has shown a decline in contraction when compared to the first quarter, it is still a long way to go. The optimism showed by some due to the second quarter data of just 7.6% contraction in comparison to the first quarter data of 23.2% contraction, the 0.6% manufacturing output expansion and the claims of a V-shaped recovery will have to be tempered.
- The economy has entered into a recessionary phase, thus resumption of economic activities will take longer than expected.
 - * Recession is defined as a fall in the overall economic activity for two consecutive quarters (six months) accompanied by a decline in income, sales and employment.

Arguments in favour of suspension of IBC:

- The suspension of the IBC appears to be the right move taking into context the current economic landscape in the country, every industry has had to deal with stresses induced on account of COVID-19.
- The moratorium will give the businesses the much-needed breathing space to get their businesses up and running and not expend their energy worrying about fulfilling creditors requirements.

Counter views to suspension of IBC:**Delaying the inevitable:**

- Some have termed the extension as a futile attempt at delaying the inevitable rise in NPAs.

Recovery process may shift to less efficient methods:

- IBC's suspension has been justified as a relief measure but actually, the IBC process provides for the revival of the corporate debtor and all stakeholders of the corporate debtor in a time-bound manner.
- The suspension of IBC will not end the creditors' attempt to recover their capital, but the alternative means the creditors would resort to might lack the efficiency of the IBC process.
- Those mechanisms may not lead to an efficient resolution of stress which is the need of the hour during this economic slowdown.

Block voluntary exits:

- The blanket suspension of IBC could clog the path of business enterprises who voluntarily want to exit, the pandemic has changed the way certain businesses will be carried out in the future, thus several enterprises will not find it viable and thus need an exit.
- The absence of a voluntary exit may lead to the loss in value of the assets, causing even more distress to the borrower and lender.

Fragile financial system:

- The blanket suspension of IBC could burden the banks and could hurt future credit dispersal to the industry which is already under stress due to moratorium on the payment of instalments of term loans.
- The Reserve Bank of India (RBI) in its Report on Trend and Progress of Banking in India has said that a policy rollback of loan moratorium in 2021 may hurt the balance-sheet of banks and non-banks.
- The RBI report notes that borrowers accounting for about 40% of outstanding loans in the financial system (i.e banks and NBFCs) have taken shelter under the moratorium. The finances of banks and non-banks have been stuck in a logjam.
- The data on gross non-performing assets (GNPA) of banks are yet to reflect the stress, concealed under the asset quality standstill with attendant financial stability implications.

Way forward:**Targeted approach:**

- A blanket suspension of IBC will not benefit in the longer run. The government has to identify sectors that need fiscal support, enterprises in these sectors have to be shielded and sheltered from exiting the market.
- The small and medium enterprises will take a longer road to recovery, they would be better off if the government raises the default threshold limit a little higher for them.

More balanced approach:

- The government needs to adopt a more balanced approach that benefits the banks, businesses and the economy.
- The aim should be to arrive at a mechanism that would lead to a smooth restructuring and recovery of loans.

Indian Economy and issues relating to growth and development

3. Maintaining inflation target at 4% is appropriate:

RBI paper

- » Prelims: Monetary Policy Committee composition and function, factors which lead to inflation
- » Mains: Concept of flexible inflation targeting, significance of inflation targeting

Context:

- The Reserve Bank of India paper titled "Measuring Trend Inflation in India".

Details:

- The paper seeks to estimate trend of inflation in India to find the answer to a question that goes to the root of flexible inflation targeting (FIT) – "is the choice of the target for inflation consistent with its trend?"
- The paper finds a steady decline in trend inflation to 4.1- 4.3% since 2014.
- The paper notes that maintaining the inflation target at 4% would be appropriate for India.

Significance of having the right inflation target:

- A target set too [significantly] below the trend imparts a deflationary bias to monetary policy as it will go into overkill relative to what the economy can intrinsically bear in order to achieve the target.
- Analogously, a target that is fixed above the trend makes monetary policy too expansionary and prone to inflationary shocks and unanchored expectations.
- Therefore, the paper suggests that maintaining the inflation target at 4% is appropriate for India.

Inflation Targeting:

- Inflation targeting is a monetary policy where the central bank sets a specific inflation rate as its goal.
- The 4% target for inflation — with an upper tolerance limit of 6% and a lower limit of 2% — was set by the Centre in consultation with the RBI in 2016 and its validity expires on March 31, 2021.

Indian Economy and issues relating to growth and development

4. Extension of deadline for states to effect reforms

- » Prelims: One nation, one ration card scheme, ease of doing business components
- » Mains: Incentivizing states to undertake reforms, Need for borrowing limits on states

Context:

- The Finance Ministry has extended the deadline for states to implement reforms like one nation one ration card and those in the power sector to become eligible for additional borrowing in the current fiscal.
- The new deadline is February 15, 2020.

Details:

- For meeting the extra fund requirements of States on account of the COVID-19 pandemic, the Centre had decided to raise the borrowing limit of the States by 2% of their GSDP (Gross States Domestic Product), over and above the 3% limit set under the Fiscal Responsibility and Budget Management (FRBM) Act.
- However, States were required to complete four specific reforms by December 31, 2020, to get the benefit.
 - * Implementation of one nation one ration card.
 - * Ease-of-doing business reform.
 - * Urban local body/utility reforms.
 - * Power sector reforms.
- States which complete the stated reforms would get the facility of additional borrowing equivalent to 0.25% of their GSDP for completing each reform.

Recent developments:

- The Finance Ministry has allowed five states, including Tamil Nadu and Telangana to borrow an additional Rs. 16,728 crore following completion of stipulated reforms to facilitate ease of doing business.

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

5. Tax Policy Reforms

- » Prelims: Akhilesh Ranjan committee, equalization levy
- » Mains: Concerns with respect to taxation system in India and suggestions to reform them

Context:

- The COVID-19 pandemic has highlighted the need to rejig the tax laws.

Background:

Inequitable impact of the pandemic:

- The COVID-19 pandemic and the lockdown that ensued played out in such a way that there were distinct winners and losers.
- There were a certain set of people who benefitted and made the most of the situation while the rest

of them suffered, the migrant crisis highlighted how the vulnerable struggled to make ends meet during the lockdown.

Sections which have been doing well:

- High Networth Individuals (HNI)- An astonishing fact is that a grand total of 85 new individuals from India were added to the grandiose list of High Net worth Individuals even when the economy is slipping into a recession.
- Stock exchange- There was an anomaly where certain stocks soared in value in comparison to others, especially when the economy was paralyzed by the lockdown. Corporate houses, internet service providers, companies engaged in medical research etc were the big gainers of the lockdown. Notably, this segment constitutes only a small portion of the population.

Sections which suffered:

- The informal sector took the worst hit, with many losing jobs, with migrants being the worst affected.

Taxation system in India:

- India follows a Progressive taxation system, wherein the tax rate increases with the taxpayer's income. The tax liability for a taxpayer increases with the income in terms of the proportion of income and in absolute amount.

Concerns:

Multi-National Corporations (MNC):

- Several leading MNCs have established themselves in India over the years owing to Globalization and a vibrant economy with high growth potential.
- Corporate profits have risen sharply as well, this rise has come at the cost of wages and small and medium enterprises.
- The tax administrations globally have not been able to tax these MNCs commensurate of their economic windfall.

Taxation predicament:

- Under the traditional rule, the source state has the right to tax business profits of a foreign company only if the company carries on business activities in the source state through a 'Permanent Establishment', which requires physical or representative presence.
- With the coming of the digital era, companies operating in the digital sphere do not necessarily need to be physically present in the source state.
- Countries are now considering if there is a need to re-conceptualize the traditional resident based definition to provide for a virtual or digital economic presence.

- Digital taxation has to be built around the UN Model Convention, to ensure that MNCs do not skirt the taxation laws and accumulate wealth via tax avoidance.
- Canada has revealed its plans to levy taxes on foreign technology companies to augment the Government's income.
- India needs to evolve its taxation system in synch with OECD principles, to make curb large scale tax avoidance by MNCs.

Low share of direct tax revenues:

- Advanced countries collect a substantially higher proportion of their taxes as direct taxes than do emerging markets. This proportion has also risen over time. Today direct taxes account on average for about 70 per cent of total taxes in Europe
- However, in contrast, India has the lowest share of direct taxes in total taxes in comparison to other countries at a comparable stage of development.
- However, unlike in other countries its reliance on direct taxes seems to be declining, a trend that would further consolidate with GST system.

GST system:

- The Goods and Services Tax (GST) though well conceived has been witness to poor implementation. This has led to poor revenue realization and teething problems in the functioning of the system.

Tax terrorism:

- The Vodafone case where India resorted to retrospective legislation was considered a departure from fairness principle by the International Court of Arbitration.

Recent measures taken by the government:

- The Akhilesh Ranjan Task Force was set up to reform the Income Tax Act.
- In the Indian scenario, the non-resident e-commerce operators were brought within the ambit of equalization levy through the Finance Act 2000. Online sale of goods and services will be taxed at 2%.

Way ahead:

- Taxation is not just a vehicle for raising state revenue. It can also be critically important for economic and political development.

Direct Tax reforms:

- The IT Act of 1961 needs a facelift, it needs to resonate with the changing times and be able to meet the challenges of today and tomorrow.
- The step towards tax reforms will have to begin with rejigging the archaic laws and mechanisms to ensure that the taxation system is truly progressive in nature.

- The direct tax requires mechanisms like faceless assessments and faceless appeals, along with an improved dispute resolution mechanism with emphasis on mediation and conciliation.

Indirect taxes:

- The Goods and Services Tax (GST) mandates any reduction in tax rates has to be passed onto the consumers.
- Companies benefitting from a cut in tax rates must ensure that it is passed on to the customer, the Anti-Profiteering Rules have been made use of to ensure there is a pass-on.
- The Anti-Profiteering Authority must be on a strict vigil to ensure the MNCs follow the Anti-Profiteering rules.

Indian Economy and Infrastructure

6. CCEA nod for 3 infra projects

- » Prelims: CCEA
- » Mains: Significance of industrial corridors in economic growth and development

Context:

- The Cabinet Committee on Economic Affairs (CCEA) approved three infrastructure proposals.

Details:

- The proposals are for setting up Greenfield industrial cities with connectivity to major transportation corridors such as the eastern and western dedicated freight corridors, expressways and national highways.
- The three projects, proposed by the Department of Promotion of Industry and Internal Trade, include:
 - * Construction of various trunk infrastructure components for the Krishnapatnam Industrial Area in Andhra Pradesh.
 - * The Tumakuru Industrial Area in Karnataka.
 - * A multi-modal logistics hub (MMLH) and multi-modal transport hub (MMTH) at Greater Noida in Uttar Pradesh. It will be developed as a world-class facility that will provide efficient storage/transitioning of goods to/from dedicated freight corridors, and offer a one-stop destination to freight companies and customers.

Industrial Corridor Programme:

- The objective of the Industrial Corridor Programme is the creation of Greenfield industrial cities with sustainable, 'plug n play', ICT enabled utilities to facilitate manufacturing investments into the country.

- Industrial Corridor programme was launched with the aim of development of futuristic industrial cities and the creation of employment opportunities. These projects would generate ample employment opportunities through industrialisation.

Indian Economy and Infrastructure

7. Govt. plans \$60-bn investment to bolster gas infrastructure

- » Prelims: Share of Natural gas in energy mix of India
- » Mains: Benefits of a gas based economy

Context:

- Petroleum Minister Statement on the government plans for the gas sector.

Details:

- Petroleum Minister has stated that the government has planned a \$60-billion investment for creating gas infrastructure in the country till 2024, including for pipelines, LNG terminals and CGD (city gas distribution) networks.
- The Centre aims to increase gas's share in the Indian energy mix by 6% to 15% by 2030.
- The coverage of city gas distribution (CGD) projects is being expanded to 232 geographical areas spread over 400 districts. This would have the potential to cover about 53% of the country's geography and 70% of the population.

Steps taken:

- India's first automated national-level gas trading platform was unveiled in June 2020 to promote and sustain an efficient and robust gas market and foster gas trading in the country.

Indian Economy and Infrastructure

8. Gujarat to get 30,000 MW renewable energy park

- » Prelims: Indian states potential for renewable energy, desalination process
- » Mains: Significance of increasing share of renewable energy in India's energy mix and government initiatives in this direction

What's in News?

- Prime Minister of India will lay the foundation stone for what is being billed as the world's largest hybrid renewable energy park in Gujarat's Kutch district.
- The park will generate 30,000 MW power through solar panels and windmills on 72,600 hectares along the India-Pakistan border.

- The park will have dedicated zones for wind and solar energy storage as well as an exclusive zone for wind park activities.
- It is being set up by the Gujarat government with the participation of private players such as the Adani Group (country's largest renewable power generator), and Suzlon (a dominant player in wind energy).

Additional Information:

Desalination plant at Mandvi, Kutch:

- To meet the growing demand for water, Gujarat has turned to harnessing its vast coastline, taking steps to transform seawater to potable drinking water with the upcoming desalination plant at Mandvi, Kutch.
- The plant, will have a capacity of 10 crore litres a day (100 MLD).
- It would strengthen water security in Gujarat by complementing the Narmada Grid, the Sauni network and the treated waste-water infrastructure.
- This is one of the five desalination plants the government plans to set up along the coastal regions of Kutch and Saurashtra.

Indian Economy and Infrastructure

9. Submarine Optical Fibre Cable Connectivity

- » Prelims: Optical fibre cable operation, Lakshadweep island geography related questions
- » Mains: Significance of digital connectivity to islands

Context:

- The Union Cabinet has given its approval for Provision of Submarine Optical Fibre Cable connectivity between Mainland (Kochi) and Lakshadweep Islands (KLI Project).

Background:

- Presently the only medium of providing telecom connectivity to Lakshadweep is through satellites, but the bandwidth available is limited to 1 Gbps.
- Lack of bandwidth is a major constraint in providing data services, which is a pre-requisite for providing e-governance, e-education, e-banking etc. for inclusive growth of society.

Details:

- The Project envisages provision of a direct communication link through a dedicated submarine Optical Fibre Cable (OFC) between Kochi and 11 Islands of Lakshadweep viz. Kavaratti, Kalpeni, Agati, Amini, Androth, Minicoy, Bangaram, Bitra, Chetlat, Kiltan and Kadmat.

- * Submarine Optical Fibre Cable (OFC) is a cable laid on the sea bed between land-based stations to carry telecommunication signals across stretches of ocean and sea.

- The project has been set a deadline of May 2023. The estimated cost of implementation is about Rs. 1072 crore including operational expenses for 5 years. The Project would be funded by the Universal Service Obligation Fund.
- The Lakshadweep Islands have the potential to become a hub of logistic services.

Significance:

Enhanced digital connectivity:

- The present approval for Provision of Submarine Optical Fibre Cable Connectivity will vastly improve telecommunication facility in the Lakshadweep Islands by providing large bandwidth.
- It will provide high-speed broadband connections in the union territory at par with services in the mainland.
- The internet bills in Lakshadweep will also come down substantially.

Impetus to development process:

- The growth of telecom infrastructure is closely linked with economic and social development.
- * Project will give a big boost to the local economy. Telecommunication connectivity plays a vital role in employment. It will help in the establishment of numerous businesses, augment e-commerce activities. Business Process Outsourcing services and other medium and large enterprises too also benefit from better connectivity. Small enterprises will benefit from opportunities in e-commerce.
- * It can lead to educational development in term of tele-education and in health care in terms of telemedicine facilities. The educational institutions will utilise the enhanced availability of bandwidth for e-learning and knowledge sharing.

Support e-governance services:

- The submarine connectivity project will have a vital role for the delivery of e-Governance services at the doorstep of citizens.
- High bandwidth communication facility to the Lakshadweep Islands is in consonance with realizing the national objective of strengthening e-governance services and achieving the vision of Digital India.

Additional Information:

- Currently 99% of the data traffic that is crossing oceans is carried by undersea cables.
- The total carrying capacity of submarine cables is in the terabits per second, which is much higher

than that possible through satellites. Submarine optical fibre networks also exhibit lower latency as compared to satellite communications.

Indian Economy and Infrastructure

10. Electricity (Rights of Consumers) Rules, 2020

- » Prelims: Related SDG goals, related government schemes.
- » Mains: Salient provisions of the electricity rules, their significance and shortcomings with respect to the new rules.

Context:

- Union Ministry of Power has promulgated rules laying down the rights of power consumers in the country.

Background:

Inequitable progress:

- The Sustainable Development Goal 7 calls for universal access to sustainable energy by 2030. India has been performing well on this front by achieving near-universal electrification, with only a few hundred households still in need of an electricity connection.
- Providing access to electricity for such a huge population is an achievement taking into consideration India's geographical size and diversity of terrain.
- However, ensuring round the clock supply still remains a challenge. People in several states do not have access to quality power supply, this is largely witnessed among rural and small electricity consumers.

Details:

- The rules cover several key areas of power supply to consumers in the country, such as obligations of distribution licensees, metering arrangements, the release of new connections and modifications of existing connections and grievance redressal and compensation mechanisms.
- The major provisions include the following:

Rights of consumers:

- It is the right of consumer to have minimum standards of service for supply of electricity from the distribution licensee. The rules provide for the following rights of electricity consumers.
- The distribution licensee shall supply 24x7 power to all consumers. However, the commission may specify lower hours of supply for some categories of consumers like agriculture.
 - * This relaxation has been allowed since pumps do not need to be run 24x7 for supplying water to fields.

- The rules stated it is the duty of every distribution licensee to supply electricity on request made by an owner or occupier of any premises in line with the provisions of the Act.

- * A new connection has to be given within a maximum time period of seven days in metro cities, 15 days in other municipal areas, and 30 days in rural areas.

Compensation mechanism:

- An automatic compensation mechanism will be put in place. It will include compensation for delay in providing new connections beyond a particular duration and certain number of interruptions in supply, which will be specified by the regulatory commission.

Consumer as prosumer:

- While the prosumers will maintain consumer status and have the same rights as the general consumer, they will also have right to set up Renewable Energy (RE) generation unit including roof top solar photovoltaic (PV) systems – either by himself or through a service provider.
 - * A prosumer is an individual who both consumes and produces.

Consumer grievance redressal:

- The consumer grievance redressal has been made easy by making it multi-layered and the numbers of consumer representatives have been increased from one to four.
- Maximum timeline of 45 days is specified for grievance redressal.

Significance:

Setting standards of performance:

- The Rules give prominence to national minimum standards for the performance parameters of electricity distribution companies (DISCOMs), without urban-rural distinction, especially for new connections, metering and billing.
- Compensation amount to be paid to the consumers by the distribution licensees for violation of standards of performance.

Empower the consumers:

- The recent enactment of the Electricity (Rights of Consumers) Rules, 2020 has brought the focus on to the consumer, it is claimed that the new rules would truly empower the consumers.
- The Electricity (Rights of Consumers) Rules, 2020 rules aims to “empower” consumers with rights that would permit them to access a continuous supply of quality, reliable electricity.
- This has been done as the government states that the discoms are monopolies (whether public or private) and the consumer has no alternative.

Increased reliability of supply:

- The provisions with respect to 24*7 power supply and timely completion of new supply lines will ensure better reliability of supply for the end consumers.

Increase accountability:

- The reason behind not being able to provide quality supply across the states is largely due to the absence of an accountability mechanism to enforce the existing rules. The draft National Tariff Policy, the proposed Electricity Act amendments, or various committee processes have all failed to address the issue of accountability.
- In order to increase compliance, the government will be imposing penalties and it will be credited to the consumer's account. Hence the rules would make the discoms more accountable.

Limitations/concerns regarding the Rules:**Federal provisions with respect to electricity sector:**

- Electricity sector in India falls under the Concurrent List of the Constitution and is administered both by the central and the state governments.
- The Concurrent List provides for supremacy to central legislation, and therefore in any conflict between a central act and the provisions of state legislation, the law made by the Parliament would prevail and the inconsistent provisions of the state legislation would be void.
- It needs to be recognised that providing quality supply is primarily the responsibility of States and DISCOMs.
- There are states which have similar or upgraded provisions through their respective State Electricity Regulatory Commissions (SERCs) guidelines with Standards of Performance (SoP) regulations and such regulations have been in place for two decades in most States, thus providing a smooth functioning.
- The new rules might lead to unnecessary confusion.

Doubts on implementability:

- The rules promise a 24-hour power supply, which may appear to be more than what some of the State regulations currently provide for. According to government reports, rural areas received about 20 hours of supply, in August 2020.
- There are also doubts on the efficacy of automatic compensation payments towards such a guarantee. The doubts largely stem from the fact that the availability of power supply is inadequately monitored, even at the 11 kV feeders. Therefore, recording the same at the location of the consumer cannot be guaranteed.

Doubts on the efficacy:

- The rules reiterate the need for automatically compensating consumers, but the jury is still out if the rules can enhance the quality of the power supply.
- Ensuring such compensation will require serious commitment as following existing regulations, would entail compensation of hundreds of crores. This might not augur well for the already financially struggling DISCOMs.
- Also the resourceful few who could escalate their complaints to higher levels would only be able to claim compensation

Weakened provisions:

- The new Rules appear to water down some of the progressive mechanisms that already exist in some of the State regulations.
 - * Example with respect to electricity meter-related complaints, the new Rules provides a window of 30 days within which the complaints regarding faulty meters should be addressed. This provision pales in front of certain state regulations which were enacted years ago in the states of Andhra Pradesh, Bihar, and Madhya Pradesh, which provide for such testing needs to be conducted within a span of seven days.
 - * With respect to the proposed composition of the Consumer Grievance Redressal Forum, the new Rules state that the forum set up to remedy complaints against DISCOMs as per existing laws and regulations should be headed by a senior officer of the company, this appears to be a regressive provision and there is an element of conflict of interest as there is a likelihood of more cases being decided in favour of the companies than the consumers. The regulations of Delhi have a defined eligibility criterion that prohibits a person who has served a DISCOM as an employee and who was in service in the last two years, to be appointed as a forum member. States such as Maharashtra, Telangana and Bihar, among others, have the option of appointing a retired senior judicial officer or other independent members as the chairperson. The states seem to have a better mechanism to oversee the appointment of the chairperson of the Consumer Grievance Redressal Forum than what the Rules provide for.

Provisions relating to solar rooftop units:

- The new Rules do not promote progressive reforms as well, with the promotion of solar rooftop units by the government, there is a guarantee of net metering for a solar rooftop unit less than 10 kW, but there is no clarity if those

above 10 kW can also avail net metering. This could lead to a change in regulations in many states based on their own interpretations.

- The possible litigation could impede investment flow to rooftop solar units and would dissuade medium and large consumers to opt for an environment-friendly, cost-effective option.

Way forward:

Periodic assessment by SERCs:

- In the absence of a strong accountability provision, the consumer protection rules will not ensure better power supply quality.
- The central government can ensure accountability by nudging the SERCs to examine the SoP reports of DISCOMs and revise their regulations more frequently.

Close co-ordination with end consumers:

- Also, the SERCs should conduct meetings with the consumers helping them raise their concerns. This would allow the regulators to better understand the consumer needs.

Increasing transparency:

- The Central Electricity Authority (CEA) of India could be directed to collect and supply quality data from DISCOMs, publicly host them on online portals and prepare analysis reports. Such efforts need to go beyond the quality of information that is currently hosted on portals such as the National Power Portal.

Emphasizing on automated monitoring:

- DISCOMs could be directed to ensure automatic metering at least at the 11 kV feeder level, this will help in adequate monitoring of power supply.

Incentive measures:

- Central agencies could support independent surveys and nudge State agencies to enforce existing SoP regulations. The central government could disburse funds for financial assistance programmes based on audited SoP reports.

Conclusion:

- The governments, DISCOMs and regulators will have to work together. They should demonstrate the commitment and will power to implement existing regulations to truly empower consumers.

Indian Economy and Infrastructure

11. The draft Indian Ports Bill, 2020

- » Prelims: Major ports of India
- » Mains: Key features of the bill and the significance of the provisions

Context:

- Ministry of Ports, Shipping and Waterways circulated the draft of Indian Ports Bill 2020 for public consultation which will repeal and replace the Indian Ports Act, 1908.

Key Features:

- It seeks to enable the structured growth and sustainable development of ports to attract investments in the Port sector
- The proposed Bill will provide measures to facilitate conservation of ports, taking into account the prevalent situation with respect to the high number of non-operational ports.
- It shall ensure greater investment in the Indian maritime and ports sector through the creation of improved, comprehensive regulatory frameworks for the creation of new ports and management of existing ports.

Significance:

- The proposed Bill would ensure safety, security, pollution control, performance standards and sustainability of Ports.
- The Bill ensures that all up-to-date conventions protocols to which India is a party, are also suitably incorporated.
- This will promote marine safety and security in the true sense.
- The Bill will fill up the gaps for achieving scientific development of Ports and Port Network.
- Enhancing "Ease of Doing Business", it will provide greater impetus to a self-reliant domestic investment climate in the maritime sector, towards Atamanirbhar Bharat initiatives of the Government.

Inclusive growth and issues arising from it

12. The tightrope between production and industrial peace

- » Prelims: Factory act 1948 provisions, Four labour codes
- » Mains: Reasons for recurring industrial disputes, their impact on India and the need for reforms

Context:

- Workers at Wistron Corporation's manufacturing facility near Bengaluru went on a rampage over non-payment of their wages.

What triggered the incident?

- Non-payment, or only partial payment, hold up in wage and flouting of labour laws have been cited as reasons for the incident.

- * Wistron management has admitted that some of its workers were not paid “correctly” and in some cases “not on time”.
- The industries are known to be consistently evading labour laws, some of the prevalent practices such as non-issuance of the wage contract, and employing women workers in night shift without providing adequate safety are not uncommon.
- The factory began production this year and is known to have employed about 2,000 permanent workers and 7,000 contract workers, unsurprisingly The factory does not have a labour union.
- The Wistron management has acknowledged its wrongdoings and fired its vice-president for its India operations for the lapses.
- Apple Corporation has condemned the violations of statutory laws and has reportedly put further business on hold until Wistron addresses the labour dispute.

The response from the Government:

- The central and state governments have unequivocally deplored the violent incident.
- The governments have been involved in damage control as the incident has the potential to tarnish India's image in the global arena.
- India has been very active in its promotion of India as a favourable FDI destination in a bid to attract more FDI, especially under its production-linked incentive (PLI) scheme to boost domestic investment in mobile phone manufacturing.
- * The Wistron project showcased the government's success in attracting foreign direct investment and promoting Atmanirbhar Bharat, the vision of making India self-reliant.

Reasons for such Industrial Disputes in the recent past in India:

- Serious lapses in labour practices such as non-payment of wages, providing bonus on time; this has time and again brought the management and the workers into a confrontation.
- Wilful violation of labour standards and protocols.
- Abdication and evasion of responsibilities by either shifting the onus on sub-contracting firms or keeping the grievance in silent mode.
- Lack of an effective grievance redressal system in the manufacturing units has meant that the issues and concerns expressed by the working class have not been addressed or properly dealt with.
- Poor working conditions and harsh work environment take a toll on the workers' physical and mental health.

- The apathetic attitude of employers towards the workers – the relationship needs to have empathy and compassion and needs to move away from the master-slave equation.

Impact of such Industrial Disputes:

- Affects future FDI prospects; the investment climate gets vitiated with such disputes forcing the potential investors to look elsewhere.
- Lowers the image of the country and might impact the ease of doing business ranking and thereby the investment prospects. The Ease of doing business released by the World Bank has India at 63rd position.
- The increased trust deficit between employers and employees leading to further unrest.
- Impacts the production of goods and services in the economy leading to demand-supply mismatch and might lead to inflationary tendencies.
- Lowers the code of conduct and rule of law.

Concerns:

- This embargo is one of the biggest expressions of industrial unrest in India in recent years.
- The rampage at the factory has raised concerns over the rights of industrial workers and some of the pressure tactics followed by industries.
- The labour laws have come under intense scrutiny in the aftermath of the incident along with the legislations that have been passed by a number of state governments disregarding labour interests.

Dilution in labour laws:

- The bleak picture of the economy amidst the pandemic and the lockdown has prompted a few State governments to hurriedly draft legislation and ordinances that dilute the labour laws to make it look business-friendly.
- The state governments sensed the opportunity to attract businesses that were vacating China and were looking elsewhere to establish their presence. The COVID-19 pandemic and rising geopolitical tensions have had a negative impact on China's image.
- However, in an attempt to attract foreign investment, state governments have effectively deviated from the national labour law framework by diluting them.
- The State governments promulgated ordinance to dilute the major labour laws including the Factories Act 1948. The Act regulates the following:
 - * ordinary working day's length,
 - * overtime wages,

- * hours of work,
- * the timing of shifts,
- * safety, and health issues.
- The ILO recently criticized Uttar Pradesh government which chose to suspend the labour laws for the next three years.

Indian labour laws:

- India's labour laws are known to archaic, multifarious in nature, close to 47 central laws and 200 State laws, mostly applicable to organised sector, attempts have been made to streamline and consolidate them
- In 2019, the government consolidated 29 central laws into four labour codes and introduced bills in Parliament.
- The codes concern:
 - * industrial relations;
 - * occupational safety,
 - * health and working conditions;
 - * social security, and wages.
- The Code on Wages Bill, 2019 was passed last year and the remaining three in September 2020, but without adequate consultation with the stakeholders and legislative scrutiny.

Industrial income:

- The average estimation of daily earnings of casual workers in urban India in 2018-19, as per the official Periodic Labour Force Survey, are Rs. 256 (or Rs.6,400 a month for 25 days of work).
- It is clearly under the official living wage as defined by the Seventh Pay Commission for central government employees.
- Industrial workers have consistently volunteered to work longer hours to enhance their income.

Solutions:

- Enforcement of labour laws for employees' benefit will make India an even more attractive and contrasting alternative to China where labour exploitation is widely prevalent.
- With global firms under pressure to exhibit higher standards in environmental compliance, social and corporate governance, India also needs to up its game on enforcing compliance with the laws of the land and treating labour-employer disputes in a fair and equitable manner.
- It may be a good time for the government to rekindle a tripartite dialogue mechanism with trade unions and employers like the erstwhile Indian Labour Conference, not held since 2015.
- Improve the avenues for workers to channelize their grievances.

- Industries to bring in ethical 'code of conduct' in tune with the welfare of workers and keep a strong monitoring system for the same.

Conclusion:

- With the country on the cusp of a new labour law regime being marketed as a business-friendly regimen, misgivings about their provisions or unresponsive systems for employees' grievances can only foment more such unrest.
- Inequitable labour-capital relations could hit India's investment destination credo and thus India should move towards a more holistic approach through dialogue and new labour laws to protect the rights of workers to avoid any such incidents in the future.

Agricultural sector in India

13. Farm subsidies

- » Prelims: MSP, WTO provisions with respect to agricultural subsidies
- » Mains: Challenges facing Indian agricultural sectors, issues related to farm subsidies.

Context:

- In the on-going debates around the three agricultural laws and the farmers' demand for the continuation of minimum support prices (MSP), questions have often been raised whether the government should be using the taxpayers' money to provide subsidies to the farming community in this country.
- The article discusses the exchequer-farm subsidies issue and the questions being raised on the expenditure on farm subsidies.

Why have successive governments used the exchequer to provide farm subsidies?

Economically weak farmers:

- India has notified the World Trade Organization (WTO) that 99.43% of its farmers are low income or resource-poor. According to the agricultural census conducted in 2015-16, these are the farmers whose holdings are 10 hectares or less.
- Thus, according to the Government of India, almost the entire farm sector comprises economically weak farmers and thus the need to support these farmers through appropriate subsidies.

Disguised unemployment issue:

- In 1950-51, agriculture's share in the country's GDP was 45%, the share of the workforce dependent on the sector was close to 70%.
- Seven decades later, agriculture's share in GDP is below 16%, but almost 50% of the country's workforce depends on this sector.

Low investment:

- The share of agricultural sector in the total investment undertaken in the country consistently fell from about 18% in the 1950s to just above 11% in the 1980s. In the subsequent decades, the situation has got far worse with agriculture's share not even reaching double digits.
- Growing inefficiencies due to lack of meaningful investment in agriculture has adversely affected the sector and has also triggered erosion of farm incomes.

Adverse terms of trade:

- Agriculture has been facing adverse terms of trade over extended periods since the 1980s.
- Farming communities have almost consistently faced adverse terms of trade vis-à-vis non-farmers. The price discovery for their produce has been low, with reports of the farmers realizing only 15% of the price being paid by the final consumer.
- The regulation on marketing of agricultural produce, lack of proper infrastructure for storage has led to the farmers resorting to distress sales at times.

Low agricultural yield:

- A comparison of the yields of the major crops in India with those of other countries confirms the gloomy state of agriculture in the country.
 - * If one ranks countries in terms of their yields in wheat and rice — India's two major crops — the country's ranks were 45 and 59 respectively, in 2019.
 - * This ranking would go down sharply if the areas recording high yields, such as Punjab and Haryana, are excluded.
- For farmers in most regions of the country, it is an uphill battle for survival amid low yields.

Marketing system:

- The market has always been the farmers' biggest rival, making it impossible for them to realise remunerative prices for their produce.
- The existing marketing system dominated by the Agricultural Produce Market Committees has long been proved to be against the interests of the small farmers.

How large is India's spending on farm subsidies as compared to those of other countries?

- The two major providers of farm subsidies, namely, the U.S. and the members of the European Union (EU) gave much larger magnitudes of support than India did.

Issue with farm subsidies:**Poor value addition from subsidy:**

- Despite spending a large amount in the form of farm subsidies to farmers in India, the ratios of subsidies to agricultural value addition is a better yardstick to measure the effectiveness of the expenditure has been poor.

- * For 2017, India's farm subsidies were 12.4% of agricultural value addition, while for the U.S. and the EU, the figures were 90.8% and 45.3%, respectively.

Undesirable outcomes:

- Distribution of subsidies without a proper policy framework has distorted the structure of production and, consequently, undesirable outcomes in terms of excessive food stockpiling.
- The subsidy structure in the form of MSP for rice and wheat has tilted the production towards foodgrain production, while neglecting pulses and other crops.

Lack of a coherent policy:

- The lack of a coherent policy for agriculture is seen as the most remarkable failures of the governments in post-Independence India.
- The magnitude of this failure can be better understood if one considers the fact that the United States, with less than 2% of its workforce engaged in agriculture, has been enacting farm legislations every four years since 1933. Similarly, members of the European Common Market adopted their Common Agricultural Policy in 1962, only a few years after establishing the institution.
- These policies comprehensively address the needs of the farm sector through proactive support from the respective governments.
- Instead of engaging with the farming communities for putting in place a comprehensive set of policies, successive governments have chosen to dole out subsidies in order to ensure domestic food security and protect rural livelihoods.
- The government dole out is a price that India is paying for the failure of the policymakers to comprehensively address the problems of the farm sector.

Way forward:

- There is a need to step up investment in agriculture, which will not only ensure more efficient use of farm resources but also is a crucial step towards improving farm incomes.
- A comprehensive agricultural policy must also provide for the setting up of farmer-friendly institutions in order to improve the economic viability of the sector. Complex problems facing Indian agriculture need an agricultural policy that addresses the challenges facing this sector in a comprehensive manner.

- India must strive to increase the ratios of subsidies granted to the agricultural value addition.

Agricultural sector in India

14. The Indian agriculture acts of 2020

- » Prelims: APMC act, Provisions of the new agricultural acts.
- » Mains: Arguments in favour of and against the new agricultural acts.

Context:

- The protests against the Farm Acts of 2020.

Background:

- The Indian agriculture acts of 2020, often referred to as the Farm acts are three acts initiated by the Parliament of India in September 2020. After having been approved by the Lok Sabha and the Rajya Sabha, The President of India gave his assent to the bills in September 2020.
- The three laws aim to change the way agricultural produce is marketed, sold and stored across the country. They are mostly focussed on the forward linkages to the agricultural sector.
- The following are the three acts passed:
 - * Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020.
 - * Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act, 2020.
 - * Essential Commodities (Amendment) Act, 2020.
- The current article will analyze the Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020.

The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020:

- The act aims at opening up agricultural sale and marketing outside the notified Agricultural Produce Market Committee (APMC) mandis for farmers, removes barriers to inter-State trade and provides a framework for electronic trading of agricultural produce. It expands the scope of trade areas of farmers' produce from select areas to "any place of production, collection, aggregation".
- It prohibits state governments from levying any market fee, cess, or levy on farmers, traders, and electronic trading platforms for the trade of farmers' produce conducted in an 'outside trade area'.
- The act seeks to break the monopoly of government-regulated mandis and allow farmers to sell directly to private buyers.

Current status of APMC mandis:

Low transactions in APMCs:

- The empirical data reveals that for the two most largely grown crops in terms of gross cropped area, paddy and wheat, only 29% and 44% are sold in mandis and almost half of paddy and one-third of wheat is sold to private entities.
- These numbers suggest that a substantial quantity of agricultural-trade is outside the mandis.

Reasons why farmers resort to selling their produce outside mandis:

Physical proximity

- At present, there are 6,630 mandis across the country with an average coverage area of 463 square kilometres.
- This is a far cry from the recommendations of the National Commission on Agriculture, which had recommended that a farmer must ideally be able to reach a mandi in one hour by cart. Hence to achieve this target an average coverage area of a mandi must be brought down to 80 square kilometres. That would require opening up of more mandis and not phasing out.

Low marketable surplus

- India's agrarian set-up is dominated by small and marginal farmers who constitute around 85% of the farmers.
- Small and marginal farmers have a low marketable surplus, hence it is not economically viable for them to take their harvest to the mandis. They end up selling to the local village trader, even if it means getting a lower price.

Arguments in favour of the farm acts:

- The acts are being hailed as a watershed moment in the history of Indian agriculture that could initiate a complete transformation of the agriculture.
- The new farm acts are expected to benefit all the stakeholders — farmers, industry and consumers.
 - * The new farm acts would help the small and marginal farmers (86% of total farmers) who don't have means to either bargain for their produce to get a better price.
- The new acts will help in establishing a much more integrated market, creating competition, and enhancing efficiency and effectiveness of the marketing domain of agricultural sector.

Addressing the lacunae of APMC acts:

- The law related to the regulation of Indian agricultural markets like the Agricultural Produce Market Committees (APMC) act had led to

centralization and was thought to be reducing competition and participation, with undue commissions, market fees, and monopoly of associations damaging the agricultural sector.

- The mandis controlled by Agricultural Produce Marketing Committees (APMCs) have established a market condition in which there is only one buyer and this has created an imperfect market condition in rural India.
- The act seeks to break the monopoly of government-regulated mandis and allow farmers to sell directly to private buyers by circumventing the APMCs. The new laws provide full autonomy for farmers to sell their produce.
- The Farm Acts, in theory, seek to project that it will establish a 'Free Market' for farmers' produce with a unified national market, which would provide farmers with the freedom to sell to any buyer. According to the Central Government, the establishment of many private markets would mean the disappearance of middlemen.

Higher price realization for farmers:

- The act is expected to increase the freedom of choice of sale of agri-produce for the farmers and this could help the farmers in getting a better price for their produce because of more choices of markets. This would allow small and marginal farmers to sell their produce at market and competitive prices.
- The act allows for private players to buy the farmers produce even at their farm gates. This will allow the farmers to get better prices through competition and cost cutting on transportation.
- The farmers will be able to get a greater share of the price being paid by the customers, which currently stands at a lowly 15%.
- This would help raise rural incomes and subsequently provide an impetus to the economy at large due to the increased demand from the rural areas.

One India, one agricultural market:

- It is expected to pave the way for the creation of a 'One India, One Agriculture Market' by promoting barrier-free inter-state and intra-state trade with provisions of electronic trading as well. This could help correct the regional disparities in demand and supply of the agricultural produce. This could help farmers of regions with surplus produce to get better prices and consumers of regions with shortages, lower prices.
- It will help end the monopoly of traders by engendering competition among buyers.

Benefits to the consumers:

- Consumers would get quality products at affordable prices.

Arguments against the Farm acts:

- Some of the farmer organizations and others have called the acts corporate-friendly and anti-farmer and have expressed fear that the new acts may hurt the farmers' interests.
- The bills have faced strong protests mainly from Punjab farmers and from opposition parties

Against the spirit of federalism:

- Since agriculture and markets are State subjects – entry 14 and 28 respectively in List II – the acts are being seen as a direct encroachment upon the functions of the States and against the spirit of cooperative federalism enshrined in the Constitution.
- The Centre, however, argued that trade and commerce in food items is part of the concurrent list, thus giving it constitutional propriety.

Fears with respect to MSP system:

- Farmers fear that the new system proposed system will end minimum support price regime. Farmers fear that encouraging tax-free private trade outside the APMC mandis will make these notified markets unviable, which could lead to a reduction in government procurement itself.

* Minimum Support Price (MSP) is a form of market intervention by the Government of India to insure agricultural producers against any sharp fall in farm prices. Guaranteed Government procurement had secured protection of the farmers from demand and supply shock.

- The creation of private mandis will drive agriculture business towards private mandis, ending government markets, intermediary systems and APMCs. In a scenario where more and more trading moves out of the APMCs, these regulated market yards will lose revenues.
- As a result, big corporate houses will overtake markets, thereby procuring farm produce at incidental rates. Critics view the dismantling of the monopoly of the APMCs as a sign of ending the assured procurement of food grains at minimum support prices (MSP). This could lead to the increasing clout of private buyers and could lead to low bargaining powers of the farmers.
- Lack of statutory support in the acts for the MSP is a major point of concern, especially for farmers from Punjab and Haryana, where 65% of wheat (2019) is procured at MSP by the Food Corporation of India and state agencies.
- Critics argue that ensuring a larger number of farmers get the MSP for their produce and straightening kinks in the APMCs, instead of making these State mechanisms redundant is the need of the hour.

General concerns over MSP

- Absence of periodic revision in input and labour costs- The MSP growth rate has not matched the pace of growth in costs of living, this hurts the farming income.
- MSP has not been able to meet the farmers expectations- The Government has not committed to fixing the MSP at 50% above the C2 cost of production.
- Commission on Agricultural Prices has been recommending to the Government that open-ended foodgrain procurement should be phased out. Also, the Shantha Kumar committee has recommended that the government should not procure on a full-fledged basis from all states, and must limit its operation to only a few states.

- The above factors along with the Farm Acts have increased anxiety amongst the farmers who rely on MSP based public procurement. The farmers feel that a lack of commitment to MSP and a signal towards weaker mandis and the emergence of private markets can be a body blow to their incomes.

Effect on state revenues:

- Mandis bring in revenue for state governments. The diversion of agricultural trade towards private mandis could lead to loss of states' revenue.
- Some states are concerned about the loss of revenue from mandi taxes and fees, which currently range from 8.5% in Punjab to less than 1% in some States.

Role played by mandi taxes:

- Proponents of private markets have raised the issue of burdensome mandi taxes. They believe that these taxes reduce the returns for farmers, however, such an understanding is faulty in nature.
- Mandi taxes have been earmarked for reinvestment in market infrastructure improvement. Example – Punjab Mandi Board deploys the revenues collected as market committee fees and a rural development fee to construct rural roads, run medical and veterinary dispensaries, rural electrification, sanitation facilities, etc.

Effect on middlemen:

- Middlemen working with APMC and traders will be affected.

Past examples:

- The deregulation of the sugar industry in 1998, which paved the way for private establishments, did not result in a significant improvement in farmers' productivity or incomes.

- A state-led attempt in Bihar to deregulate the APMCs in 2006 has not resulted in an increase in farmers' income or improved infrastructure.
 - * 18 states have made provisions for the establishment of private markets outside APMC and a similar number of states have facilitated for direct purchase from the farmers.
 - * The above-mentioned attempts to take the agriculture trade outside of mandis and establish private markets haven't exactly picked up momentum.
 - * Private markets have been geographically sporadic and their reach is nowhere near comparable to the mandis.

Cases of fraud:

- 150 farmers from four districts in Madhya Pradesh were allegedly defrauded of over Rs 5 crore by traders. Similar cases have been reported recently from Hoshangabad, Seoni, Gwalior, Guna, Balaghat, Barwani and Jabalpur districts.
- Without strong institutional arrangements, laissez-faire (no economic interventionism) policy may harm lakhs of unorganised small farmers.

Economic viability of private mandis:

- Private markets must have the physical infrastructure for produce collection, aggregating, grading, storage, transportation. It also involves having necessary manpower for the smooth operation of mandis and their associated costs.
- The above factors entice corporate retail chains to see mandis as aggregators and prefer to buy from the mandis in bulk, to circumvent high transaction costs.
- The high transaction costs could act as a hindrance for private investment in markets.
- Also farmers may not be able to secure a higher price for their produce in private markets courtesy of high transaction costs.

Way Forward:**Inevitability of agricultural reforms:**

- The Indian farmer constitutes 40 per cent of the country and an even higher percentage of its poor and as the available data points out is under immense stress.
- Indian economic and social development depends upon the empowerment of the farmers and the rural segment of our population. Thus there is the urgent need for agricultural sector reforms to move beyond the antiquated agricultural policies.

- The Indian farm bills are in line with international precedence where in a number of developing economies have been making changes to their agriculture policies since the 1990s to encourage private sector involvement which would provide a major fillip to the sector.
- The International Monetary Fund has also backed the recent farm acts as being important step in the right direction.
- The Farm acts are a step in the right direction and there is the need to ensure the effective implementation of the same.

Need to address misconceptions:

- An analysis of the recent laws makes it clear that as against the prevalent misconception that the prevailing system of Minimum Support Price (MSP) is being replaced, rather new options were being put forward for the farmers through these farm bills.
- The government has made it clear that procurement at MSP will continue and also that the mandis will not stop functioning. Under the new system, farmers will have the option to sell their produce at other places in addition to the mandis.
- It is worth noting that only 6% of farmers actually sell their crops at MSP rates, according to the 2015 Shanta Kumar Committee's report using National Sample Survey data. None of the laws directly impinges upon the MSP regime.

Reforming the APMCs:

- APMC has to be reformed to overcome some of its age-old maladies, such as high entry fee, internal collusion, merchants cartel. A single point levy market fees and unified national licenses for traders appear as the means to secure the interests of farmers who bring their produce to the mandis.

Reforms with a safety net:

- The move to enlarge the market for agriculture produce is welcome but this should be supplemented by measures that will help preserve the existing 'safety net' mechanisms like MSP and public procurement.
- There should be a rejig in the MSP system, increase its coverage in crops and geographical expanse.

Empowering the farmer:

- Though a farmer will have the freedom to choose where he/she wants to sell but may not have the knowledge to negotiate the best terms with a private company/logistical support to support such trade. The state should work towards empowering the farmers in this direction.

- * The government must create enabling infrastructure to enable the farmers to do barrier-free trading of agricultural commodities. This could involve measures to expand the mandi network and ramping up investment in mandi infrastructure.
- * Educating the farmers with right information on market prices and equipping them with market intelligence would allow the farmers to reap the full benefits of the new acts.

Agricultural sector in India

15. Contract farming act

- » Prelims: Salient provisions regarding the contract farming law
- » Mains: Arguments in favour of and against contract farming

Context:

- The recently passed Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020

Details:

Salient provisions:

- It creates a national framework for contract farming. It provides a legal framework for farmers to enter into written contracts with companies and produce for them.
- The written farming agreement, entered into prior to the production or rearing of any farm produce, lists the terms and conditions for supply, quality, grade, standards and price of farm produce and services.
- It defines a dispute resolution mechanism. The Act provides for a three-level dispute settlement mechanism— Conciliation Board, Sub-Divisional Magistrate and Appellate Authority.

Arguments in favour:

Risk mitigation:

- Contract farming will help small and marginal farmers transfer the risk of market unpredictability from the farmer to the sponsor.
- It reduces the risk of price and marketing costs on the small and marginal farmers.

Better price discovery:

- Contract farming will help the farmers reduce the cost of marketing and improve the income of farmers.
- Farmers will engage in direct marketing thereby eliminating intermediaries resulting in better realization of price.

Scope for increasing farm productivity:

- Contract farming will enable the farmer to access modern technology and better inputs. This would allow the farmers to increase the farm productivity and also reduce input costs.
- * Contract farming agreements between companies and farmers are already operational in crops of particular processing grades (the potatoes used by beverages and snacks giant PepsiCo for its Lay's and Uncle Chipps wafers) or dedicated for exports (gherkins). The processors/exporters in these cases typically not only undertake assured buyback at pre-agreed prices, but also provide farmers seeds/planting material and extension support to ensure that only produce of desired standard is grown.

Impetus to private sector participation:

- The act seeks to encourage private sector participation in procurement and reduce government burden of procuring.
- Contract farming can ensure uninterrupted sources for their production and also secure the purchaser from market price fluctuations.

Legal framework protecting farmer interests:

- The legal framework for contract farming will empower farmers to engage with the contract buyers on a level playing field without any fear of exploitation. The mutually agreed remunerative price framework is envisaged under the act. This provision is touted to protect and empower farmers.
- Sale, lease or mortgage of farmers' land is totally prohibited and farmers' land is also protected against any recovery.
- Farmers have been provided with adequate protection.
- An effective dispute resolution mechanism has been provided with clear timelines for redressal.

Context:**Power differential:**

- The lack of bargaining power of the farmers with big companies is a major concern.
- Critics are apprehensive about formal contractual obligations owing to the unorganised nature of the farm sector and lack of resources for a legal battle with private corporate entities.

Lack of price fixation mechanism:

- The Price Assurance act, while offering protection to farmers against price exploitation, does not prescribe the mechanism for price fixation. There is apprehension that the free hand given to private corporate houses could lead to farmer exploitation.

Challenges to farmers:

- The digital contractual terms are alien to most small and marginal farmers. The lack of experience and capability to deal with this may bring in 'middlemen' into the equation. There is a possibility of hefty legal costs associated with drafting a contract especially when it is with a multinational company to be offloaded on the farmers.
- The inability of the small and marginal farmers to understand the terms of the contract may lead to the exploitation of such farmers.
- The legal language can be vague, open-ended, and tortuous which may lead to further exploitation of farmers. There have been multiple usages of terms like "extraordinary circumstances", "extraordinary price rise", this could probably be the doorway to multiple interpretations leading to disputes.

Conditional trade:

- The Acts permit trade to take place only when the product is of "mutually acceptable quality, grade and standard".
- The quality assessment is carried out by a "third party". This provision doesn't have any precaution against favouritism and prejudice. This "third party" quality assessment is vulnerable to be overpowered by big MNCs and place the farmers at a disadvantage.

Dispute resolution provisions:

- The acts have created ambiguity over who can represent the parties involved in a dispute.
- The act makes the Sub-Divisional Magistrate responsible if there is no explicit provision of a conciliation process in the farming agreement.

Right to appeal:

- The farmers are bereft of a right to appeal a decision given by the Sub-Divisional authority.
- The total absence of a window to appeal is against the spirit of rule of law.

Way forward:**Addressing misconceptions regarding contract farming:**

- There are fears that the contract farming will lead to land loss of the small and marginal farmers to the big corporate. However, adequate protection of land ownership is in place to protect farmer interests.
- The act explicitly prohibits any sponsor firm from acquiring the land of farmers – whether through purchase, lease or mortgage.
- The point to note is that contract cultivation is voluntary in nature and farmers cannot be forced into an agreement.

Addressing concerns:

- The Farm acts are a step in the right direction and there is the need to ensure the effective implementation of the same. The following measures could help address some of the concerns regarding the farm laws.
 - * The method of determining prices, including guaranteed price and additional amount, should be provided in the agreement as annexures. The government must ensure suitable provisions to ensure that the prices are not below the MSP.
 - * In case of prices subjected to variations, the contract agreement must include a guaranteed price to be paid for such produce, and a clear reference linked to the prevailing prices or any other suitable benchmark prices for any additional amount over and above the guaranteed price, including bonus or premium.
 - * There should be time bound redressal of grievances.

Agricultural sector in India

16. Only organic farming allowed in Lakshadweep

- » Prelims: Lakshadweep geography
- » Mains: Advantages of organic farming

What's in News?

- With the entire Lakshadweep group of islands being declared an organic agricultural area, the island administration is eyeing an expansion of the traditional business in coconuts and coconut products through value addition, better marketing, and round-the-year processing.

Note:

- Lakshadweep is the first Union Territory to become 100 per cent organic as all farming is carried out without the use of synthetic fertilisers and pesticides, providing access to safer food choices and making agriculture a more environment-friendly activity.
- The Ministry of Agriculture has declared the island as organic.
- In September 2020, Lakshadweep administration formally declared that its entire farming community was practising organic agriculture and using organic inputs such as compost, poultry manure, green leaf manure. The UT was following organic or biological methods for plant protection as well.
- Under the union government's 'One District One Product' programme of food processing, the entire island is being considered as a single district and coconut oil has been identified as the product.

- Ensuring the quality of the raw material through the declaration of the islands as an organic agricultural area and augmented processing facilities and marketing support will go a long way in giving a boost to the business.

Industrial Growth

17. MPs' panel report on Auto sector

- » Prelims: BS emission standards
- » Mains: Significance of auto sector in India, reasons for the downturn.

Context:

- The Parliamentary Standing Committee on Industry has submitted its report 'Downturn in Automobile Sector – Its Impact and Measures for Revival'.

Details:

- The committee has stressed that the government's responses were so far short of addressing the auto industry's concerns as the measures were aimed at boosting only the supply side of the economy.
- The committee has asked the government to announce a stimulus package focused on generating demand.

Suggestions:

- The panel has asked for GST rates levied on automobiles to be rationalised from the present 28% tax rate with an additional compensation cess ranging from 1-22% to 18%. This is intended to spur demand for new vehicles. The committee pointed out that the cost of BS-VI vehicles was expected to be 10-15% higher due to upgraded technology, and this could be mitigated by reducing the GST rate.
- The panel also suggested that the government request the Supreme Court to allow sales of BS-IV vehicles that couldn't be sold due to the pandemic and lockdown.
 - * The Supreme Court of India banned the sale and registration of BS-IV compliant motor vehicles in India from April 2020 signifying the shift from BS-IV emission norms to BS-VI. Currently, all new vehicles sold and registered in India should be compliant with the BS-VI iteration of emission standards.

Recent initiatives:

- The Union Cabinet recently approved a Production Linked Incentive scheme worth Rs. 1.46 lakh crore for 10 sectors to boost domestic manufacturing, create jobs and reduce the dependence on imports. The scheme will be offered to white goods manufacturing, pharma, auto, telecom, textile, food products, solar photovoltaic and cell battery, among others.

- The largest share of Rs. 57,042 crore is for auto and auto components

Industrial Growth

18. PMI shows manufacturing losing steam

- » Prelims: PMI parameters
- » Mains: Industrial growth in India challenges and opportunities

Context:

- The Purchasing Managers' Index (PMI) for India's manufacturing touched 56.3 in November 2020.

Details:

- According to IHS Markit (compiles the index), the numbers signal that even as an improvement in wider industrial activity continues, the sector's expansion, as well as the pace of new orders, has slowed down.
- Employment has further declined as business optimism faded during the month.

Purchasing Managers' Index (PMI):

- The Purchasing Managers' Index (PMI) is an index of the prevailing direction of economic trends in the manufacturing sector.
- It consists of a diffusion index that summarizes whether market conditions, as viewed by purchasing managers, are expanding, staying the same, or contracting.
- The headline PMI is a number from 0 to 100.
 - * A PMI above 50 represents an expansion when compared with the previous month.
 - * A PMI reading under 50 represents a contraction, and a reading at 50 indicates no change.

Governmental schemes/Programmes/initiatives

19. Dak Pay

- Department of Posts (DoP) and India Post Payments Bank (IPPB) unveiled a new digital payment app 'DakPay'
- It was launched as part of its ongoing efforts to provide Digital Financial inclusion
- This innovative service will not only give access to banking services and postal products online but also is a unique concept where one can order and avail postal financial services at doorsteps

India Post Payments Bank (IPPB)

- It has been established under the Department of Posts, Ministry of Communication with 100% equity owned by Government of India.
- The fundamental mandate of India Post

Payments Bank is to remove barriers for the unbanked & under banked and reach the last mile leveraging the Postal network comprising 155,000 Post Offices.

Governmental schemes/Programmes/initiatives

20. Kisan Rail

- Indian Railways has come up with Kisan Rail for the development of a national cold supply chain for the transportation of perishable traffic.
- In the general budget (2019-20) the Finance Minister announced, "Indian Railways will set up 'Kisan Rail' through PPP arrangements. There shall be refrigerated coaches in express and freight trains to build a seamless national cold supply chain for perishables, inclusive of milk and meat".

Details:

- Kisan Rail is a game changer as it ensures fast transportation of agriculture produce across the nation. It has ensured that perishable goods are transported quickly.
- The multi-commodity train service will carry vegetables as well as fruits. Loading and unloading of perishable commodities will be permitted at all enroute stoppages with no bar on size of consignment.
- The Government of India has extended a subsidy of 50% on transportation of fruits and vegetables.

Reports

21. Asian Development Outlook (ADO)

- It is a series of annual economic reports released by the Asian Development Bank.
- The ADO provides a comprehensive analysis of macroeconomic and development issues, for most countries in Asia.

Projections:

- The Asian Development Bank (ADB) upgraded its forecast for the Indian economy, projecting 8% contraction in 2020-21 as compared to 9% estimated earlier
- Highlighting that India was recovering more rapidly than expected, the ADB said the earlier South Asia forecast of 6.8% contraction was upgraded to (-)6.1% in line with an improved projection for India.

Miscellaneous

22. 8th Producing Basin of India

- » Prelims: Sedimentary basins in India

» Mains: Energy security of India

Context:

- Union Minister for Petroleum and Natural Gas dedicates the 8th producing Basin of India, Bengal Basin, to the nation.

Details:

- Oil and Natural Gas Corporation (ONGC) Limited has begun crude oil production from the Asokenagar-1 well, Bengal Basin in 24 Parganas district.
- This has made the Bengal basin India's eighth producing basin.

Sedimentary basins:

- Sedimentary basins are the primary locations on the continents where sufficient subsidence exists for long-term preservation of continental sediments.
- As the sediments are buried, they are subject to increasing pressure and begin the processes of compaction and lithification that transform them into sedimentary rock.
- Sedimentary basins are of great economic importance. Almost all the world's natural gas and petroleum and all of its coal are found in sedimentary rock.

Sedimentary basins in India:

- India has 26 sedimentary basins covering an area of 3.14 million square kilometres. These include 16 on-land basins, 7 part on-land and part offshore and 3 completely offshore basins.
- These basins are divided into three categories based on the maturity of hydrocarbon resources as under:
 - * Category-I: Basins which have reserves and already producing.
 - * Category-II: Basins which have contingent resources pending commercial production
 - * Category-III: Basins which have prospective resources awaiting discovery
- There are 7 Category-I Basins (to which now, the 8th one, Bengal Basin, has been added).
- The 7 basins with commercial production are:
 - * Cambay
 - * Assam Shelf
 - * Mumbai offshore
 - * Krishna – Godavari
 - * Cauvery
 - * Assam Arakan Fold Belt
 - * Rajasthan

Miscellaneous

23. Instant loan apps case

- » Prelims: NBFC, RBI
- » Mains: The threat posed by instant loan apps

Background:

- Legitimate public lending activities can be undertaken by banks, non-banking financial companies (NBFCs) registered with the RBI and other entities who are regulated by state governments under statutory provisions.

Context:

- The Reserve Bank of India (RBI) cautioned consumers against falling prey to unauthorised digital lending platforms and mobile apps that are designed to cause financial frauds.

Details:

- Digital apps make intensive use of popular social media platforms like Facebook, Instagram and (now banned) TikTok to aggressively advertise their services, while also engaging in wide-scale email and SMS marketing campaigns.
- These platforms charge excessive rates of interest and additional hidden charges, adopt unacceptable and high-handed recovery methods and misuse agreements to access data on mobile phones of borrowers.
 - * They offer small loans between Rs 10,000 and Rs 60,000 at exorbitant rates of interests between 60 and 100 per cent
- What is particularly attractive to borrowers about these apps is that they do not require much documentation before sanctioning a loan.

Which are the apps? Who is operating them?

- The police in Telangana and Andhra Pradesh have identified the following mobile apps which are offering instant loans. Cash Mama, Loan Zone, DhanaDhan Loan, Cash Up, Cash bus, Mera Loan, Hey Fish, Monkey cash, Cash Elephant, Water Elephant, QuickCash, Kissht, LoanCloud, InstaRuppee Loan, Flash Ruppee-Cash Loan, MastermelonCashtrain, GetRuppee, ePay Loan, Panda iCredit, EasyLoan, RuppeeClick, OCash, Cashmap, Snapit, RapidRuppee, ReadyCash, Loan Bazaar, Loanbro, Cash Post, Rupeego, Cash Port, RsRush, Pro Fortune Bag, Ruppee Loan, Robocash, CashTM, Udhaar Loan, Credit Free.

How were the victims affected?

- Apart from levying hefty penalties for failure or delay in repayment of loan, the agents use a combination of coercion, blackmail, and threats. After issuing loans to customers from their app for seven days, they divide all the customers into different categories of buckets. On a due date, it is called as D-0 bucket; after the due date from

day 1 to day 3, it is S1 bucket; from day 4 to 10, it is S2 bucket; and from day 11 to 30, it is S3 bucket.

- The treatment of a customer depends on which bucket the customer is in. Immediately after the due date, a customer will be harassed with dozens of calls.
- During S2 bucket, abusive calls will be made to family members. Later, threats and blackmail start. Finally, they access the contacts of relatives and friends of the customers and send them WhatsApp messages defaming the defaulter. Unable to bear the humiliation while two persons have died by suicide, several people lodged police complaints after which Cyberabad Police busted the racket.

RBI Advice:

- Moreover, consumers should never share copies of KYC documents with unidentified persons, unverified/unauthorised apps and should report such incidents to concerned law enforcement agencies.
- It has cautioned individuals and small businesses against falling prey to growing number of unauthorised digital lending platforms and mobile applications on promises of getting loans in quick and hassle-free manner.

Why in News?

- In the past couple of weeks, three persons including a jobless techie and an agriculture extension officer have ended their lives allegedly owing to harassment from representatives of such apps over repayment of loans.



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INTERNATIONAL RELATIONS

International Relations: Relations between India and neighbouring countries

1. India-Bangladesh Ties

- » Mains: Significance of and challenges to India-Bangladesh ties
- » Prelims: Teesta river, Indian states bordering Bangladesh

Context:

- Virtual summit held between India's Prime Minister – Narendra Modi and his Bangladesh counterpart Sheikh Hasina.

Details:

- The Indian Prime Minister has stated India-Bangladesh ties as a major pillar of India's 'neighbourhood first' policy. These comments came at the inauguration of summit-level talks held virtually.
- The PM also emphasized the strengthening of ties with Bangladesh as a priority.
- The Bangladeshi Prime Minister acknowledged the substantial number of Indian nationals working in Bangladesh and called for further enhancing of bilateral economic ties.
- The Bangladeshi Prime Minister also invited the Indian counterpart to Bangladesh for the celebrations of the 50th anniversary of its independence.

Highlights of the summit:

Launch of new railway link:

- The summit also witnessed the remote launch of the rail link between Chilahati (Bangladesh) and Haldibari (West Bengal).
- The Chilahati-Haldibari rail link was last operational in 1965. It has now been reopened. This is the fifth such railway link between the countries.
 - * The increased land connectivity and growing trade has had a positive influence on the India-Bangladesh relationship.

New agreements:

- The two sides also concluded seven agreements covering areas such as hydrocarbon, High Impact Community Development Projects, elephant conservation, solid waste management, agriculture, and terms of reference of the India-Bangladesh CEOs forum.

Proposed joint boundary conference:

- India and Bangladesh officials have agreed to hold an early meeting of the Joint Boundary Conference to prepare a new set of strip maps along the stretch of the Ichhamati, Kalindi, Raimongol and Hariabhanga rivers from Main Pillar 1 to Land Boundary terminus.
- This exercise will help in fixing the international boundary on that stretch.

Challenges in India-Bangladesh relationship

Border issue:

- Despite the friendship remaining solid, the border has been sensitive. At least 25 Bangladeshis were killed in the first six months of 2020 along the border by Indian forces, according to a rights watchdog.
- Human trafficking and smuggling of arms, cattle, drugs through the unfenced borders is a serious security threat for India.
- Illegal migrants from Bangladesh pose socio-economic challenges in the bordering states.

Rohingya Issue:

- Bangladesh wants India to address Rohingya issue by taking the lead in negotiations with Myanmar. This could have a detrimental impact on India's ties.

River water sharing:

- The Teesta water dispute remains unresolved. This has had a drag on taking the relationships to a higher level.
- India and Bangladesh share almost 54 Trans boundary rivers.

China factor:

- China is making deep inroads into Bangladesh by ramping up infrastructure investments (energy projects) and expanding economic cooperation.

Increasing radicalization:

- Bangladesh has continued to face challenges from Islamist factions.
- Recently an Islamist group, Hifazat-e-Islam, organised mass protests against French President Emmanuel Macron and opposed the government's plan to build a statue of the country's founding father, Bangabandhu Mujibur Rahman, in Dhaka's suburbs.
- Groups like HUJI operating out of Bangladesh have been espousing Anti India sentiments.

Irritants in the relation:

- The Citizenship (Amendment) Act and the proposed National Register of Citizens have created a negative impression about India in Bangladesh.

Significance of the relationship

For India:

- Can provide easy connectivity to the landlocked North eastern states.
- Important for security of NE India as co-operation with Bangladesh can help the insurgent groups which otherwise seek refuge in neighbouring countries.
- Partnership can help balance China's growing influence in the region.
- Bangladesh is India's largest trading partner in South Asia. It offers a large market for Indian goods and also an avenue for investment.

For Bangladesh:

- India is a major source of FDI into Bangladesh.
- Receives developmental assistance and line of credits from India.
- Co-operation in power sector
 - * It imports over 1200 MW of electricity from India.
 - * Joint collaboration over Roopur nuclear plant
- Humanitarian aid in times of need

Conclusion:

- It is imperative for India to bolster ties with this all-weather friend, and there may not be a better time to do so than when Bangladesh is to celebrate the golden jubilee of its independence.
- It is a key opportunity for India, which had played a major role in Bangladesh's liberation in 1971, to revive the bonhomie and address the issues adversely affecting the partnership.
- New Delhi should take a broader view of the geopolitical scenario and growing competition in South Asia, and reach out to Dhaka with an open mind.

International Relations: Relations between India and neighbouring countries

2. India – Nepal Ties

- » Mains: Significance of and challenges to India-Nepal bilateral relationship
- » Prelims: Lipulekh and Kalapani, OBOR project

Context:

- India's Foreign Secretary's visit to Kathmandu.

Significance of Indo-Nepalese partnership:

For India:

- Nepal is a part of India's immediate neighbourhood, hence good relations with it are essential for India's interests.
- Energy security for India-Nepal which is endowed with rich hydroelectric power potential can solve the energy issues in the bordering Indian states of Uttar Pradesh and Bihar.
- Nepal could be an avenue for Indian investments and a market for Indian produce.
 - * India's contribution to Nepal's workforce has been steadily increasing, and Indian workers remit close to \$3 billion to India. Nepal is in the top 10 sources of remittances to India. This is one of the factors for the need to have a good relationship with the neighbour, as this remittance is a source of income to many households in India.
- On the strategic front, Nepal can act as a buffer state between India and China. Nepal is described by many foreign policy experts as an 'egg between the two rocks of India and China' due to its geographical location.
- Also with respect to the issues of curbing organized crime like drug trade, human trafficking, Fake currency smuggling and cross border infiltration close co-ordination and co-operation with Nepal is inevitable for India.

For Nepal:

- Energy export to India can help sustain revenues for the nation.
- The Nepalese economy stands to benefit from the flow of investments from India.
- India with a huge market base offers an irresistible opportunity for Nepalese exports like Pashmina products and textiles.
 - * India is Nepal's largest trade partner.
- India could offer an outlet to the land locked nation of Nepal.
- India has been contributing immensely to developmental aid in Nepal through budgetary aids. Indian developmental aid has been instrumental in the development of basic infrastructure in Nepal like roadways, dams etc.
 - * India was at the forefront in the international response to the 2015 Nepal earthquake through its humanitarian aid. India has also extended lines of credit to Nepal.

Challenges in the relationship:

- Despite sharing a common culture and bound by languages, religion, and civilizational contacts, the relationship between the two neighbours has been on the downturn.

Economic blockade (2015):

- The relation has been strained since the 2015 economic blockade, wherein Nepal blamed India of big brother attitude.

Increasing Chinese influence:

- There has been a marked increase in Chinese influence in both the economic and political affairs of Nepal. This does not augur well for Indian interests. The Chinese investments in Nepal have been on the upswing. Nepal has received medium tech weapons from China and has also joined the Chinese OBOR project. These developments could lead to marginalizing of Indian role in Nepal.

Border disputes:

- The new Nepal map claiming the territory of Lipukekh pass and Kalapani territory has become the new flashpoint between the two nations.

Anti India rhetoric:

- The Anti-India rhetoric in Nepalese politics has further strained the relation.
 - * India has become a punching bag for Nepal politicians who have used anti India sentiments for gaining political capital. There have been numerous instances where Nepali political parties and politicians have made political gains by taking an anti-India stance, for it is seen largely as a pro-Nepal stance when an anti-India stance is taken. It's not very uncommon to see parties and politicians making extreme comments on India in the run-up to an election.
 - * India is conveniently used as a part of diversionary tactics by the political class to look away from real, pertinent issues; case in point being amending Nepal map to add new territory amidst a pandemic to divert attention from governance failure in handling the pandemic.

Bilateral initiatives:**Eminent persons group:**

- The Eminent Persons Group was set up to put the relations back on track, for Nepal believed that this group will provide the framework for a positive relationship between the two, whereas India, on the other hand, saw it as one among the several initiatives or administrative mechanisms.
- The group has been dissolved after submitting its report, the contents of which haven't been made public so far.

Way forward:**Focus on people to people linkages:**

- The border that separates India and Nepal is open, allowing for the free and unrestricted movement of people. This derives from tradition and usage.
- The Nepali diaspora in India and Indian workforce in Nepal could act as valuable forces to build the relationship between the two nations.
 - * Nepal, like India, is enjoying a demographic dividend, with close to 75% of the population being less than 35 years old. This provides an opportunity for India to work with this segment of the population by providing higher education possibilities and being a destination for jobs. This will strengthen the relationship between the two countries on a long term basis.
 - * Nepal's share in foreign students in India stands at a healthy 26.8%. The Nepalese citizens educated in India could act as ambassadors of India's goodwill in Nepalese society.
 - * The common religious and cultural practices and shared history need to be emphasized to develop a sense of brotherhood between the citizens of the two nations.

Deepening economic linkages:

- There should be renewed focus on increasing the connectivity between the two neighbours as higher connectivity will lead to higher economic relations and corresponding economic interdependency.
- Existing bilateral projects like the long pending hydroelectric projects need to be finished at the earliest.
- The power trade agreement dealing with cross border electricity connectivity should be implemented at the earliest.

Focusing on developmental aid:

- India has consistently been providing billions of rupees as capital in the form of aid and development projects in the hope that this will bring the two countries closer. However, this has not exactly translated into a healthy, fruitful relationship between the two.
- India's aid will always be compared to what China offers and China has been quite tactful in terms of providing aid for projects that are good for optics and are located in strategic locations.
- India must focus on delivering on developmental projects which will earn it immense goodwill in Nepal.

Need for reset in Ties:

- India needs to move beyond the mentality of the India-Nepal Treaty of Peace and Friendship concluded in 1950. The reset process in the relationship will sustain and gather momentum only if India makes a strategic shift in the way it handles Nepal. India must not get into playing a chess game of seeking pliable regimes in Kathmandu.
- Nepal stands to benefit if it constructively engages with India and respects and deals with India's concerns patiently.

Recent developments in Nepal:

Political instability in Nepal:

- Nepal Prime Minister K.P. Oli's recommendation to dissolve Parliament when the house had two more years, has paved way for a constitutional crisis in Nepal

India's response:

- Unlike China which has intervened in Nepal's politics, India has chosen to be more pragmatic and restrained and is not playing its traditional leading role in Nepal to help mediate out from the deadlock.
- Both Mr. Oli, who has reached out to India after months of the map controversy, and his rival Mr. Dahal, who has been a closer Indian ally during this period, are engaging the Indian government.
- This situation gives India a little more space in which to consider its moves.

International Relations: Relations between India and neighbouring countries

3. India's Neighbourhood First Policy

- » Prelims: Quad, Vande Bharat mission
- » Mains: India's neighbourhood policy and SAGAR initiative

Context:

- Major challenges to India's Neighbourhood First Policy in the year 2020

Challenges faced by India:

- India faced challenges of a different kind in 2020 in its neighbourhood from China:
 - * COVID-19 pandemic
 - » The COVID-19 pandemic has emerged as one of the biggest health challenges worldwide. Though the health impact has been comparatively low as compared to other regions, the economic impact has been intense in South Asia.

- » India stands only below the United States in terms of the number of cases, and the worst-hit economy among G20 nations.

*** Growing competition for influence in South Asia**

- » China has been making inroads in South Asia. China has been able to increase its economic influence in India's neighbouring countries like Nepal, Bangladesh, Myanmar and Sri Lanka.
- » Even in the midst of the pandemic, Pakistan and China managed to sign a new defence pact between the two. This pact comes in at a time when there is a sharp rise in ceasefire violations along the Line of Control (LoC) with Pakistan to the highest levels since 2003.
- » India and Nepal had disagreements over a road to Lipulekh leading to Nepal amending its constitution and map to claim Indian territory. Some experts noted the influence of China in Nepal's actions

*** Aggressive actions at the Line of Actual Control (LAC) by China's People's Liberation Army (PLA).**

- » There have been skirmishes between the two forces along the border. China has been making territorial claims and has been involved in transgressions along its borders with India.
- » China also laid claim to Bhutan's Sakteng natural reserves and pushed along the boundary lines with Nepal, thus provoking India into a confrontation.

India's response:

Tackling the regional COVID-19 challenge:

- India is well placed to aid recovery efforts in the region, as it is known for its expertise in the production of pharmaceuticals and drugs and vaccines.
- India at the virtual summit of eight SAARC nations proposed a COVID-19 package, for which India provided about half of the \$20 million funding for relief.
- India's military ran a series of missions to SAARC countries and the Indian Ocean Region (IOR) with supplies of essential food and medicines.
- India's 'Vande Bharat' mission flew home nationals from neighbouring countries, along with lakhs of Indians who had been stranded

during the lockdown.

Countering China's growing influence:

- India's performance with respect to infrastructure delivery, particularly for regional connectivity in the past year has been commendable, including completing railway lines to Bangladesh and Nepal, riverine projects, ferry service to the Maldives, identifying other services to Sri Lanka and IOR islands, while also considering debt waiver requests from its neighbours.
 - * Infrastructure delivery was one thing that was always held against India, especially when China was delivering projects with better efficiency, but to improve on that aspect has been commendable.
- India has appeared to have undergone a transformation in the context of allowing the other powers in offsetting China's influence in the region — India recently welcomed the U.S.'s new military dialogue with the Maldives. America's Millennium Challenge Corporation's (MCC) projects in Afghanistan, Bhutan, Sri Lanka, Nepal and Bangladesh are also finding more space.
- It is also significant that despite considerable security challenges from China, India has not sought to elicit support from its neighbours, which might have put them in an uncomfortable position.

Leveraging relations to counter China's aggression:

- India has held its ground in the border skirmishes and has been firm on restoring status quo.
- The Indo-Pacific policy has been very inclusive in encouraging its Quad partners — the U.S., Japan and Australia — to collaborate on security and infrastructure initiatives in the neighbourhood.
- India has also been engaging with other partners like the U.K., France and Germany on its Indo-Pacific strategy.

Conclusion:

- The Neighbourhood First and SAGAR (Security and Growth for All in the Region) policies have been at the forefront of India's relationship with its neighbours.
- Apart from the COVID-19 relief and neighbourhood visits, the Indian government has been able to keep a communication channel open with their counterparts in the region.
- India, through its initiatives in the region, has helped create an image of a benign hegemon.

International Relations: India's relations with developed countries

4. India-UK ties

- » Prelims: D10, COVAX project

- » Mains: Significance of and challenges to the India-UK bilateral relationship

Context:

- The transition period of the United Kingdom's exit from the European Union is drawing closer, allowing the U.K to take steps for the post-Brexit era.

Recent diplomatic exchanges:

- During the British Foreign Secretary's visit to New Delhi, the declaration of immediate and long term goals for the India-UK relationship going forward was made.
 - * The need to revise the 2004 India-UK Strategic Partnership to a "Comprehensive" Strategic Partnership was discussed during the British Foreign Secretary's visit. This would entail cooperation and coordination in crucial areas like counter-terrorism, climate change, Indo-Pacific strategies, etc.
- The UK Prime Minister Boris Johnson was scheduled to be the chief guest at India's Republic Day. The Indian Prime Minister has also been invited to the G-7 summit and the UNFCCC Conference of Parties that is scheduled to be held in the UK in 2021.

Significance of bilateral relationship:

Post Brexit scenario:

- One of the major arguments behind Brexit is that the membership of the EU keeps Britain from fully capitalising on trade with other major economies such as Japan, India and the US.
 - * The UK has already taken the initiative to finalise trade pacts with the US, Japan, Vietnam and several other countries.
- Trade and relationship between India and the UK are expected to flourish in the future and cooperation in several areas is expected to happen.
- Also post Brexit UK will seek more role in Indo-Pacific where India is a major player.

COVID-19 vaccine development:

- The immediate coordination and cooperation between the two countries will be seen in the corona vaccine domain. The Serum Institute is set to produce and distribute the Oxford/AstraZeneca vaccine in India and then as a part of COVAX project to other developing countries.

D10:

- Idea of D10 group of nations put forward by the UK to develop 5G technology as a counter to Chinese company Huawei's dominance in the technology.
- India is also a recommended member of this

grouping.

Other factors:

- Large Indian diaspora in the UK.
- Both India and UK support multilateralism

Challenges/concerns in the relations:

Protests against Indian laws:

- There have been several protests at the Indian High Commission in London over India's bilateral issues such as the abrogation of Article 370 or the enactment of the Citizenship Amendment Act and more recently the issue of farmer protests.
- This hasn't gone down well with India and India has expressed its displeasure to the UK government.
- The UK has explained that the vibrant Indian diaspora there play a role in the politics of the UK and thus it is very difficult to completely evade issues happening in India.

Immigration policy:

- The tightening of U.K's immigration policy has led to visa restriction for Indian immigrants. There have been a declining number of Indian students and workers in the UK.
- The totalization agreement has led to a scenario where the India working professionals in UK are required to pay heavy social security taxes.

Deadlock in trade related negotiations:

- The FTA negotiations have been pending with UK wanting reduced tariffs on spirits and luxury cars and India not obliging.

Other issues:

- For a long time now, the relationship has been saddled with the issue of fugitive Indian businessmen in the UK.

Conclusion

- Going forward, India and UK will have to invest adequate diplomatic capital to lay a roadmap for the bilateral relationship in the future.

International Relations: India's relations with developed countries

5. India, U.S. mull over unfinished work

- » Prelims: Foundational agreements between India and US, CAATSA
- » Mains: Significant progress and unfinished agenda between India and the US

Context:

- With exactly a month left in U.S. President Donald Trump's tenure, the U.S. Ambassador to India

began a series of farewell discussions.

Details:

High points of India-U.S. partnership:

- The calls highlighted the achievements of the India-U.S. partnership in the past four years in diplomatic, defence, commercial, energy and health areas.
 - * The growing defence partnership
 - * Enhanced military exchanges bolstered by the signing of four foundational agreements: GSOMIA, LEMOA, COMCASA and BECA.
 - * U.S. grant of the STA-1 Strategic Trade Authorisation to India capped by intelligence sharing and quick procurements during the ongoing standoff between Indian and Chinese troops at the Line of Actual Control (LAC)
 - * The crystallisation of the "Quad" arrangement.
 - * U.S. Congress's amendment to the Countering America's Adversaries Through Sanctions Act (CAATSA), that allowed the U.S. President to waive sanctions on India's purchase of the S-400 missile systems from Russia.

The unfinished business:

- Despite considerable progress in the relationship, talks on waivers for possible CAATSA sanctions, trade negotiations, and nuclear deals are in the category of unfinished business.

Trade negotiations:

- Trade negotiations are another area where India believes the Trump administration failed to deliver.
- Specifically, its failure to reverse the decision to revoke India's Generalised System of Preferences (GSP) since June 2019. Also the differences in the areas of medical devices, dairy and IT products remain unresolved.

Other deals:

- Officials hopeful of a commercial contract being finalised for the decade-old MoU between U.S.-based Westinghouse Electric Company and Nuclear Power Corporation of India Ltd. (NPCIL) to build six reactors in Andhra Pradesh have also not fructified. There has been no progress on this front.
- The deal is yet to go through, indicating lingering concerns over India's civil liability laws.

International Relations: India's relations with developed countries

6. U.S. puts India on 'currency manipulators' monitoring list

- » Prelims: Currency manipulation
- » Mains: Irritants in India-US relations

Context:

- The U.S. Treasury has added India in its Currency Manipulator Watch list.

Details:

- The US Treasury has added India to its Currency Manipulator watch list.
 - * The watch list comprises countries it suspects of taking measures to devalue their currencies against the dollar.
- The U.S. said that India had intervened in the foreign exchange market in a sustained, asymmetric manner but did not meet other requirements to warrant designation as manipulators.
- The watch list has 10 countries. They are Taiwan, Thailand, India, China, Japan, Korea, Germany, Italy, Singapore and Malaysia.

Treasury's criteria:

- To be labelled a currency manipulator by the U.S. Treasury, countries must at least have:
 - * A \$20 billion-plus bilateral trade surplus with the U.S.
 - * Foreign currency intervention exceeding 2% of the gross domestic product.
 - * A global current account surplus exceeding 2% of GDP.

Implications for India:

- The surge of global liquidity added by global central banks have led to strong inflows into emerging economies like India.
- In the past, a sudden appreciation in the rupee had led to disruptive corrections. To prevent this sudden appreciation, the RBI has absorbed a large chunk of forex inflows.
- With India on the watchlist, it could lead to RBI being somewhat guarded on aggressive forex intervention.

Note:

- While India had been included in the watch list in 2018, it was removed in 2019.

International Relations: India's Foreign policy measures**7. New missions in Estonia, Paraguay and Dominican Republic**

- » Prelims: Geographical location of the three nations

- » Mains: India's foreign policy measures

Context:

- Cabinet meeting chaired by Prime Minister has cleared the proposal from the Ministry of External Affairs to open three missions in Estonia, Paraguay and the Dominican Republic in 2021.

Significance:**Expand India's diplomatic reach:**

- The opening of the missions will help expand India's diplomatic footprint and deepen political relations. It would bolster political outreach in multilateral forums.
- It would help garner support for the foreign policy objectives.

Boost to economic relations:

- Enhancement of India's diplomatic presence will provide market access for companies and bolster exports of goods and services.
- It will enable the growth of bilateral trade, investment and economic engagements.

Social aspects:

- It would be instrumental in facilitating stronger people-to-people contacts.
- The move would also help the diaspora members residing in these countries.

Challenges:

- While the government had announced the opening of 18 missions in 2018, not all of them have been established yet.
- Opening of the newly announced missions may be further delayed by the impact of the COVID-19 pandemic.

Note:

- Both Paraguay and the Dominican Republic had set up missions in Delhi in 2006.
- India and Estonia will serve together in the Security Council in 2021.

International Relations: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests**8. The many challenges for WTO**

- » Prelims: Structure of the WTO
- » Mains: Challenges to WTO and the need for reforms

Context:

- Elections to the post of Director-General (D-G) of

the World Trade Organization (WTO).

Challenges for the incoming DG:

- The post-COVID-19 global economic landscape will throw up diverse challenges and the key challenge would be in ensuring that the fallouts of the pandemic do not end up threatening the multilateral trading system.
- The DG will have to expend a lot of time and energy in trying to reconcile the competing multilateral and national visions for the organisation to function smoothly.
- Working towards bringing in reforms that will help revive the global economy will be a huge challenge and it is here the role of the DG and the skills will be tested.

Impact of the pandemic:

- The pandemic could further precipitate the increasing protectionism and barriers to open trade.
- The competing nations and their policies could have a detrimental impact on the WTO functioning.

Competing interests:

Doha Development Agenda

- The Doha Round is the latest round of trade negotiations among the WTO membership.
- It aims to achieve major reforms of the international trading system through the introduction of lower trade barriers and revised trade rules. The work programme covers about 20 areas of trade.
- The Round is also known semi-officially as the Doha Development Agenda as the fundamental objective is to improve the trading prospects of developing countries.
- The Doha Development Agenda has been at the centre of the disagreement between the developed and the developing world.
- The developed countries have tried to hijack the negotiations to bring about a new agenda that includes, amongst others, e-commerce, investment facilitation, MSMEs and gender.

Criteria for being listed as “developing country”:

- Currently, countries can declare themselves as a “Developing country” to avail benefits under the Special and Differential Treatment.
- Developing country status in the WTO brings certain rights. There are, for example, some provisions in the WTO agreements that provide a ‘long rope’ to the developing countries when it comes to complying with the WTO agreements.
- There have been conscious efforts on the part of several developed countries to revise the definition of “developing country” under the

principle of special and differential treatment (S&DT).

- This aim to upgrade certain developing countries will directly impact the status of emerging economies such as India, China, South Africa, Turkey, Egypt, etc.
- The premise behind such logic is that some countries have benefited immensely from the WTO rules since its formation in 1995. This assumption is flawed, like for example in the case of India, even if there may be no consensus of views on measuring ‘development’, India will remain a developing country no matter which parameter is used.
- The possible option for India could be to negotiate a longer phase-out period or an acceptable formula based on development indices, etc.

Need for reforms at the WTO

WTO Appellate body:

- The Appellate Body is an important element of the Dispute Settlement System of the World Trade Organization (WTO), hearing appeals against the findings of the panel established by the Dispute Settlement Body (DSB).
- The Appellate Body (AB) ideally consists of seven members including the Chairman, but in 2019, this body spiralled into a crisis as two out of its three remaining members’ four-year terms came to an end.
- The United States is blocking the appointment of new members to the Appellate Body (AB).
- The US claims that the Appellate Body functions in a manner that is actively unfair and detrimental to its interests.
- Thus reforms are needed to prevent the WTO Appellate body from being held hostage to the choices of one country.

Reverse consensus method:

- It is the consensus-based decision-making currently being followed in the WTO, which enables dissension by even one member to stop the process in its tracks, and gives developing countries some heft and influence at par with developed countries.
- The D-G would need to tread cautiously on this front, as some will allude to the successful implementation of the Trade Facilitation Agreement in 2017 that allowed member countries to make commitments in a phased manner by their domestic preparedness.

Collaboration in the pandemic:

- The COVID-19 crisis has proved that international cooperation and collaboration is essential to tackle major global issues. The COVID-19 pandemic exposed the vulnerabilities of unilateral actions in containing the spread, it

required a large scale global cooperation and understanding to stem the spread of the virus.

- The D-G can help alleviate the impacts of the pandemic by ensuring that supply chains remain free and open, recommending a standard harmonised system with classification for vaccines, and by the withdrawal of import/export restrictions.
- Voluntary sharing and pooling of Intellectual Property Rights (IPR) is an essential requirement to tackle the pandemic at the global scale, but with the fear of vaccine nationalism looming large, several countries are seeking to secure the future supply of leading COVID-19 vaccines.
- D-G has to play a responsible role in removing barriers to intellectual property and securing a legal framework within the WTO TRIPS Agreement. The vaccine development must not be seen solely in a nationalistic manner but in the interests of mankind as outlined by India's Prime Minister.
- Compulsory licensing and agreement of a patent without the authorisation of its owner under certain conditions will have to be enabled by a broad interpretation of articles 8 and 31 of the TRIPS.

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

9. China, Pakistan sign military deal

- » Prelims: CPEC, China-Pakistan Geography
- » Mains: Challenges to India from the deepening China-Pakistan relationship

Context:

- China and Pakistan have signed a new military memorandum of understanding to boost their already close defence relationship.

Details:

- The military deal has been signed to 'jointly cope with various risks and challenges'.
- China's Defence Minister met Pakistan's President and Prime Minister and called on both countries to "push the military-to-military relationship to a higher level, so as to jointly cope with various risks and challenges, firmly safeguard the sovereignty and security interests of the two countries and safeguard the regional peace and stability".
- The Chinese Defence Minister also had talks with Pakistan's Chairman of the Joint Chiefs of Staff Committee General and reaffirmed their commitment to 'Iron Brotherhood' and 'All-Weather' friendship.
- Pakistan's President conveyed that the country firmly supports China's stand on issues related to

the South China Sea, Taiwan, Xinjiang, Tibet and so on.

- In the meeting, the two countries also discussed and reviewed the ongoing projects under the China Pakistan Economic Corridor.
- The MoU appears to be a response to the growing defence partnership between India and America.

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

10. Britain, EU clinch Brexit trade deal

- » Prelims: EU and Britain geography related facts
- » Mains: Provisions of the Brexit trade deal and its implications

Context:

- Britain and the European Union have agreed upon a trade deal that is going to govern the trade ties between the two in the future.

Background:

- The U.K. will leave the EU's single market and customs union after decades long association.
- The 11-month period termed the 'Transition Period' following the UK's exit from the EU was coming to an end. The EU and UK have reached a post-Brexit trade deal, ending several months of disagreements.
- The trade deal will set out the terms of their new relationship and will regulate the on trade between the two sides starting January 1 2021.

Salient provisions:

Fishing rights:

- The number of people employed in Britain's fishing industry has witnessed a decline in recent decades, and the British government wants to revive the industry by cutting European companies' access to British waters.
- Britain initially sought a reduction of up to 80% in the share of fish that European Union boats would be allowed to catch in British waters.
- But after several rounds of negotiation, The European Union's fishing quota in British waters will be cut by 25 per cent in the next five and a half years.
- A no-deal scenario would also have forced tariffs on British fishing companies, making it more difficult for them to sell what they caught to the European Union at competitive prices.

Movement of people:

- Citizens of European Union member states can look for jobs elsewhere in the bloc, work there without needing special permits and stay after they have left their jobs. But the trade deal ends

the free movement of people between Britain and the continent.

Movement of goods:

Between EU and Britain:

- The deal will mean, there will be no tariffs or quotas on trade between the two sides, this is a big relief to the economy on both sides.
- However, there will be more red tape issues, bureaucratic hurdles for businesses because the U.K. is exiting the EU's frictionless single market and customs union. Firms will have to file forms and customs declarations. There will also be different rules on product labelling as well as checks on agricultural products.
- The British government has warned businesses to get ready for disruptions and bumpy moments when the new rules take effect. The end to Britain's membership in the EU's vast single market and customs union would bring inconvenience and new expenses for both individuals and businesses.

Between third party country and EU/Britain:

- Same taxes on goods from outside the bloc would be applied. As both a single market and a customs union, the European Union adopts the same rules and regulations so that goods, services and capital can move freely across borders of countries within the bloc. Goods can be shipped within the European Union without having to face additional tariffs.
- But Britain will now leave both the single market and the customs union and can pursue trade deals with other countries.

Significance of the deal:

- The deal has been hailed as a historic one for a reason, in the absence of a trade deal there would have been several impediments in their trade ties.
- Both sides would have suffered economically from a failure to secure a trade deal, with the British economy taking a bigger hit at least in the near-term, as it is more reliant on trade with the EU than vice versa.

Conclusion:

- The trade deal would mean that Britain would not crash out of the Union after 47 years of shared history.
- The implications of the trade deal on paper will have to be assessed in days to come.

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

- » Prelims: CAATSA provisions, S-400 missile defence system
- » Mains: Relevance for India and India's stand on this development

Context:

- The U.S. has imposed sanctions on NATO-ally Turkey for its purchase of Russia's S-400 missile defence system.
 - * The North Atlantic Treaty Organization (NATO), also called the North Atlantic Alliance, is an intergovernmental military alliance between 30 European and North American countries. NATO is a collective defence pact that was signed in 1949, in what was the beginning of the Cold War.

What is CAATSA?

- The Countering America's Adversaries Through Sanctions Act (CAATSA) is a United States federal law that imposed sanctions on Iran, North Korea and Russia.
- It includes sanctions against countries that engage in significant transactions with the Russian defence and intelligence sectors.
- It was enacted in the year 2017 to dissuade third countries from purchasing weapons from Russia.

Details:

- Turkey's decision to acquire S-400 missile defence has not gone down well with the US, deepening the tensions between them.
- The sanctions comprises of:
 - * A ban on granting specific U.S. export licences and authorisations for any goods or technology.
 - * A ban on loans or credits by U.S. financial institutions totalling more than \$10 million in any 12-month period.
 - * A ban on U.S. Export-Import Bank assistance for exports and mandated U.S. opposition to loans by international financial organisations to SSB (Turkey's main defence procurement agency).
 - * Sanctions will include full blocking sanctions and visa restrictions on SSB president and other officials.
- The U.S. Secretary of State asserted that this action sends a clear signal that the United States will fully implement CAATSA Section 231 and will not tolerate significant transactions with Russia's defence and intelligence sectors.

Turkey's response:

- Turkish Foreign Minister has asserted that Turkey would not step back from its decision to

11. U.S's CAATSA sanctions on Turkey

deploy Russian air defence systems despite U.S. sanctions.

Is the US justified?

- In 2019, the U.S. had removed Turkey from its F-35 jet programme over concerns that sensitive information could be accessed by Russia if Turkey used Russian systems along with U.S. jets. Though the decision to suspend Turkey from the programme is justifiable because the US concerns were legitimate as they did not want their defence equipment to be exposed to Russia.
- The sanctions on Turkey through CAATSA for purchasing from Russia can hardly be justified on any logical grounds.
- The S-400 which have been deployed in Syria, on the borders of Eastern Europe are found to be an advanced aerial shield and can be judged by the number of suitors the equipment has. India, China have opted for S-400.

Possible geopolitical outcomes:

- The US has to be careful in dealing with Turkey especially taking into consideration the location of Turkey vis-à-vis the Middle East and Europe.
- Turkey is seen as the land bridge between the two continents and any further antagonization of Turkey could direct them to a path towards close ties with the Kremlin.
- There have been numerous diverging points between the two countries over issues like Syria, Libya and Nagorno-Karabakh.
- The NATO also has had internal squabbles of late, with a war of words between the heads of states of Turkey and France and the Greece-Turkey spat over the eastern Mediterranean region.

Relevance to India:

- The issue of sanctions under Section 231 of the Countering America's Adversaries Through Sanctions Act (CAATSA) for purchase of Russian arms is of particular interest to India, which is also in the process of buying the S-400 from Moscow.
- The threat of CAATSA is looming menacingly over defence equipment purchases from India's oldest, largest and reliable supplier of military goods- Russia.

India's stand:

- India has always been an ardent champion of strategic autonomy in foreign policymaking. It has always been wary of military alliances. CAATSA has been criticized by several experts because they undermine a country's sovereignty and its national security concerns.
- In a multipolar world that is no longer divided into two blocs, countries are expected to choose the path that they feel is appropriate; bullying

countries over the defence equipment purchases cannot be justified.

Conclusion:

- The 21st century multipolar world places a lot of importance on national sovereignty, territorial integrity and any efforts to undermine it will be met with resistance.
- The US has to realize that it is no longer the universal hegemon it was in the 1990s and early 2000s. It has to respect the strategic autonomy of other countries in their conduct of foreign policy.

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

12. Morocco to normalise ties with Israel

- » Prelims: Abraham Accord
- » Mains: West Asia challenges and the significance of the recent deals in ensuring peace

Context:

- Morocco has agreed to resume diplomatic relations with Israel, becoming the fourth Arab nation to recognise Israel under a deal brokered by the US in 2020.

Details:

- The development comes as the US is expanding the number of countries under the "Abraham Accords", as part of which the United Arab Emirates and Israel resumed bilateral ties
- Bahrain and Sudan had followed the UAE, becoming the second and third Arab countries respectively to resume ties with Israel.
- Along with Egypt and Jordan, Morocco becomes the sixth Arab League member to normalise ties with Israel.
- King Mohammed VI of Morocco agreed to resume diplomatic ties between his kingdom and Israel to expand economic and cultural cooperation, which would advance regional stability.
- As part of this deal, Morocco will establish full diplomatic relations and resume official contacts with Israel. It will grant overflights and direct flights to and from Israel for all Israelis

What about Western Sahara?

- As part of the agreement, US President Donald Trump changed longstanding US policy and recognised Morocco's sovereignty over Western Sahara.
- Western Sahara territory a former Spanish colony, was annexed by Morocco in 1975. Since then it has been the subject of a long-running territorial dispute between Morocco and its indigenous Saharawi people, led by the pro-independence Polisario Front.

- Morocco says it has always been part of its territory, while the African Union recognises it as an independent state.
- An UN-brokered truce took place in 1991 and the promise of a referendum on independence, which is yet to take place.



How the deal will affect Western Sahara?

- Trump's backing of Morocco's claim to sovereignty over Western Sahara is a big deal because it diminishes the hope of a people who have aspired for the independence of that territory for decades.
- The UN is still mandated to oversee a referendum for the independence of Western Sahara – although this hasn't materialised since 1991 when it established its mission there known as Minurso.

Impact:

- Much of the momentum behind the deal-making has been to present a united front against Iran and roll back its regional influence.

ORGANIZATIONS/INSTITUTIONS IN NEWS

13. ADMM-Plus

- The ADMM-Plus is a platform for ASEAN and its eight Dialogue Partners, namely Australia, China, India, Japan, New Zealand, ROK, Russian

Federation and the United States, to strengthen security and defence cooperation for peace, stability, and development in the region.

- The ADMM-Plus currently focuses on seven areas of practical cooperation, namely maritime security, counter-terrorism, humanitarian assistance and disaster management, peacekeeping operations, military medicine, humanitarian mine action and cybersecurity
- The Inaugural ADMM-Plus was convened in Ha Noi, Viet Nam, in 2010.

Objectives of the ADMM-Plus:

- To promote mutual trust and confidence between defence establishments through greater dialogue and transparency;
- To enhance regional peace and stability through cooperation in defence and security, in view of the transnational security challenges the region faces.

Context

- Defence Minister Rajnath Singh addressed the ASEAN Defence Ministers' Meeting Plus (ADMM-Plus) on the occasion of its 10th anniversary.

Details:

- He reiterated India's support to freedom of navigation in international waters in accordance with the UN Convention on the Law of the Sea (UNCLOS)
- He underlined the need to collectively address threats to a rules-based order, maritime security, cyber-crimes and terror.

PLACES IN NEWS

14. Bhashan Char

Context

- The Bangladesh government's move to relocate Rohingyas to the newly built facility at Bhashan Char Island has attracted widespread attention.
- There are reports that UN human rights investigator has issued a request to the Government of Bangladesh to permit a safety assessment of the Bhashan Char.

Bhashan Char:

- Bhashan Char is a 13,000 acre expanse land, it will be more accurate to refer to it as a mudflat than as an island.

- The mudflat is formed by the accumulation of silt where the river Meghna meets the Bay of Bengal carrying rich alluvial deposits.
- Located near the mouth of the river Meghna where it flows into the Bay of Bengal, Bhasan Char surfaced only in 2006 from the sediment deposited by the river.
- 'Char' refers to shifting landmass, it is a recurrent feature of rivers Meghna and Padma.

Relocation:

- There have been critics who were unhappy with the move to relocate Rohingyas into Bhashan Char islands without adequate planning and necessary infrastructure.
- There have been reports that the consent for relocation was not considered
- The Government of Bangladesh has in the last couple of years gone about constructing roads and building telecommunication infrastructure on the island.
- Residential units have been built after taking precautionary measures such as building it four feet above the ground to prevent the housing facilities from being inundated by tidal waves and withstand the impact of such waves.

Why relocate?

- Rohingya refugees who fled Myanmar in 2017 have been made to live in refugee camps near the Bangladesh-Myanmar border.
- These refugee camps lie in the Kutupalong region, a region that is heavily forested and known for wildlife populations of elephants, tigers and other animals.
- Safety and better living conditions in the Bhashan Char islands are the reasons given by Bangladesh for relocating the Rohingya refugees.

Human Right agencies concerns:

- Amnesty International has called for the dropping of the relocation plan as the UN hasn't yet declared the site to be safe for relocation.
- The consent of the refugees before the relocation process was not considered.



PLACES IN NEWS

15. Sumdorong Chu

- In 1986–87, a military standoff took place between India and China in the Sumdorong Chu Valley.
- The valley borders the Tawang district, Arunachal Pradesh and Tibet.
- The stand-off started off as China initiated the moving of a company of troops to Wangdung (a pasture to the south of Sumdorong Chu).
- The Indian troops stood their ground on the neighbouring Longro La ridge and both the sides moved a large number of troops to the border.
- It was the first military confrontation along the disputed McMahon Line after the 1962 war. The standoff gave rise to fears of escalation.
- The stand-off took nearly nine years to resolve.
- Several years of talks were fruitless before the two armies disengaged in 1995.
- In between, the two sides signed the breakthrough 1993 agreement on the Maintenance of Peace and Tranquillity along the Line of Actual Control.



Context

- The External Affairs Minister has indicated that the talks with China on the Line of Actual Control (LAC) could take much longer, drawing a parallel to a similar military stand-off in Arunachal Pradesh's 'Sumdorong Chu' in 1986.

MISCELLANEOUS

16. Legion of Merit Award from US

Context

- PM Modi honoured with the Legion of Merit Award from the US.

Details:

- Mr Modi was bestowed with the award for his leadership in elevating the strategic partnership of the two countries and for the emergence of India as a global power.
- The Prime Minister was presented with the highest degree Chief Commander of the Legion of Merit which is given only to a Head of State or Government.
- The award was also bestowed to the Australian and Japanese prime ministers.

About the Legion of Merit:

- The Legion of Merit (LOM) is a military award of the United States Armed Forces that is given for exceptionally meritorious conduct in the performance of outstanding services and achievements.
- The decoration is issued to members of the eight uniformed services of the United States as well as to military and political figures of foreign governments.
- Apart from Mr Modi, other Indians to receive this award include:

- * Field Marshall KM Cariappa (1950) – Chief Commander degree
- * General Satyawant Mallana Srinagesh (1955) – Chief Commander degree
- * General Rajendrasinhji Jadeja (1946) – Commander degree
- * Admiral Jal Cursetji (1978) – Commander degree
- * General Bikram Singh (2013) – Commander degree
- * General Dalbir Singh Suhag (2018) – Commander degree

MISCELLANEOUS

17. U.S. lifts Sudan off terror list

Context:

- The U.S. removed Sudan from its state sponsors of terrorism blacklist

Background:

- Sudan was designated as a state sponsor of terrorism in 1993, in part for its support of militant Palestinian organizations such as Hamas, as well as for harboring al-Qaeda leader Osama bin Laden.

Impact of such a designation:

- The State Department continues to designate North Korea, Iran and Syria as state sponsors of terrorism, which precludes them from receiving American aid or defense deals and from engaging with U.S.-dominated lending institutions such as the World Bank and the International Monetary Fund

Details:

- In return for its removal from the terrorism list, the unelected, transitional Sudanese government pledged to normalize relations with Israel — part of the Trump administration's last-minute push to improve relations between Israel and Arab nations under the "Abraham Accords."

Significance:

- In Sudan, the announcement was celebrated as a major milestone as it would give a chance for many Sudanese to reengage with the global economy.
- The potential beneficiaries range from aspiring students seeking scholarships in Western

countries to businesses seeking trade deals and a government hungry for foreign investment in its flagging economy.

- It will allow the integration of the Sudanese financial system with the global networks that operate in U.S. dollars, and the easy transfer of funds to and from Sudan.

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ART AND CULTURE

Art and Culture-Indian Handicrafts

1. Dhokra Art

- » Prelims: Dhokra art- features and region of its practice
- » Mains: Important handicrafts of India, economic and social significance of sustaining these crafts

Context:

- Dhokra decorative pieces added to the Tribes India collection.

About Dhokra art:

- It is non-ferrous metal casting using the lost-wax casting technique.
 - * Dhokra Damar tribes are the main traditional metal smiths of West Bengal and Odisha.
 - * Their technique of lost wax casting is named after their tribe, hence Dhokra metal casting.
- Dhokra art is basically metal figurines made from chiefly bronze and copper.
- This sort of metal casting has been used in India for over 4,000 years and is still used. One of the earliest known lost wax artefacts is the dancing girl of Mohenjodaro
- This style of metal casting has been in vogue in all parts of India for centuries.
- The dhokra products reflect the simplicity and motifs of tribal and folk life.
- They are popular both in India and abroad.
- While Dhokra art originated in West Bengal, over time the tribes moved to Jharkhand, West Bengal, Odisha and Chhattisgarh as well as places like Kerala and Rajasthan. Hence, the art has now spread all over India.

Art and Culture-Cultural places of interest

2. Gurudwara Rakabganj

- » Prelims: Sikh gurus, Important places associated with Sikhism
- » Mains: Impact of Sikhism on the cultural practices and beliefs

Context:

- PM visits Gurudwara Rakabganj to pay tribute to Guru Tegh Bahadur.

Gurudwara Rakabganj Sahib:

- The mortal remains of Guru Tegh Bahadur, the ninth Sikh Guru, were cremated at Gurudwara Rakabganj.
- The Gurudwara was constructed in 1783 after Sikh military leader Baghel Singh Dhaliwal

(1730–1802) captured Delhi.

- The Gurdwara marks the site where Lakhi Shah Banjara and his son Bhai Naghaiya burnt their own house to cremate the headless body of the Guru who in November 1675 was martyred by beheading at Chandni Chowk on the orders of the Mughal emperor Aurangzeb.

Art and Culture-Martial art/performing arts of India

3. Indigenous games & sports

- » Prelims: Martial arts of India and the associated regions
- » Mains: The need to preserve indigenous games and sports

Context:

- Sports Ministry includes Gatka, Kalaripayattu, Thang-Ta and Mallakhamba in Khelo India Youth Games 2021.
 - * Khelo India Programme is a national scheme for the development of sports in India, launched in 2018.

Gatka:

- Gatka originates from the state of Punjab.
- It is a traditional fighting style of the Nihang Sikh Warriors and is used in self-defence as well as sport.

Kalaripayattu:

- Kalaripayattu is a traditional martial art form originating from Kerala.
- It is believed to be the oldest surviving martial art in India and is also among the oldest martial arts in existence worldwide.
- Its origins date back to at least the 3rd century BCE.

Thang-Ta:

- Thang-Ta is a martial art form from Manipur.
- It is a part of the martial art Huyenlanglon. Thang-Ta means armed combat. The other aspect of Huyenlanglon is saritsarak (unarmed fighting).
- 'Thang' means sword and 'Ta' means spear – both of which are the primary weapons of Huyenlanglon.

Mallakhamba:

- Mallakhamba or Mallakhamb is a traditional sport, originating from the Indian subcontinent, in which a gymnast performs aerial yoga or gymnastic postures and wrestling grips in concert with a vertical stationary or hanging

wooden pole, cane, or rope.

- Three popular versions of Mallakhamb are practised using a Sheesham pole, cane, or rope.
- In 2013, it was declared the state sport of Madhya Pradesh.

Art and Culture-Government Initiatives

4. Dekho Apna Desh Webinar Series

- » Prelims: Government initiatives to promote art and culture of India
- » Mains: Significance of preserving cultural heritage and promoting tourism
- Ministry of Tourism had launched its "Dekho Apna Desh" webinar series to provide information on the many destinations and the sheer depth and expanse of the culture and heritage of our Incredible India.
- It is an effort to showcase India's rich diversity under Ek Bharat Shreshtha Bharat
- It will be available on the Ministry's social media handles- Incredible India on Instagram and Facebook.
- It is presented in technical partnership with National e Governance Department, Ministry of Electronics and Information Technology.

Context

- Ministry of Tourism organised a webinar on "Birding in India" under Dekho Apna Desh Webinar Series

Art and Culture-Archaeological studies

5. Cattle, buffalo meat residue found in Indus Valley vessels

- » Prelims: Important places associated with IVC, their cultural practices
- » Mains: Similarities and differences between IVC and the consequent ages in India

Context:

- A new study has found the presence of animal products, including cattle and buffalo meat, in ceramic vessels dating back about 4,600 years at seven Indus Valley Civilization sites.
- These sites are situated in present-day Haryana and Uttar Pradesh.

Details:

- Study of lipid residues conducted on Indus pottery point towards a dominance of animal products in vessels – such as the meat of non-ruminant animals like pigs, ruminant animals like cattle or buffalo and sheep or goat, as well as dairy products.
 - * Lipids are relatively less prone to degradation and have been discovered in pottery from archaeological contexts around the world.
- The study said that, about 50-60% of domestic animal bones found at Indus Valley sites come from cattle/buffalo.
- According to the study, high proportions of cattle bones could suggest a cultural preference for beef consumption across Indus populations, supplemented by the consumption of mutton/lamb.

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हमारे मार्गदर्शकों द्वारा प्रत्येक छात्र हेतु मार्गदर्शन और व्यक्तिगत प्रतिपुष्टि



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पुनरीक्षण नोट्स के साथ चर्चित मुद्दों पर सप्ताह में दो बार लाइव वेबिनार व्याख्यान



साप्ताहिक वेबिनार, चर्चित मुद्दे, समसामयिकी पत्र/पत्रिका और प्रैक्टिस सेट का छल पोर्टल उपलब्ध

SCIENCE AND TECHNOLOGY

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

1. Facial recognition technology

- » Prelims: Facial recognition technology applications, involved technologies
- » Mains: Concerns associated with FRT

Context

- Deployment of facial recognition system by the government.

What is facial recognition technology?

- Facial recognition is a biometric technology that uses distinctive features on the face to identify and distinguish an individual.
- With machine learning, the technology has become capable of sorting out types of faces.

Automated facial recognition system (AFRS):

- AFRS works by maintaining a large database with photos and videos of peoples' faces.
- Then, a new image of an unidentified person — often taken from CCTV footage — is compared to the existing database to find a match and identify the person.

Deployment of facial recognition tracking in India:

- There are currently 16 different facial recognition tracking (FRT) systems in active utilisation by various Central and State governments across India for surveillance, security or authentication of identity.
- Its application has been rapidly increasing: from unlocking the phone to validating the identity, from auto-tagging digital photos to finding missing persons, and from targeted advertising to law enforcement.

Concerns:

Privacy concerns:

- The Delhi police was one of the first law enforcement agencies in India to start using the technology (in 2018). It has declined to answer to a Right to Information (RTI) query on whether it had conducted "privacy impact assessment" prior to deployment of the facial recognition system (FRS).
- Legal experts argue that the FRT poses a huge threat to the fundamental rights to privacy and freedom of speech and expression as it does not satisfy the threshold the Supreme Court set in its landmark privacy judgment in the 'Justice K.S. Puttaswamy Vs Union of India' case.

* The Supreme Court in the Puttaswamy judgment ruled that privacy is a fundamental right even in public spaces.

* If these rights need to be infringed, then the government has to show that such action is sanctioned by law, proportionate to the need for such interference, necessary and in pursuit of a legitimate aim.

Lack of well defined laws:

- While the FRT system has seen rapid deployment by multiple government departments in recent times, there are no specific laws or guidelines to regulate the use of this potentially invasive technology.
- Use of FRT without regulation might lead to an over-policing problem or problems where certain minorities are targeted without any legal backing or any oversight as to what is happening.

Mass surveillance issue:

- Another problem that may arise is of mass surveillance, wherein the police are using the FRT system during protests.
- Identification of people protesting against the government would have a chilling effect on the individual's freedom of speech and expression and right to protest as well as the right to movement.
 - * Concerns are being raised about AFRS, an ambitious pan-India project under the Home Ministry which will be used by the National Crime Records Bureau (NCRB) and various States' law enforcement departments.
- The FRS runs the risk of automating discriminatory policing.
- Without proper legal and regulatory mechanisms in place, such systems of mass surveillance will erode democratic liberties and threaten the rights of citizens.

Questionable accuracy:

- 100% accuracy in finding matches has not been achieved under this technology.
- This poses two problems: There can be a 'false positive' wherein somebody is recognised as somebody they are not or 'false negative' wherein the system refuses to recognise the person as themselves.
- If a 'false negative' occurs when the government is using the FRT system to provide its schemes, then this could lead to many people facing exclusion from such government schemes.

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

2. China turns on 'artificial sun'

- » Prelims: Tokamak reactor, Nuclear fusion, International Thermonuclear Experimental Reactor
- » Mains: Advantages of nuclear fusion over nuclear fission

Context

- China successfully powered up its “artificial sun” nuclear fusion reactor for the first time.

Details:

- The HL-2M Tokamak reactor is China's largest and most advanced nuclear fusion experimental research device.
- It is located in Sichuan province.
- It uses a powerful magnetic field to fuse hot plasma and can reach temperatures of over 150 million degrees Celsius (approximately ten times hotter than the core of the sun).
- It is often called an “artificial sun” on account of the enormous heat and power it produces.

Significance:

- Chinese scientists have been working on developing smaller versions of the nuclear fusion reactor since 2006.
- The recent development marks a great advance in China's nuclear power research capabilities.
- Scientists hope that the device can potentially unlock a powerful clean energy source.
- They plan to use the device in collaboration with scientists working on the International Thermonuclear Experimental Reactor — the world's largest nuclear fusion research project based in France, which is expected to be completed in 2025.

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

3. Indian scientists develop high-performance hybrid super capacitors with novel electrode material

- » Prelims: Super capacitor
- » Mains: Significance of the newly developed material

Context

- Scientists have developed a low-cost super capacitor device with excellent capacitive retention with a novel electrode material they have synthesized, which can pave the way for the next generation high power-high energy storage devices.

What is a Super capacitor?

- A super capacitor is a high-capacity capacitor with a capacitance value much higher than other capacitors, but with lower voltage limits, that bridges the gap between electrolytic capacitors and rechargeable batteries.
 - * A capacitor is a device that stores electrical energy in an electric field.
- It typically stores 10 to 100 times more energy per unit volume or mass than electrolytic capacitors, and can accept and deliver charge much faster than batteries.
- The super capacitor is a next-generation energy storage device that has received extensive research attention owing to advantages such as high power density, long durability, and ultrafast charging characteristic as compared to conventional capacitors and lithium-ion batteries (LIB).
- Among the four main components of a super capacitor – electrode, electrolyte, separator, and the current collector, the first two are the pivotal components, which directly determine the electrochemical behaviour of the super capacitors.
- The fabrication cost of electrode materials, as well as electrolytes, should be reduced because these two components account for a major portion of the device manufacturing cost.
- Super capacitors with high capacitance and excellent capacitive retention developed from low-cost fabrication techniques are the need of the hour, considering their potential utility in the commercial market.

The Study:

- Scientists have developed a facile, scalable, and cost-effective electrochemical route to synthesize electrodes made of nickel cobaltite containing nanosheet structures with incorporated oxygen vacancies as an active material, for hybrid super capacitors.
- These electrodes have been found to have excellent electrochemical performance.
- The team comprised of scientists from the International Advanced Research Center for Powder Metallurgy and New Materials (ARCI), an autonomous body of the Department of Science and Technology, Government of India in collaboration with IIT Hyderabad.

Awareness in the field of Space

4. CMS-01

- » Prelims: Launch vehicles of India, satellite orbits and associated terminologies

- » Mains: Significance of space technology for socio-economic development of India

Context:

- The Indian Space Research Organisation (ISRO) has successfully placed CMS-01 satellite into a transfer orbit.

Details:

Launch details:

- CMS-01 was carried on board the PSLV-C50, from the Satish Dhawan Space Centre, Sriharikota.
 - * It is PSLV's 52nd mission.
 - * It was configured in its 'XL' version with six strap-on motors.
- The satellite has been placed into a geosynchronous transfer orbit (GTO). It will be placed into its specified slot in the geosynchronous orbit after a series of manoeuvres.

CMS-01:

- CMS-01 is a communications satellite.
- It is envisaged for providing services in extended C Band of the frequency spectrum.
- Its coverage will include the Indian mainland and the Andaman & Nicobar and Lakshadweep islands.

Additional information:

- The upcoming PSLV-C51 would be a special mission for ISRO and the entire country as the vehicle would carry the country's first private-sector satellite under the space reforms programme announced by the Indian government.
 - * The first satellite, from Pixxel India named 'Anand', will be launched on board the PSLV-C51.
 - * Two more satellites, 'Satish Sat' from Space Kidz India and 'Unity Sat' from a consortium of universities will also be launched.
- The PSLV-C51 launch will mark a new era of space reforms in India.

Awareness in the field of Space

5. First set of data from Chandrayaan-2 released: ISRO

- » Prelims: India space missions
- » Mains: Significance of space technology for socio-economic development of India

Context:

- The first set of data from India's second mission to the Moon, i.e., Chandrayaan-2 has been made open to the public by the Indian Space Research Organisation (ISRO).
 - * The Chandrayaan-2 mission was India's first attempt to land on the lunar surface.

Details:

- Chandrayaan-2 mission brought together an Orbiter, Lander and Rover intending to explore south pole of the Moon. This was a unique mission which aimed at studying not just one area of the Moon but all the areas combining the exosphere, the surface as well as the sub-surface of the moon in a single mission.
- The ISRO had planned the landing on the South Pole of the lunar surface. However, the lander Vikram hard-landed last year.
- Its orbiter, which is still in the lunar orbit, has a mission life of seven years. The orbiter which was injected into a lunar orbit carried eight experimental set ups. The experiments have been going on well and the data relayed portray that the pre-launch promises will be met with.

Awareness in the field of Space

6. Chang'e-5

- » Prelims: Chang'e mission, other lunar missions
- » Mains: Significance of lunar studies

Context:

- China's unmanned spacecraft to bring back lunar rocks.

Details:

- It is the first attempt by any nation to retrieve samples from the moon in four decades.
- If successful, China will be only the third country to have retrieved samples from the moon, following the U.S. and the Soviet Union in the 1960s and 1970s.
- The Chang'e-5 probe (named after the mythical Chinese moon goddess) aims to shovel up lunar rocks and soil to help scientists learn about the moon's origins, formation and volcanic activity on its surface.
- The Chinese probe is expected to collect 2 kg of surface material from a previously unexplored area known as Oceanus Procellarum or "Ocean of Storms" which consists of a vast lava plain.

Note:

- Beijing is investing largely in its military-run space programme, with hopes of having a crewed space station by 2022 and eventually sending humans to the moon.

Awareness in the field of Space

7. Hayabusa 2

- » Prelims: Hayabusa mission
- » Mains: Significance of study of asteroids
- Hayabusa 2 is an asteroid sample-return mission operated by the Japanese space agency, JAXA.
- It follows on from the Hayabusa mission which returned asteroid samples in 2010.
- Hayabusa 2 was launched on 3 December 2014 and made its touchdown on near-Earth asteroid Ryugu.
- The mission of the Japanese spacecraft, Hayabusa 2, spotlights Asia's growing role in space exploration.
- A helicopter flew the capsule from the unmanned craft from Australia's desert to a domestic research facility in Japan.
- Hayabusa 2 carried multiple science payloads for remote sensing, sampling, and four small rovers that investigated the asteroid surface to inform the environmental and geological context of the samples collected.

Context

- Japan has retrieved a capsule of asteroid dust after a six-year mission.

Awareness in the field of biology and medicine

8. Coronavirus new strain

- » Prelims: Mutation
- » Mains: Challenges posed by mutation

Context:

- The news of the emergence of a new strain of the corona virus in the United Kingdom (UK).
 - * The new variant, VUI-202012/01, has accounted for nearly 60% of all cases in London by mid-December.
- Mutations have also been reported from different parts of the world, including Denmark, Australia, England and South Africa.

Concerns:

- The new variant is thought to be 70% more transmissible than earlier versions of the coronavirus.
- Concerns have been raised over the nature and location of the mutation.
 - * The mutation was at the receptor-binding domain of the spike protein, which the virus uses to enter the human body. This protein is also one of the targets of vaccines currently being developed.

What is the WHO saying?

- World Health Organization (WHO) has played down the fears about the mutation, it stated that viruses mutate over time and it is natural in virology and all the fears and discussions without further studies are not warranted.

Why do viruses mutate?

- A mutation means an alteration in genetic material. A mutation is part of the life cycle of a virus. Once the virus enters a host, it begins to replicate and make copies of itself.
- In an RNA virus such as SARS-CoV-2, proteins are made of a sequence of amino acids. Such a virus contains some 30,000 'base pairs', which can be likened to bricks placed next to each other to form a structure. An alteration in this base can be a mutation, effectively changing the shape and behaviour of the virus.
- During the process of virus replication, random errors arise, one or two protein molecules change, possibly induced by the immune response mounted within infected people. These changes in the genomic structure of the virus can be considered mutations.
 - * Mutations arise naturally in the SARS-CoV-2 genome as the virus replicates and circulates in the human population, as a result of this on-going process, many thousands of mutations have already arisen in the SARS-CoV-2 genome since the virus emerged in 2019.
- Not all mutations are significant, but those that affect the virus's ability to survive or replicate are important.
 - * The vast majority of the mutations observed in SARS-CoV-2 have no apparent effect on the virus and only a very small minority are likely to be important and change the virus in any appreciable way (for example, a change in the ability to infect people; cause disease of different severity; or become insensitive to the effect of the human immune response including the response generated by a vaccine).

Using PCR tests to detect new variant:

- PCR test is used to identify a number of gene targets and will be able to identify this variant as well.
- India is currently taking precautions such as making RT-PCR tests mandatory and also a separate unit for those diagnosed with the new strain of coronavirus.

Efficacy of the vaccine under development:

- While studies are being carried out to ascertain the impact of the vaccine on the severity of disease or mortality. The hope is that the vaccine's efficacy will not be drastically impaired by the mutation.

- Several experts believe that vaccines would remain effective despite the mutation because the immune response generated is against the complete surface, so even in the event of a change in a particular point the vaccine still remains effective.
- Vaccines will offer protection even from a mutant virus as by their very nature, they will make a variety of different antibodies and memory cells that will help fight off the infection.

Conclusion

- It is true that the new variant requires caution but the experts have so far sounded optimistic about the combating capabilities of vaccination.

Awareness in the field of medicine

9. Eye cancer therapy

- » Prelims: Cancer
- » Mains: Cancer treatment methods

Context:

- BARC develops eye cancer therapy.

Details:

- Bhabha Atomic Research Centre (BARC), Mumbai develops eye cancer therapy in the form of the first indigenous Ruthenium 106 Plaque for the treatment of Ocular Tumours.

What are ocular tumours?

- Ocular tumours are tumours inside the eye.
- They are collections of cells that grow and multiply abnormally and form masses.
- Radiation and chemotherapy are two common types of treatment for ocular tumours.
 - * Radiation can be in the form of proton beam radiation or placement of radiation plaque on the eye.

Ruthenium 106 (Ru-106) plaque brachytherapy:

- Ruthenium 106 (Ru-106) plaque brachytherapy is used in the management of many types of tumours.
- Brachytherapy is a procedure that involves placing radioactive material inside the body.
 - * It is a type of radiation therapy used in the treatment of cancer.
 - * It is also known as internal radiation.
 - * It allows doctors to deliver higher doses of radiation to more specific areas of the body.

What's in news?

- BARC has developed the first indigenous Ru-106 plaque.
- This is expected to reduce the cost of treatment of ocular tumour in the country.

- The newly developed plaque is said to be on par with international standards.

About BARC:

- BARC is India's chief nuclear research facility founded in 1954.
- Headquartered in Mumbai, it is a multi-disciplinary research centre with extensive infrastructure for advanced research and development covering the entire spectrum of nuclear science, engineering and related areas.
- It comes under the Department of Atomic Energy.
- BARC's core mandate is to sustain peaceful applications of nuclear energy, primarily for power generation.
- It manages all facets of nuclear power generation, from the theoretical design of reactors to, computerized modeling and simulation, risk analysis, development and testing of new reactor fuel materials, etc.
- It also researches spent fuel processing and safe disposal of nuclear waste.
- Its other research focus areas are applications for isotopes in industries, medicine, agriculture, etc.
- BARC operates a number of research reactors across the country.

Awareness in the field of Nanotechnology

10. Nanomicelles

- » Prelims: Nanomicelles
- » Mains: Application of nano technology in the domain of medical science

Context:

- Using nanoparticles for cancer treatment.

Background:

- Nano-drug delivery systems (NDDSs) provide a new drug delivery method for the treatment of various medical issues, like for example Cardio-vascular diseases, cancer treatment etc.
- Nanotechnology has been explored for its effectiveness as a mode of drug delivery and currently, nanomicelles has been explored for the same.
- Similar to nanoshells and nanovesicles, nanomicelles are extremely small structures and have been noted as an emerging platform in targeted therapy.

Nanomicells:

- Nanomicelles are ultramicroscopic globular structures that consist of exterior hydrophilic polar heads and an interior hydrophobic fatty acyl chain.

- * Nanomicelles are globe-like structures with a hydrophilic outer shell and a hydrophobic interior. This dual property makes them a perfect carrier for delivering drug molecules.
- The small size and shape of nanomicelles are only possible due to the molecular geometry of the particle.

Details:

- A study has revealed the possibility of deploying nanomicelle as an effective drug carrier.
- A team has created a nanomicelle that can be used to deliver a drug named docetaxel, which is commonly used to treat various cancers including breast, colon and lung cancer.
- The cancer treatment is ideally expected to kill the cancer cells without harming healthy cells of the body, and chemotherapeutics approved for the treatment of cancer are highly toxic.
 - * The currently used docetaxel is a highly hydrophobic drug and is dissolved in a chemical mixture (polysorbate-80 and alcohol). This aggravates its toxic effects on the liver, blood cells, and lungs.
 - * The nanomicelles are less than 100nm in size and are stable at room temperature. Once they are injected intravenously, these nanomicelles can easily escape the circulation and enter the solid tumours where the blood vessels are found to be leaky. These leaky blood vessels are absent in healthy organs.
 - * Chemical conjugation would render the phospholipid-docetaxel prodrug to be silent in the circulation and healthy organs. But once it enters the cancer cells, the enzymes will cleave the bond to activate the drug and kill the cancer cells.

Way forward:

- These nanomicelles are extremely cost-effective and can establish itself as a next-generation chemotherapeutic.
- The advancement in nanotechnology, demonstrating great advantages in solving health issues has been very encouraging. However, there have been concerns that need to be addressed, such as cytotoxicity, which needs to be addressed.

Terms in News

11. *Zobellella denitrificans* ZD1

- A bacterium called *Zobellella denitrificans* ZD1, has now been reported to aid in the production of bioplastics.

- Common plastics, such as fossil-fuel plastics (also called petrobased polymers) are derived from petroleum or natural gas.
- Bioplastics are plastic materials produced from renewable biomass sources, such as vegetable fats and oils, corn starch, straw, woodchips, sawdust, recycled food waste, etc
 - * The term "bioplastics" is actually used for two separate things: bio-based plastics (plastics made at least partly from biological matter)
 - * Biodegradable plastics (plastics that can be completely broken down by microbes in a reasonable timeframe, given specific conditions).
- There are a lot of bioplastics or materials that are called bioplastics that are not biodegradable
 - * Bioplastics are thus often consumed as an environmentally friendly alternative.
 - * However, at least with the current level of technology, this issue is probably not as clear as often assumed

- They feed on sludge, wastewater and produce polyhydroxy butyrate.
- The researchers say that this can help reduce the burden on landfills.

Terms in News

12. Low-Frequency Array (LOFAR)

- It is a new-generation radio interferometer constructed in the north of the Netherlands and across Europe.
- LOFAR consists of a vast array of omnidirectional antennas using a new concept in which the signals from the separate antennas are not combined in real time as they are in most array antennas. The electronic signals from the antennas are digitized, transported to a central digital processor, and combined in software to emulate a conventional antenna.
- The project is based on an interferometric array of radio telescopes using about 20,000 small antennas concentrated in at least 48 stations.
 - * Forty of these stations are distributed across the Netherlands and were funded by ASTRON.
 - * The five stations in Germany, and one each in Great Britain, France, Sweden and Ireland, were funded by these countries.

Context:

- Using the Low Frequency Array (LOFAR), a radio telescope in the Netherlands, the researchers' uncovered emission bursts from the Tau Bootes star-system hosting a so-called hot Jupiter, a gaseous giant planet that is very close to its own sun.

Tau Bootis b:

- It is a gas giant exoplanet that orbits a F-type star.

Significance:

- This radio detection opens up a new window on exoplanets and provides a novel way to examine alien worlds that are tens of light-years away.
- Observing an exoplanet's magnetic field helps astronomers decipher a planet's interior and atmospheric properties, as well as the physics of star-planet interactions

Miscellaneous**13. PM flags off India's first driverless train****What's in News?**

- The Prime Minister inaugurated India's first fully automated Metro – the 'Driverless Metro'.

Details:

- It is India's first-ever driverless train.
- It would operate on Delhi Metro's Magenta Line.

Different types of metro rail on which work is being carried out:

- MetroLite version would be constructed at 40 percent cost of normal metro.
- Metro Neo is being worked in cities where the ridership is less. It would be built at the cost of 25 percent of the normal metro.
- Water metro would be an out of the box thinking. It is for the cities where there are large water bodies. It would provide last mile connectivity to the people near the islands.

Note:

- In 2014, only 5 cities had metro rail. At present, metro rail is available in 18 cities.
- By the year 2025, the government aims to expand it to more than 25 cities.
- At present, 130 MW of solar power is being used in metro rail, which would be increased to 600 MW.

Miscellaneous**14. 'Microwave energy likely made U.S. officials ill'****Context:**

- A new report by a National Academy of Sciences committee has found that directed microwave radiation is the likely cause of illnesses among American diplomats in Cuba and China.

Background:

- The study is the latest attempt to find a cause for the mysterious illnesses that started to emerge in late 2016 among U.S. personnel in Havana.
- The study found that directed, pulsed radio frequency energy appeared to be the most reasonable explanation for symptoms that included intense head pressure, dizziness and cognitive difficulties.

Microwaves:

- Microwaves are the waves that radiate electromagnetic energy with a shorter wavelength.
- Microwaves are not reflected by Ionosphere.
- They travel in a straight line and are reflected by the conducting surfaces.
- Microwave technology is extensively used for point-to-point telecommunications (i.e. non-broadcast uses). Microwaves are especially suitable for this use since they are more easily focused into narrower beams than radio waves, allowing frequency reuse.

Note:-

- A directed-energy weapon (DEW) is a ranged weapon that damages its target with highly focused energy, including laser, microwaves, and particle beams.

Miscellaneous**15. Vigyan Yatras****Context:**

- Vigyan Yatras to promote Scientific Temper ahead of India International Science Festival (IISF).

India International Science Festival (IISF):

- It was launched in 2015 as a celebration to promote Science and Technology and demonstrate how science could lead India towards a developed nation within a short span of time.
- The aim is to engage the public with science and celebrate the joy of science and show the ways how science, technology, engineering and mathematics (STEM) provide us with the solutions to improve our lives.

- Ministry of Science and Technology and Ministry of Earth Sciences in association with Vijnana Bharati (VIBHA), has created a unique platform of India International Science Festival which intends to inspire curiosity and make learning more rewarding.

What is Vigyan Yatra?

- Vigyan Yatra is a promotional activity of the India International Science Festival. In this activity, the mobile science exhibition vans flag off from many cities of the country and the vision behind this science journey is to promote scientific temper and inculcate the culture of science among the masses.
- This program also ignites the minds of the youngsters because science exhibition mobile vans are viewed by all local school/university students that create interest in science and generate awareness about the IISF.
- This 6th edition of IISF is going to be organized on the virtual platform due to the unprecedented Covid-19 pandemic.
- Around 30 locations have been identified across the country where this science journey will be organized. Eminent science communicators, innovators, teachers, students and research scholars of the locality will be felicitated.

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

16. The rise of Artificial Intelligence economy

- » Prelims: Possible application areas of AI
- » Mains: Significance of AI based economy, India's potential and initiatives being taken in India

Context:

- COVID-19 pandemic has created an Artificial Intelligence (AI) moment that India has to capitalize on going forward.

Details:

- One of the positives to come out of the COVID-19 pandemic has been an increased understanding of the budding nature of technologies like Artificial intelligence (AI) and Machine Learning (ML).
- The public health authorities and local administrations which have been monitoring and predicting trends were aided by AI/ML algorithms and also the work of the healthcare professionals, medical researchers were supplemented by AI/ML algorithms.

Significance:

Boost to economy:

- Data and AI are expected to take India's growth trajectory higher. Nasscom estimates that data and AI will contribute close to half a billion to India's GDP by 2025.
- There is a debate if AI will lead to loss of jobs leading to higher levels of unemployment, but a growing AI economy is estimated to create over 20 million technical roles alone.

Applications:

- AI is expected to unravel itself with time, its abilities are not deciphered yet. AI is more than creating niche solutions to specific problems, like for example in the case of banks, it will help in speeding up loan applications, and in areas like service providing, AI will aid in enhancing customer services.
- AI has been appreciated for giving solutions for better governance and social impact. An example being AI-enabled automated number plate recognition software to catch violations.
- There is also the potential to deploy AI for the tackling of social sector issues. AI-led solutions are looked at for issues in healthcare, agriculture, education, infrastructure, smart mobility, etc.

Initiatives taken in India:

- Government initiatives like the national knowledge portal and 'Responsible AI for youth' programme and the private sector investments have propelled the AI capability in the past few years.
- A few state governments like Karnataka, Maharashtra, Tamil Nadu have taken a lead in notifying policies and drafting a vision plan for AI adoption.
- The private companies have begun investing in AI technologies and AI centres of excellence have been set up to look into solutions for global clients.
- Currently, India has roughly \$ 50.3 bn of investments in AI's R&D. With the Government of India steering AI and its applications on a national scale, we can expect to witness an increase in the flow of investments into advanced technologies like IoT, Blockchain, Data Analytics and, Machine Learning.

India's potential:

- India has an opportunity on its hands – targeted Government policy initiatives, a proactive private sector and an ambitious youth can create a synergy for the growth of AI.
- India has a vibrant start-up ecosystem with cutting edge solutions being evolved in diverse areas such as cancer screening, smart farming, conversational AI for the use of enterprises.

- India's vast number of technical institutes, incubation centres, close to half a million people involved in AI/ML means that India could establish itself as an AI hub in the world.

Way forward for India:

- Some areas require attention to ensure India harnesses its potential in the AI domain such as:

Talent Development:

- India has a vast talent pool with encouraging demography. India can utilize it to strengthen its AI workforce.
- The trend has been positive, the 2019 data shows that AI workforce has reached 72,000.
- However, the demand is on an exponential rise, therefore there is a need to develop talent and also develop it at a pace that meets the demand.

Policies on data usage, governance and security:

- Data and AI are intertwined. Thus, data usage needs a robust policy framework that lays a safeguard against any unethical use of AI.
- A data protection policy should be put in place after consultation with all stakeholders.

Digitization:

- The extent of digitization is low in India; this affects the data collection by organizations.
- The organizations require a stream of data to feed its AI/ML algorithms.
- Availability of clean data sets is prerequisite for the thriving of AI economy.
- Data cleaning refers to preparing data for analysis by removing or modifying data that is incomplete, irrelevant, duplicated, or improperly formatted.
- Organizations need to invest in data management frameworks that will clean the data which is ready to be analyzed, leading to a better outcome.

Conclusion:

- The future of AI is inevitable, India needs to seize the opportunity given its vast talent pool.
- NITI Aayog's report on AI contemplates democratizing AI, its agenda is 'AI for all' for inclusive growth. This should be the way forward for AI in India.

SECURITY AND DEFENCE

Security: External threats from state actors

1. Dealing with India's two-front challenge

- » Prelims: Geography related questions regarding bordering states, military exercise between China and Pakistan
- » Mains: Challenges from a two front war, Strategy to overcome such a threat

Context

- The Indian strategic community has been arguing for a sound doctrine to combat a potential China-Pakistan two front challenge.

Two front challenge:

- According to military terminology, a two-front war occurs when opposing forces encounter on two geographically separate fronts. The forces of two or more allied parties usually simultaneously engage an opponent in order to increase their chances of success.

India's challenge:

- The possibility of a two-front war against a China-Pakistan combine has been increasing for India given that China and Pakistan have been embracing each other more than ever.

Chinese threat:

- The Galwan valley incident, Ladakh intrusions and other skirmishes along the Line of Actual Control (LAC) in 2020, followed by a stalemate in negotiations have brought in to focus the Chinese military threat.
- China's military challenge will garner greater attention from Indian military planners in the years to come.

The Pakistani threat:

- The common knowledge in the military is that there is less likelihood of conventional conflict breaking out with China than with Pakistan. Though China is more potent, there is far more certainty in terms of Chinese actions on the border, while it is different from the deep-state of Pakistan.
- Pakistan with its state-sponsored terrorism provokes and invites India into a confrontation on the western borders.
- The two-front challenge is gathering steam because the situation along the Line of Control (LoC) with Pakistan has been steadily deteriorating.

* The ceasefire violations during the time interval of 2017 and 2019 have quadrupled.

- Some media reports had indicated that Pakistan had moved 20,000 troops into Gilgit-Baltistan, matching the Chinese deployments in Eastern Ladakh.

Strategic partnership between China and Pakistan:

- The Sino-Pakistan relationship has been a feature since the 1950s, but it has far serious implications today than ever before. China has always seen Pakistan as a counter-balance to India's influence in its neighbourhood.
- The strategic thinking between Pakistan and China has found a bit of coherence in the recent past.

China-Pakistan military links:

- Military cooperation is growing, with China accounting for close to three-fourth of the total arms imports of Pakistan between 2015-2019.
- The Shaheen IX Pakistan-China joint exercise between the Pakistan Air Force and People's Liberation Army Air Force is expected to enhance combat capacity of both air forces significantly and also improve interoperability between them.

Two-front threat:

- In a two-front scenario, India's military will be largely tested along the northern border with China.
- Pakistan in the meantime will likely try and make the most of India's engagement with China by attempting military actions in Jammu and Kashmir and expend its efforts in stoking militancy in Kashmir.
- Strategists have hinted at a more passive involvement on behalf of Pakistan. The reason behind Pakistan's abstinence is that a full-blown war among the three nuclear-armed states has the possibility to damage Pakistan's economy. Thus Pakistan would restrict itself to taking up the low-risk option of pursuing a hybrid conflict that remains below the threshold of war.

Resource crunch:

- Resource crunch will be a major challenge in India's military doctrine in a two-front conflict.
- It is obvious that the resources required will be more, it is neither practical nor feasible to build a level of capability that enables independent war fighting on both fronts.
- A major decision will be the quantum of resources to be allocated for the primary front. The primary front will be the one that is with

China that would require a majority of the assets of the Indian Army and the Indian Air Force to be sent towards the northern border. This will mean that the military has to re-evaluate its strategy on the western border.

- Taking a more aggressive offensive strategy on the western border may wear away precious limited resources.

Way forward for India:

Two front war doctrine:

- India needs to be prepared for a two front war.
- Indian leadership needs to develop a doctrine and the capability to deal with the contingency of a two front war. Developing a doctrine will require cooperation and coordination with the political leadership.

Capacity building:

- Capability building is a major issue that needs to be addressed. There is the need to formulate a capacity building policy balancing the need for national security and available resources.
- A possible paradigm shift is necessary to increase the potency of the Indian military in warfare. Currently, there is a disproportionate focus on major platforms such as aircraft, ships, and tanks, and not enough on future technologies such as robotics, artificial intelligence, cyber, electronic warfare, etc. The right balance will have to be struck based on a detailed assessment of China and Pakistan's war-fighting strategies.

Diplomacy is crucial:

- The importance of diplomacy cannot be emphasized enough in the event of a two-front challenge.
- India's immediate neighbourhood will be very critical, relations with neighbours will have to be on an even keel given how both China and Pakistan will try to leverage any bilateral issues with immediate neighbours against India's interests.
- An unfriendly, hostile neighbourhood would only help play into the opponent's hands.
- The extended neighbourhood cannot be ignored. The government's present engagement with the key players in West Asia, including Iran, should be further enhanced in order to ensure energy security, increase maritime cooperation and enhance goodwill in the extended neighbourhood.
- India's will have to balance its relationship between the two superpowers, the USA and Russia.

* A tighter embrace of Washington must not endanger New Delhi's relationship with the Kremlin. Russia could play a very important

role in diffusing tensions in the region given its influence and relationship with the major players of the region.

- India will also have to look towards engaging constructively the regional platforms like BIMSTEC, SCO, SAARC to ensure regional peace and stability.
- New Delhi has to expend diplomatic capital to offset the impact of a collusive Sino-Pakistan containment strategy aimed at India.

Outreach to Kashmir:

- Pakistan's engagement on the western frontier is hinging upon a political vacuum in Kashmir and the militancy angle.
- Therefore, building political consensus will be helpful in easing pressure; the recent conduct of the District Development Council elections will create a vibrant grassroots democracy.

Conclusion:

- China is a rising and aggressive superpower sharing a border with India. It is the bigger strategic threat for India, with Pakistan playing second-fiddle to Beijing's 'contain India strategy'.
- Therefore, India has to be politically, militarily and strategically ready for the two-front threat.

Coastal Security

2. India to bring more nations into coastal radar network

- » Prelims: Geography related/Map based questions related to IOR
- » Mains: SAGAR initiative, IMAC, IFC-IOR

Context:

- Efforts are being made by India to set up coastal radar stations in the Maldives, Myanmar and Bangladesh.

Details:

- The coastal radar chain network is meant to enable real-time monitoring of the high seas for threats and also to expand India's assistance for capacity building to Indian Ocean littoral states.
- Under Phase-I of the coastal radar chain network, 46 coastal radar stations have been set up across India's coastline.
- Under Phase-II of the project, which is currently underway, 38 static radar stations and four mobile radar stations are being set up by the Coast Guard and are in the advanced stage of completion. The recent developments are part of efforts to further expand the coastal radar chain network.

- Mauritius, Seychelles and Sri Lanka have already been integrated into India's coastal radar chain network. Similar proposals are being pursued with some more countries.

Additional information:

IMAC:

- The Indian Navy's Information Management and Analysis Centre (IMAC) located in Gurugram is the nodal agency for maritime data fusion.
- It was set up after the 26/11 Mumbai terror attacks.
- As part of information exchange regarding traffic on the high seas, the Navy has been authorised to conclude white shipping agreements with other countries and agencies. So far, agreements have been concluded with 22 countries and one multilateral construct.

IFC-IOR:

- Navy's Information Fusion Centre for the Indian Ocean Region (IFC-IOR) is meant to promote Maritime Domain Awareness.

Left Wing Extremism

3. Moving forward in base areas

- » Prelims: Government schemes and initiatives
- » Mains: Challenges posed by LWE and strategy to overcome this challenge

Context:

- Additional five battalions of the Central Reserve Police Force have been deployed by the Union Government to strengthen anti-Maoist operations in the south Bastar region.

Details:

- Chhattisgarh state has been the epicentre of Maoist activities, especially the regions of Bastar and Abujhmad.
- Bastar and Abujhmad are referred to as 'Base areas' by Maoists because these regions enable Maoists to wage a 'Mobile war' with the security forces and enable swift mobilization of units such as the People's Liberation Guerilla Army battalion.
- CRPF's specially trained 'Cobra units' and State's Special Task Force and District Reserve Guards are also engaged in operations in the forward areas.

The newly inducted battalions could have multiple advantages for the State:

Larger combing area:

- Security forces will occupy a larger area which will help check Maoists' movement. Thus frequent combing operations by the security forces will gradually reduce Maoists' occupancy to a smaller area.

- In the event of an attack on the security forces, the Maoists will be vulnerable to retaliation by a higher capacity force. Maoists will run the risk of being outnumbered.
- Consequently, the intensity of war will be reduced and the 'mobile war' will be reduced to a 'guerrilla war'. Mobile war attempts to defeat the enemy by incapacitating their decision-making through shock and disruption.
- Similarly, the Maoists' battalions, being personnel heavy, will be more vulnerable and in all likelihood, will have to be scaled down over time to reduce casualties due to continuous pressure from the security forces.

Tangible benefits:

- Deployment of additional security personnel would lead to instantaneous welfare in the adjacent villages.
- The district administration would scale up provisioning of water facilities via new borewells and also enable health services that are extended by the medical staff of security camps to be available to the local people by facilitating a larger financial outlay.
- The newly established security camps can be utilized alternatively as a development centre, for example, they can be used as an effective implementation mechanism for welfare schemes directed towards the local people.

Physical infrastructure:

- Lack of well-connected roads and mobile connectivity has helped foster Maoist insurgency. These conditions have aided and enabled Left-wing elements to establish a strong foothold in these areas.
- The presence of security forces would entail the establishment of a network of roads, mobile towers, electricity poles. The Maoists have been successful in enrolling the support of the local people by highlighting the lack of development in the region.
- Hence, bridging the developmental deficit and aiding further development in the form of schools, primary health centres, Anganwadis will wean away the physical and moral support enjoyed by these insurgents.

Political empowerment:

- Political representation and democratic institutions have been blatantly opposed by the Maoists.
- The revival of political activities, setting up democratic institutions, providing political leadership, enabling the local people to air their grievances will dissipate the political vacuum and make a dent in the Maoist propaganda.

Important Initiatives for LWE Affected States:

- Road Connectivity Project for LWE affected areas
- LWE Mobile Tower Project
- Aspirational District: The Ministry of Home Affairs has been tasked with the monitoring of Aspirational districts program in 35 LWE affected districts.
- Special Central Assistance (SCA) for 30 most LWE affected districts.
- Security Related Expenditure (SRE) Scheme.

SAMADHAN Doctrine:

- A one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels. SAMADHAN stands for:
 - * S-Smart Leadership,
 - * A-Aggressive Strategy,
 - * M-Motivation and Training,
 - * A-Actionable Intelligence,
 - * D-Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas),
 - * H-Harnessing Technology,
 - * A-Action plan for each Theatre,
 - * N-No access to Financing.

Defence production**4. Cabinet gives approval for Akash missile export**

- » Prelims: Akash missile, IGMP
- » Mains: Significance and concerns with respect to weapon exports.

Context:

- The Union Cabinet, chaired by Prime Minister, has approved the export of the indigenously developed and manufactured Akash short-range Surface to Air Missile (SAM) system..

Details:

- After its induction in the Services, interest was shown in the Akash missile by many friendly countries during international exhibitions/Def Expo/Aero India.
- So far, Indian defence exports included parts and components but the export of big platforms was minimal. This decision by the Cabinet would help the country to improve its defence products and make them globally competitive.

Akash missile:

- Akash is a mid-range surface-to-air missile (SAM).
- It is a medium-range nuclear-capable supersonic missile. It has been indigenously developed by the Defence Research and Development Organisation (DRDO) under the Integrated Guided-Missile Development Programme (IGMDP).
- It is a multi-target, multi-directional, all-weather air-defence missile system consisting of surveillance and tracking radars for defending vulnerable areas against medium-range air targets penetrating from low, medium and high altitudes.
- It has supersonic speeds ranging from Mach 2.8 to 3.5.

Internal security - Cyber Security**5. U.S. agencies hit by massive cyber attack**

- » Prelims: Cyber security terminology
- » Mains: Increasing significance and threat with respect to cyber security

Context:

- The U.S. government's emergency directive to federal agencies in the wake of a major cyber attack.

Details:

- At least two departments including the Treasury have been targeted by hackers with ties to Russia.
- The hacks also hit major cyber security firm Fire Eye, which said its own defences had been breached by sophisticated attackers who stole tools used to test customers' computer systems.
- According to researchers, the devastating cyber attack on U.S. government agencies has also hit targets worldwide, with the list of victims still growing. It was said that while the majority of the victims were from the US, victims were also in Belgium, Britain, Canada, Israel, Mexico, Spain and the United Arab Emirates.
- The Cyber security and Infrastructure Security Agency (CISA) ordered federal agencies to immediately stop using Solar Winds Orion IT products following reports that hackers had used a recent update to gain access to internal communications.
- It was pointed out that the cyber attack represents an act of recklessness that created a serious technological vulnerability for the United States and the world.
- The cyber attack has heightened the fears over computer security and espionage.

Weapon/Weapon systems in news

6. Stealth frigate Himgiri

Context:

- Himgiri, the stealth frigate has been launched into the water.

Details:

- Himgiri is the first of the three stealth frigates being built by Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.
- It is being built under Project 17A for the Navy.
 - P17A ships will be the most advanced state-of-the-art guided missile frigates once inducted.
 - P17A ships have been indigenously designed by Directorate of Naval Design (Surface Ship Design Group) – DND (SSG), and are being built at indigenous yards namely Mazagon Dock Shipbuilders Limited and GRSE.
 - Fincantieri of Italy is the know-how provider for technology upgrade and capability enhancement in this project.

Additional information:

- The fifth and last of the offshore patrol vessels (OPV) in the series Saksham is being built at Goa Shipyard. It is expected to be delivered to the Indian Coast Guard (ICG) by October 2021.
 - 'Saksham' is a part of the indigenous project launched by the Prime Minister in November 2016.
- OPVs will be used for protection of the Exclusive Economic Zone of territorial water of the Nation.

Weapon /Weapon systems in news

7. Medium Range Surface to Air Missile

Context:

- The inaugural test of the Medium Range Surface to Air Missile (MRSAM) for the Indian Army was carried out from the test range at Chandipur in Odisha.

Details:

- India successfully conducted the first Army version test of the state-of-the-art Medium-Range Surface-to-Air Missile (MRSAM).
 - The missile has been developed by Defence Research and Development Organisation (DRDO) and Israel Aerospace Industries.

Missile characteristics:

- Strike range is close to 100 km.
- It is a nuclear-capable ballistic missile.
- The missile can move with a speed of Mach 2 and has high degrees of manoeuvrability.

- Apart from the missile, the launching platform includes a Multi-Functional Surveillance and Threat Alert Radar (MFSTAR) for detection, tracking, and guidance of the missile.

Application:

- The new generation MRSAM has been developed to subdue airborne threats in the form of jets, missiles and rockets, including projectiles launched simultaneously.

Weapon/Weapon systems in news

8. DRDO systems handed over to Armed Forces Chiefs

Context:

- Defence Minister handed over three indigenously developed Defence Research and Development Organisation (DRDO) systems to Army, Navy and Air Force.

Systems handed over include:

- Indian Maritime Situational Awareness System (IMSAS) – Navy
- ASTRA Mk-I Missile – Air Force
- Border Surveillance System (BOSS) – Army

Indian Maritime Situational Awareness System (IMSAS):

- The IMSAS is state-of-the-art, fully indigenous, high performance intelligent software system that provides Global Maritime Situational Picture, marine planning tools and analytical capabilities to the Indian Navy.
- The system provides Maritime Operational Picture from Naval HQ to each individual ship in sea to enable Naval Command and control (C2).
- The system was conceptualised by the Centre for Artificial Intelligence & Robotics (CAIR), Bengaluru and the Navy.
- It was developed by Bharat Electronics Limited (BEL), Bengaluru.

ASTRA Mk-I:

- It is the indigenously developed first Beyond Visual Range (BVR) Missile, which can be launched from Sukhoi-30, Light Combat Aircraft (LCA), Mig-29 and Mig-29K.
- The weapon system is developed by the Defence Research & Development Laboratory (DRDL), Hyderabad and produced by Bharat Dynamics Limited (BDL), Hyderabad.

Border Surveillance System (BOSS):

- It is an all-weather electronic surveillance system.
- The system has been deployed at Ladakh border area for day and night surveillance.

- The system facilitates monitoring and surveillance by automatically detecting the intrusions in harsh high-altitude sub-zero temperature areas with remote operation capability.
- Designed and developed by Instruments Research & Development Establishment (IRDE), Dehradun.
- It is being produced by Bharat Electronics Limited (BEL), Machilipatnam.

Weapon/Weapon systems in news

9. NETRA (NETwork TRaffic Analysis)

- NETRA is a software network developed by India's Centre for Artificial Intelligence and Robotics (CAIR), a Defence Research and Development Organisation (DRDO) laboratory, and is used by the Intelligence Bureau, India's domestic intelligence agency, and the Research and Analysis Wing (RAW), the country's external intelligence agency to intercept and analyse internet traffic using pre-defined filters
- The internet spy system that will be capable of detecting words like 'attack', 'bomb', 'blast' or 'kill' in a matter of seconds from reams of tweets, status updates, emails, instant messaging transcripts, internet calls, blogs and forums.

Weapon/Weapon systems in news

10. SAHAYAK-NG

Context:

- Maiden test flight of SAHAYAK-NG.

About SAHAYAK-NG:

- SAHAYAK-NG is India's first indigenously designed and developed Air Droppable Container.
- It is an advanced version of SAHAYAK Mk I. It is a GPS aided air dropped container with the capacity to carry a payload of up to 50 kg and can be dropped from a heavy aircraft.
- The successful maiden test was conducted by the DRDO along with the Indian Navy.
- The container was dropped from IL 38SD aircraft (of the Indian Navy) off the coast of Goa during the test flight.
- The trial was conducted by the Navy to enhance its operational logistics capabilities and provide critical engineering stores to ships which are deployed more than 2000 km from the coast.
- It reduces the requirement of ships to come close to the coast to collect spares and stores.

Military exercises

11. IND-INDO CORPAT

Context:

- The 35th edition of India-Indonesia Coordinated Patrol (IND-INDO CORPAT).

About IND-INDO CORPAT:

- The IND-INDO CORPAT was conducted between the navies of India and Indonesia.
- To reinforce maritime links, the two navies have been carrying out CORPATs along their International Maritime Boundary Line since 2002, with the aim of ensuring the safety and security of shipping and international trade in the region.
- CORPATs build up understanding and interoperability between navies and facilitate the institution of measures to prevent and suppress Illegal Unreported Unregulated (IUU) fishing, drug trafficking, maritime terrorism, armed robbery and piracy.

Miscellaneous

12. Navy Day

Context:

- The fourth of December is celebrated every year as Navy Day.

About Navy Day:

- This day marks a decisive victory for India in the 1971 Indo-Pak war.
- During Operation Trident, the missile boats of the Indian Navy successfully fired their missiles onto ships, oil installations and shore defence installations of Pakistan at Karachi.
- During the 1971 operations, the Indian Navy sunk many Pakistani ships carrying war sustenance efforts and critical stores.
- The fighter aircraft from the deck of INS Vikrant, struck at the enemy harbours and airfield at Chittagong and Khulna, destroying ships, defence facilities and installations.
- Both the missile strikes at Karachi and air attacks from Vikrant led to the defeat Pakistani Forces in East Pakistan.

Threats to National security

13. Constant vigilance

- » Prelims: NIA and UAPA
- » Mains: Challenges to India's national security from non state and state actors

Context:

- The National Investigation Agency (NIA) has filed a charge sheet against 16 "foreign-based Khalistanis".

Background:

- The Khalistan movement is a Sikh separatist movement seeking to create a homeland for Sikhs by establishing a sovereign state, called Khalistan ('Land of the Khalsa'), in the Punjab region.
- The movement has been long forgotten, especially with the end of the insurgency in Punjab in the early 90s and also with the weaning away of support to the movement both within India and from abroad.
- However, there have been attempts now and then to give a fresh lease of energy to the moribund movement, in the form of incidences like the killing of Shaurya Chakra awardee Balwinder Singh.
- ISI has been for years trying to encourage insurgency in the region.

Details:

- The accused have been charge-sheeted under the anti-terror Unlawful Activities (Prevention) Act for allegedly indulging in seditious activities and promoting enmity on the grounds of region and religion in the country.
- The charge-sheet alleged that they were involved in a conspiracy for launching a secessionist campaign under the banner of 'Referendum 2020' for the creation of Khalistan.
- These people, according to the NIA, are members of Sikhs for Justice (SFJ).
 - * SFJ is an organisation declared unlawful association under the UAPA.
- Also the recent arrests of terror suspects in New Delhi has brought back attention on the Khalistan movement.
- The Delhi police have hinted at the role of Pakistan's Inter-Services Intelligence (ISI) in stoking up pro-Khalistani elements and also aiming to establish a connection between terror outfits in Kashmir and pro-Khalistani groups, a theory that cannot be ruled out.

Conclusion:

- Territorial integrity and sovereignty are an integral part of any country's security policy.
- India has to invest in border infrastructure, especially on the Pakistan border.

ENVIRONMENT AND ECOLOGY

Environmental Pollution and degradation

1. Climate Ambition Summit

- » Prelims: Climate ambition summit, India's INDCs.
- » Mains: Progress made by India and the challenges it faces with respect to INDCs, Green growth strategy

Context:

- The United Nations, United Kingdom and France co-hosted the recently held virtual Climate Ambition Summit 2020.
 - * It marked the five years of the adoption of the Paris Agreement on Climate Change.
 - * The aim of the summit was to get countries to submit ambitious targets, make new commitments to tackle climate change and deliver on the goals of the Paris Agreement, before the U.K. hosts the 26th global U.N. Climate Change Conference of the Parties (COP26) in 2021
 - * These ambitious commitments will take the shape of new Nationally Determined Contributions, Long-Term Strategies setting out a pathway to net zero emissions; climate finance commitments to support the most vulnerable; and ambitious adaptation plans and underlying policies.

Background:

Intended Nationally Determined Contribution:

- India has submitted its Intended Nationally Determined Contribution (INDC) to the United Nations Framework to Combat Climate Change (UNFCCC) as per the 2015 Paris agreement.
- The INDCs will largely determine whether the world be able to meet the goals set under climate action and move towards a low-carbon, climate-resilient future.
- Salient provisions of India's INDCs are:
 - * To reduce the emissions intensity of its GDP by 33 to 35 per cent by 2030 from 2005 level.
 - * To achieve about 40 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with the help of the transfer of technology and low-cost international finance, including from Green Climate Fund.
 - * To create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.

Details:

- Indian Prime Minister at the Summit has announced that India is set to surpass the climate targets.

India's performance so far:

- India's climate efforts have been recognized globally. The UNEP's Emission Gap report has listed India among the nine G-20 countries to be on track to achieve the commitments made under Paris agreement.
 - * India's good performance is based on the estimated present reduction of emissions intensity by 21% over 2005 levels, however, the actual goal is between 33% to 35% by 2030.
- The other two bulwarks of India's climate targets are forest cover and renewable energy.
 - * The India State of Forest Report 2019 released recently showed an increase of 5,188 square kilometres of forest and tree cover across the country compared to the ISFR 2017.
 - * India's renewable energy capacity addition has been on an upward trend in the last couple of years. Installed solar capacity had increased to 36 gigawatts in 2020. India's renewable energy capacity is currently listed in the fourth position globally and is expected to reach as high as 175 GW by 2022.

Challenges ahead of India:

Forest cover as a carbon sink:

- One among India's goals are to bring about afforestation to achieve additional carbon sink of 2.5 to 3 billion tonnes.
- Afforestation of this scale was expected to bring in multiple benefits, such as biodiversity conservation, providing livelihoods to local forest communities, control micro-climate.
- However, there have been doubts over the accuracy of data submitted by states with respect to afforestation measures undertaken by them.
- The carbon sink approach will not deliver the desired results if it is not based on accurate data.

Solar power capacity:

- The aim to achieve 100 GW of solar capacity within the renewable goals from the current 36 GW appears to be a steep goal.
- The State Rooftop Solar Attractiveness Index (SARAL) index evaluates states based on their attractiveness for rooftop development. This

hasn't given a very optimistic picture of states' efforts to increase rooftop solar capacity

Vehicular emissions:

- The transport driven emissions have rebounded as well with the unlocking of the economy.
 - * One of the positives associated with the COVID-19 pandemic has been the reduction in global greenhouse gas emissions majorly due to a reduction in industrial activity.
- While there are calls for e-mobility, cities have not been seen adopting planning measures that provide for cycling and pedestrianisation.

Way ahead

- India has taken positive steps towards meeting the targets and even exceeding them, this should be sustained going forward. The present achievements are stepping stones and have to be pursued further.
- There is the need to dovetail the concept of green growth with the efforts to revive the economies worldwide. An estimate of \$12 trillion has been the extent of fiscal stimulus worldwide, this can be used to pursue green growth in future.
- The future initiatives with regards to adopting green strategies require more of a decentralized approach with multiple stakeholders consultation.
 - * Government's policy support is crucial, there need to be incentives at the state and individual level to pursue green strategies.
 - * Awareness generation needs to be emphasized.

Additional information:

- Several countries and financial institutions made new climate finance-related pledges
- United Kingdom pledged to double its climate finance contribution to USD 15.5 billion over the next five years
- China's commitment to lower its carbon dioxide emissions per unit of GDP by over 65% from 2005 levels by 2030
- EU's commitment to reduce GHG emissions by at least 55% from 1990 levels by 2030.
- European Investment Bank, announced a goal of 50% of investments going toward the climate and environment sectors by 2025

Conservation efforts

2. Mammal Extinction

- » Prelims: Habitat range of Rhino, Elephant reserves of India.
- » Mains: Major factors contributing to mammal extinction

Context:

- A team from Yale University has set out to investigate why certain big mammals in India continue to exist while they have been disappearing elsewhere.

Background:

- During the course of the last 100 thousand years, the world has witnessed extinctions of several land-dwelling mammals.
 - * North America lost its saber toothed cat, North American lion, scimitar tooth cat, American cheetah.
- The team is looking to establish factors that have contributed to extinctions.

Factors that have contributed to extinctions:

Environmental factors

- Species like elephant and rhino which are large and also slow reproducers are very susceptible to any fluctuations in climate.
 - * Elephants have a two year pregnancy period and usually take close to 6 years between calving events.
 - * The hippo when stressed affects their breeding pattern.
- The climate variations can have a profound impact on species that produce slowly.

Human factor:

- The fossil remains have indicated that the animals were able to tide through numerous environmental changes, thus their extinction cannot be tied to environmental changes alone.
- The phase of the rise of humans has coincided with the decline in the population of few species.
- The case in point for humans contributing significantly to the extinction of certain species is the disappearance of Ostriches in India.
 - * There have been numerous pieces of evidence of Ostriches in India, ostrich eggshells were used in bead making. Ostrich eggs became a part of human dietary needs and this fastened up the pace of decline of Ostrich population in India.

Habitat shrinkage:

- The species which survived had a large geographic range.
- With rising human population levels and the clearance of forest lands for human needs along with the sophisticated technology available for tapping natural resources have meant habitat shrinkage and the animals have been confined to small pockets.

- Habitat shrinkage has led to several problems such as interbreeding, conflict over limited resources, increased human-animal conflict.

Conclusion:

- Several paleoanthropologists have cited that it is very difficult to pinpoint one reason behind extinctions of different species.
- Environmental factors such as availability of food, nature of the habitat, presence of predators along with climatic factors and human interventions have contributed to the extinction of species.
- Human activities have rendered a larger number of species vulnerable to extinction than ever before.

Additional information:

Co-evolution:

- The adaptation mechanism developed by the indigenous animal population to counteract the threats for their survival
- The co-evolution involves practices like shifting the dwelling place, a spatial change in hunting grounds etc to avoid being seen by the new set of predators.

Conservation efforts

3. Himalayan trillium

- » Prelims: Himalayan trillium-habitat range and uses.
- » Mains: Threat posed by over-exploitation to flora and fauna

Context:

- The Himalayan trillium has been declared 'endangered' by the IUCN.

Details:

- The Himalayan trillium is a common herb of the Himalayan region.

Natural habitat:

- Temperate and sub-alpine zones of the Himalayas at an altitude of 2400 meters to 4000 meters.
- India, Afghanistan, Pakistan, China, Nepal, Bhutan has been home to this species.
- Indian Himalayan states like Uttarakhand, Himachal Pradesh, Sikkim and the Union territory of Jammu and Kashmir possess the herb.

Uses of the herb:

- The herb has numerous uses for human beings.
 - * It is used as a traditional medicine to cure, dysentery, Sepsis, wounds, inflammation, Skin boils and menstrual and sexual disorders

- * Recent studies have revealed that the rhizome of the herb is a source of steroidal saponins and has its application as an anti-ageing agent and anti-cancer drug.

Threat to the species:

- The Himalayan trillium has been exploited beyond their regeneration capacity leaving the herb's survival threatened.

Factors that have threatened the survival:

- Over-exploitation
- Long life cycle, implying slow to reach reproductive maturity.
- Poor seed dispersal capacity.
- High trade value.
- Specific habitat requirement.
- Increase in market demand.

Way forward:

- There is the need for implementation and enforcement of sustainable collection protocols for the herb.
 - * Implementation of Fair Wild standard, a set of ecological and fair trade guidelines can assist traders and concerned agencies in sustainable harvest and trade of species without harming its survival.
- There should be designation of areas of natural habitat for the species, where they would be conserved.
- The local communities should be made responsible for management of harvest. This could lead to some degree of responsibility with respect to their conservation efforts.

Conservation efforts

4. The tragedy of conservation

- » Prelims: Provisions of Forest rights act
- » Mains: Conflict between conservation approach and rights of the forest dwellers need for a more inclusive approach.

Context:

- Conservation attempts in Western Ghats.

Details:

- The call for increased conservation of the Western Ghats has meant that the rights of the tribal people and other forest dwellers have been impeded.
 - * The indigenous people of the Western Ghats, including the Particularly Vulnerable Tribal Groups, constitute 44.2% of the tribal population of 6.95% of Karnataka.

* The Western Ghats are also home to a sizeable population of communities like Gowlis, Kunbis, Halakki Vakkala, Kare Vakkala, Kunbi, and Kulvadi Marathi. The other traditional forest dwellers as recognized under the Forest Rights Act have been living in the forests for at least three generations before December 13, 2005, and depend on the forest or forest land for their livelihood needs. They derive their livelihood by collecting 'minor forest produce' such as cinnamon and kokum from the forest.

- In an attempt to protect and preserve the natural habitats in the Western Ghats, the local indigenous people have been alienated and have been left fearing for their future.

The UNESCO World Heritage Site tag:

- The UNESCO in 2012 accorded World Heritage Site status to 39 areas covering national parks, wildlife sanctuaries, and reserved forests in the Western Ghats, with ten sites being in Karnataka alone.
- The indigenous people have been facing an existential crisis ever since the Ministry of Environment and Forests actively began identifying the potential heritage sites.
- The cause for worry was justifiable since they had inhabited the land for decades together and had become an organic part of the habitat. The restrictions on movement following the declaration of these territories as ecologically sensitive areas aggrieved them further.

Forest Rights Act, 2006:

- The Forest Rights Act (FRA), 2006 recognizes the rights of the forest-dwelling tribal communities and other traditional forest dwellers to forest resources, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs.
- The Forest Rights Act of 2006 in India and the Declaration on the Rights of Indigenous People in 2007 by the United Nations had given the people residing in the Western Ghats a reason to feel secure after their rights were recognized by the letter of law.
- But the announcement of the UNESCO World Heritage Site changed the equation, suddenly they were seen as intruders in their own land.
- The ground level data show that the rights of people under the Forest Rights Act 2006 have been not recognized.
 - * Karnataka's track record implementing the provisions of the Act has been abysmal on comparing with the Forest Rights Act of other states. According to the Ministry of Tribal Affairs, as of April 30, 2018, the State had recognised only 5.7% of the total claims

made, with an astonishing 70% of the claims disposed of.

- * The government's approach in settling the claims made by the tribals versus the claims made by other traditional forest dwellers was not consistent. As per the claims made by the Karnataka state government, the tribal applications constituted 17.5% of the claims and nearly all of them were settled, while other claims were rejected as they were not backed by valid evidence. This means that claims made by other traditional forest dwellers were treated as inconsequential.

The wrong approach:

- The model of conservation followed that pits the rights of the indigenous people against the conservation needs is a deeply flawed model that will not yield results on expected lines.
- An approach that seeks to edge out the indigenous people from their own backyard for the sake of conservation, is a flawed approach. Invariably, an approach adopted to isolate the indigenous people from their natural habitats to protect biodiversity is the root cause of conflict between them and conservationists.

Significance of the local population in conservation efforts:

- The Global Environment Outlook Report 5 released by UNEP states that there is a declining trend in biodiversity across the globe even as 'protected areas' have been expanding. People living in nature's surroundings are integral and organic to conservation as they relate with it in a more integrated and spiritual way.
- The decades of traditional knowledge acquired by the indigenous people regarding the forests they live in, the animals that inhabit the region have proved to be extremely beneficial in the conservation of biodiversity across the world.

The way forward:

- There cannot be a trade-off between the conservation status of the Western Ghats and the rights of the people.
- International experiences suggest that preserving biodiversity requires the legal empowerment of the people living in those areas.
- The Forest Rights Act is capable of balancing the interests of the local people along with the mandate of conservation. To make the FRA achieve its objectives, the government has to engage in building trust between its agencies in the area and the people who depend on these forests by treating them as rightful equal citizens like everyone else in the country.

Conservation efforts**5. Status of Leopard report 2018**

- » Prelims: Leopard habitat range-important national parks and wildlife sanctuaries
- » Mains: Addressing the threat of man animal conflict

Context:

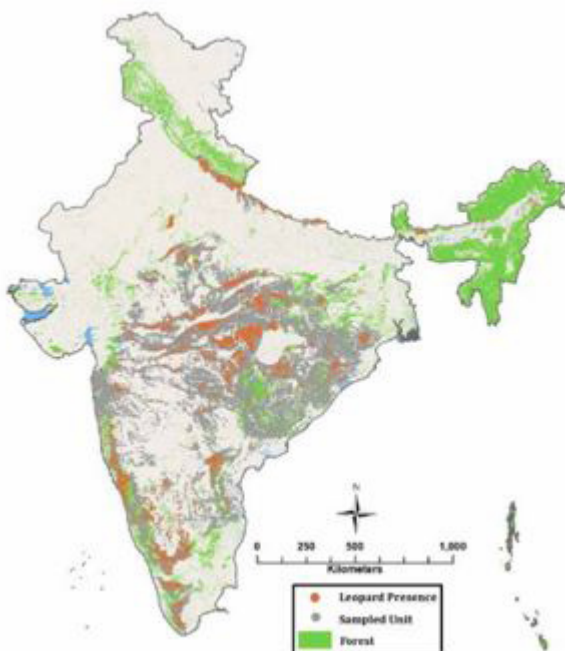
- The recently released Status of Leopards in India 2018 report.

Details:

- The population of leopards in India has gone up by 60 per cent, as per the 'Status of Leopard in India 2018' report.
 - * The leopard population was counted during the tiger population assessment undertaken in 2018. The leopard population was estimated to be within the forested habitats in tiger occupied states.
- India now has 12,852 leopards, witnessing a substantial increase in comparison to the 2014 data. The report notes that the Western Ghats alone has having close to 3,387 leopards.

Leopards in IndiaHabitat:

- The maximum population of wild Indian leopards are found in the states of Madhya Pradesh, Karnataka, Maharashtra, Rajasthan, Uttarakhand, Chhattisgarh, Tamil Nadu and Assam.
- The most popular national parks in India to spot wild leopards are Nagarhole National Park, Jim Corbett National Park, Rajaji National Park, Mouling National Park, Gir Forest National Park, Sariska Wildlife Sanctuary, Bandipur National Park and Kanha National Park.



- Leopard population of the Western Ghats landscape was reported from four distinct blocks.
 - * The Northern block- The contiguous forests of Radhanagari and Goa covering Haliyal Kali Tiger Reserve, Karwar, Honnavar, Madikeri, Kudremukh, Shettihali Wild Life Sanctuary (WLS), Bhadra and Chikmagalur.
 - * The Central population- This region covers southern Karnataka, Tamil Nadu, and northern Kerala covering the forests of Virajpet, Nagarhole, Bandipur, Mudumalai, Satyamangalam, Nilgiris, Silent Valley, Wayanad, BRT Hills, MM Hills, Cauvery WLS, Bannerghatta National Park.
 - * A second central cluster covering central Kerala and Tamil Nadu comprising the Parambikulam, Anamalai, Eravikulam, Vazachal population.
 - * The Southern leopard population covering regions of southern Kerala and Tamil Nadu comprising the forests of Periyar, Kalakad, Mundanthurai, and Kanyakumari.

Conclusion

- The report highlights India's progress in biodiversity conservation, with the leopard population now joining the tiger and the lion population to have witnessed an increase in numbers.
- The report seeks to balance the optimism due to the rise in the leopard population in the tiger reserves of the Western Ghats with the caution of an increasing trend of leopard-human conflict in the region.

Conservation efforts**6. Forest Biological Diversity**

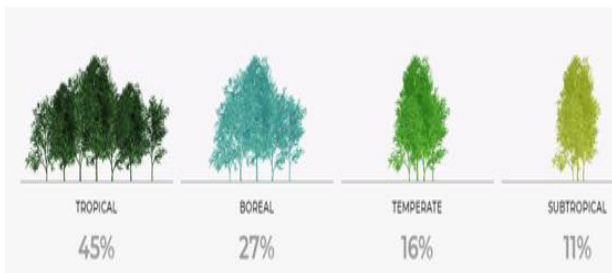
- » Prelims: Global and national forest cover area-statistics
- » Mains: Significance of conservation of forest cover

Details:

- It refers to all life forms found within forested areas and the ecological roles they perform.
- It encompasses not just trees, but the multitude of plants, animals and microorganisms that inhabit forest areas - and their associated genetic diversity.
- Forest biological diversity can be considered at different levels, including ecosystem, landscape, species, population and genetic.
- Complex interactions can occur within and between these levels. This complexity allows organisms to adapt to continually changing environmental conditions and to maintain ecosystem functions.

Key Stats:

- Forests cover 31 percent of the global land area.
- Approximately half the forest area is relatively intact, and more than one-third is primary forest (i.e. naturally regenerated forests of native species, where there are no visible indications of human activities and the ecological processes are not significantly disturbed).
- More than half of the world's forests are found in only five countries (the Russian Federation, Brazil, Canada, the United States of America and China) and two-thirds (66 percent) of forests are found in ten countries.

Proportion and distribution of global forest area**Environmental Pollution and degradation****7. Converting waste to energy**

- » Prelims: Refuse Derived Fuel (RDF).
- » Mains : Significance and challenges with respect to waste-to-energy plants.

Context:

- Proposed 11.5 MW waste-to-energy plant on the outskirts of Bangalore. It is expected to process 600 tonnes per day of inorganic waste.

Background:

Waste-to-energy plants:

- Waste-to-energy plants often burn municipal solid waste (MSW) to produce steam in a boiler that is used to generate electricity from a turbine.
 - * They use inorganic material as a Refuse Derived Fuel (RDF). This consists of bad quality plastics and used cloth pieces. This material has a calorific value of more than 2,500 kJ/kg and can be used to generate steam energy instead of burning coal and other materials used in traditional energy plants.
- The waste to energy plants help in reducing the waste management problem and can also help in producing additional energy.

Waste generation in Bangalore:

- Bangalore generates close to 5,000 tonnes of waste daily, of which about 2,500 tonnes is organic, about 1,000 tonnes inert material

(sweeping waste) and 1,500 tonnes inorganic.

- Although about 30%-40% of the material received is segregated organic waste, and the remainder is mixed waste, the latter consists of about 40% inorganic waste which can be converted into RDF.
- Eight organic waste processing plants are operational within the city and they receive more than 2,000 tonnes of waste collected by households, commercial establishments and markets. They segregate the wet and inorganic material near the plant, convert organic waste to compost, and inorganic waste to energy.

Significance of the plant:

Better waste management:

- Turning a portion of its waste into energy enables the city to reduce the amount of garbage that ends up in landfills and reduce the burden on waste management plants.

Reduce risk of fire hazards in landfills:

- Handling inorganic waste that is not fit for recycling has always been a challenge. At present, these high-calorific materials are landfilled or left unhandled in waste plants and cause fire accidents. Attempts to send this material to cement kilns have not fructified.

Power generation:

- Approximately, about 50 tonnes of RDF generate 1 MW of power. The proposed plant can source 600 tonnes per day of this RDF and generate 11.5 MW of power equivalent to 2.4 lakh units of power per day. This will reduce the city's dependency on unscientific landfills, reduce fire accidents, and provide a permanent solution to recover value from inorganic waste.

Challenges:

- The new plant at Bangalore faces some operational challenges.

Absence of a successful model to emulate:

- In the last several years, many Indian cities have attempted to establish such plants but a good demonstration model is yet to materialize.
- Technology suppliers are international organisations who struggle with the change in the quality and nature of waste generated in Indian cities. Few plants in India have stopped operations for this reason.

Quality of waste generated:

- The quality of waste generated in Bengaluru itself could be a hurdle. The plants require fine inorganic material with less than 5% moisture and less than 5% silt and soil contents, whereas the moisture and inert content in the mixed waste generated in the city is more than 15%-20%.

Segregation at source:

- Segregation at source has been a huge problem.
- The collected waste material needs to be sieved using 80 mm-100 mm sieving machines, this additional step could be avoided if citizens take the responsibility of segregating the domestic waste. Besides, the sticky silt and soil particles can also reduce the calorific value.

Pricing of power:

- The other big challenge for this plant is the power tariff. Generally, the tariff at which the power is purchased by such plants across the country is around Rs. 7-8 per KWH which is higher than the Rs. 3-4 per KWH generated through coal and other means.
- This could be a serious challenge to state electricity regulators as the selling price of power cannot be increased corresponding to the purchasing price.

Steps to be taken:

- Municipalities and private players in this business need to ensure segregation at source and support end-to-end segregation.
- The huge informal sector for recyclables in cities must be integrated. There is a need to have a streamlined process with engagement from multiple stakeholders.
- Cities in India have to come up with a roadmap for setting up more waste to energy plants, this roadmap will have to deal with regulatory mechanisms, instilling civic sense by creating awareness and also government support.

Environmental Pollution and degradation

8. Paris Climate Agreement

- » Prelims: Paris agreement 2015, European Green deal
- » Mains: Green growth strategy

Context:

- The Paris Agreement completed its fifth anniversary in December 2020.

Background:

Paris Agreement:

- The Paris Agreement seeks to limit the rise in global temperatures within 2 degrees Celsius.
- This requires cooperation and coordination at a global scale to achieve the targets, it is very important that the countries come up with strategies and plans for net-zero emissions.

Climate action:

- The article analyzes the global efforts in the domain of climate action and the way forward.

The European Green Deal:

- The deal is a series of goals and initiatives announced by the European Commission. It is a new growth model and aims to achieve climate neutrality in the EU. By 2050, Europe wants to become the world's first climate-neutral continent.

The roadmap:

- It also involves a pledge to reduce greenhouse gas emissions by at least 55% compared to the 1990 levels by 2030.
- It also aims to drive down the cost of low-carbon technologies by driving up demand and accompanied by increased investment in Research and Development (R&D). The driving down of cost is important to substitute carbon-intensive technologies with green technologies.
 - * The cost of photovoltaics has already declined by close to 82% in the last decade.

Impact of the pandemic:

- During the coronavirus pandemic, economic activity slowed, causing a reduction in carbon emissions but leaving the EU facing recession. The European Parliament called for an ambitious recovery plan with the Green Deal at its core. In response, the European Commission came up with Next Generation EU, a €750 billion recovery plan. To add to this, an additional financial outlay of half a trillion euros has been earmarked to tackle climate change in the budget.

India's efforts:

- India's renewable energy capacity addition has been on an upward trend in the last couple of years.
 - * Installed solar capacity had increased to 36 gigawatts in 2020. India's renewable energy capacity is currently listed in the fourth position globally and is expected to reach as high as 175 GW by 2022.
- India has also been proactive in institution building in the global arena.
 - * India's pioneering efforts in building the International Solar Alliance at the Paris CoP-15.
 - * India also played a significant role in the Coalition for Disaster Resilient Infrastructure and Leadership Group for Industry Transition.

EU-India collaboration:

- Climate change is no longer a national problem, it is a global threat, therefore it requires countries working in unison to achieve climate goals and save the planet.

- The ambitions of the EU can be matched by the potential of India and together they will be crucial to plans of achieving the global climate goals.
- The EU and India are fully behind the goals enshrined in the Paris Agreement.

Way forward:

- The next decade will be pivotal to the dreams of a carbon-neutral 2050.

Not letting pandemic affect climate action:

- There have been questions raised over the importance of climate-related goals amidst the COVID-19 pandemic. However, some feel that the pandemic has given an opportunity to remodel growth strategies and make 'green growth' central to such strategies, the pandemic should not be allowed to derail climate actions.

Green growth strategy:

- The steps towards achieving the Paris Agreement will receive impetus if the growth strategies adopted by countries post the pandemic embraces 'green growth'. The recovery plans at the level of individual, local, national, regional and international must focus on building back better.
- The countries need to explore green pathways that focus on low carbon intensity, energy efficiency, renewable energy, etc.

Involving all stakeholders:

- The climate change actions cannot be just government-led, it requires more active ownership at the grassroots levels. The target is to synergize the efforts of governments, academicians, business people, policymakers, civic society actors and citizens to work towards a safer planet.

Environmental Pollution and degradation

9. Panel formed to oversee India's Paris climate goals

- » Prelims: AIPA, India's INDCs, Paris climate agreement
- » Mains: Strategies to meet India's Paris commitments

Context:

- The Union Environment Ministry has constituted a high-level inter-ministerial Apex committee for Implementation of Paris Agreement (AIPA).

Details:

- AIPA has been constituted under the chairmanship of Secretary, MoEFCC.
- Senior officials from fourteen ministries will serve as Members to AIPA who will oversee the progress in implementation of India's NDC.

Functions:

- The purpose of AIPA is to generate a coordinated response on climate change matters that ensures India is on track towards meeting its obligations under the Paris Agreement including its Nationally Determined Contributions (NDC).
- Another key function of AIPA would be to operate as a National Authority to regulate carbon markets in India under Article 6 of the Paris Agreement.
- It would formulate guidelines for the consideration of projects or activities under Article 6 of the Paris Agreement.
- AIPA will issue guidelines on carbon pricing, market mechanism, and other similar instruments that have a bearing on climate change and NDCs.
- AIPA will also ensure that India maintains its climate leadership as one of the few countries in the world whose climate actions are consistent with the goals of the Paris Agreement.

Environmental Pollution and degradation

10. India mulls E20 fuel to cut vehicular emissions

- » Prelims: National Bio-fuel policy, sources of ethanol
- » Mains: Significance of Ethanol blending

Context:

- The government has proposed the adoption of E20 fuel as an automobile fuel.

Background:

- The National Policy on Bio-fuels has set an indicative target of 20% blending of ethanol in petrol and 5% blending of biodiesel in diesel to be achieved by 2030.
- However, the current permissible level of blending is 10% of ethanol. India reached has only 5.6% of blending in 2019.

Details:

- E20 fuel is a blend of 20% of ethanol and 80% gasoline.
 - * Ethanol is a biofuel and a common by-product of biomass processing of agricultural feedstock such as corn, sugarcane, hemp, potato, etc.
 - * It is produced mainly from molasses, a by-product of sugar manufacture.
 - * Ethanol is basically alcohol of 99%-plus purity, which can be used for blending with petrol.
- The proposal has also called for the display of compatibility of vehicles with the percentage of ethanol (to be defined by the vehicle manufacturer) in the blend with a sticker.

Significance:

- The notification would facilitate the development of E20-compliant vehicles.
- Adoption of E20 fuel will be instrumental in cutting down vehicular emissions. It will help in reducing emissions of carbon dioxide, hydrocarbons, etc.
- It will also help in cutting down the country's oil import bill, thereby saving foreign exchange and boosting energy security.
- The proposal would extend support to the agricultural sector. Adopting biofuels as an alternative source of energy can significantly improve farmers' income.
- An integrated biofuel chain can also help generate employment opportunities in the economy.
- With advancement in technology, these biofuels could also be generated from wastes. This could augment waste to wealth creation.

Species in news-Flora**11. New species of sun rose****Context:**

- Botanists have discovered a new species of the wild sun rose from the Eastern Ghats in India.

Details:

- The new species, named *Portulaca laljii* has been discovered from Prakasam district of Andhra Pradesh
- It has unique features such as a tuberous root, no hair in its leaf axils, a reddish-pink flower, prolate-shaped fruits, and copper brown seeds without lustre. The succulent nature of tuberous roots allow the plant to survive on rocky crevices
- The flowers are very attractive and bloom for months from June to February. The plant can have a rich horticultural value.

Species in news-Fauna**12. Indian peacock softshell turtle (*Nilssoniahurum*)**

- It is a species of turtle found in South Asia
- It is listed on the IUCN Red List as a vulnerable species.
- It is a schedule I species

Threat:

- They are hunted for human consumption which is the greatest threat to turtle survival.

- Other factors include pollution, river traffic, sand mining, damming of rivers, and conversion of water bodies into agriculture land, among others.

Species in news-Fauna**13. Lion-tailed macaque**

- It is endemic to the rainforests of the Western Ghats and spreads over three States — Tamil Nadu, Karnataka and Kerala.
- Because they only eat fruit and insects, they are restricted to rainforests where these resources are available throughout the year.
- Unlike other macaques, it typically avoids humans when possible.
- Endangered (EN) on the IUCN Red List
- Protected under Schedule I of the Wildlife (Protection) Act 1972, India.
- Included on Appendix I of the Convention on International Trade in Endangered Species (CITES), making international trade in this species illegal

Threat:

- Habitat destruction
- Hunting for skin, meat and erroneously as a source of medicine.
- Accidents due to electrocution or being run over by vehicles caused a decline in population in some places

Species in news-Flora**14. Murain grass identified by scientists in the plateaus of Western Ghats of Goa****Context:**

- A new species of Indian Murain grasses known for their ecological and economic importance, such as fodder, have been spotted by scientists in Goa in the Western Ghats.

Characteristics:

- The species has adapted to survive harsh conditions, low nutrient availability, and blossoms every monsoon.

Taxonomy:

- The species was named *Ischaemum janarthanamii* in honour of Prof. M. K. Janarthanam, Professor of Botany, Goa University, for his contribution to the Indian grass taxonomy and documentation of the floristic diversity of Goa state.
- 2017 monsoon saw the first collection of this new species. The population was kept under observation for the following two years to ascertain the consistency of its characters.

- The novelty of the species was confirmed by morphological and molecular data of the species.

Area of presence:

- » Around the world, 85 species are known from *Ischaemum*, of which 61 species are exclusively found in India. The Western Ghats have 40 species with the highest concentration of the genus.
- » *Ischaemum janarthanamii* grows on low altitude lateritic plateaus in the outskirts of Bhagwan Mahavir National Park, Goa.
- » The vegetation is exposed to extreme climatic conditions like desiccation in drier months and soils with low nutrient availability. However, withstanding these, the species has adapted to survive harsh conditions and blossom every monsoon
- » The Western Ghats is one of the four global biodiversity hotspots of India, is known for a wide diversity in flora and fauna.

Species in news-Fauna

15. Myristica swamp treefrog

What's in News?

- *Myristica* swamp treefrog (*Mercurana myristicapalustris*) has been recorded for the first time north of the Shencottah gap in the Vazhachal Reserve Forest in Kerala.

Myristica swamp treefrog:

- It is a rare arboreal species. These frogs are rare and elusive for the reason that they are arboreal and active only for a few weeks during their breeding season.
- The frog is endemic to the Western Ghats.
- They exhibit unique breeding behaviour. The breeding season, unlike for other frogs, starts in the pre-monsoon season (May) and ends before the monsoon becomes fully active in June.
- After breeding and egg-laying, they retreat back to the high canopies of the tree and remain elusive till next breeding season.

Note:

- The frog was first spotted in 2013 in the *Myristica* swamps of Aripa, near the Kulathupuzha Reserve Forest, in the western foothills of Agasthyamalai.

Places in news

16. Dibru-Saikhowa National Park

- Dibru-Saikhowa is a National Park as well as a Biosphere Reserve situated on the south bank of the river Brahmaputra in Assam.
- The national park is located in Dibrugarh and Tinsukia districts of Assam.

- It is an identified Important Bird Area (IBA) notified by the Bombay Natural History Society.
- The park is bounded by the Brahmaputra and Lohit rivers in the north and Dibru river in the south.

Places in news

17. Ladakh's Tso Kar Wetland

Context:

- India now has forty-two Ramsar sites with the addition of Ladakh's Tso Kar wetland.

Details about the lake:

- The Tso Kar Basin is a high-altitude wetland complex, consisting of two principal waterbodies, Startsapuk Tso, a freshwater lake and Tso Kar itself, a hyper saline lake, situated in the Changthang region of Ladakh, India.
- It is called Tso Kar, meaning white lake, because of the white salt efflorescence found on the margins due to the evaporation of highly saline water.

A major habitat of avian species:

- The Tso Kar Basin is an A1 Category Important Bird Area (IBA) as per BirdLife International and a key staging site in the Central Asian Flyway.
 - * A1 category under IBA suggests that the site is known or thought regularly to hold significant numbers of a globally threatened species.
- The site is also one of the most important breeding areas of the Black-necked Crane in India.
- This IBA is also the major breeding area for Great Crested Grebe, Bar-headed Geese, Ruddy Shelduck, Brown-headed Gull, Lesser Sand-Plover and many other species.

Ramsar wetland convention:

- The aim of the Ramsar list is "to develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the maintenance of their ecosystem components, processes and benefits".

Organizations/Institutions in News

18. Commission for Air Quality Management

Context:

- Air Quality Commission directs 100 percent switching over of industries in Delhi to PNG.

Details:

- The Commission for Air Quality Management in NCR and adjoining areas reviewed the progress of switching over of industries operating in Delhi

to Piped Natural Gas (PNG)

- Though a sizeable number of industries are using PNG, the Commission stressed the need to switch over to PNG by all identified industries in Delhi considering the fact that the industrial sector is one of the major contributors to air pollution in Delhi and National Capital Region.

About the Commission for Air Quality Management:

- The Commission was constituted in November 2020 through an ordinance for air quality management in the National Capital Region (NCR) and Adjoining Areas.
- It supersedes all existing bodies including the Central Pollution Control Board (CPCB) and the state pollution control boards of Delhi, UP, Haryana, Punjab and Rajasthan in matters of air pollution mitigation.
- Through the ordinance, the Centre has dissolved the Environment Pollution Prevention and Control Authority (EPCA) for the NCR.
- The Commission is a permanent body and will be chaired by a government official of the rank of Secretary or Chief Secretary.
- It is a statutory body.

Members of the Commission:

- A representative of the Secretary of the Environment Ministry, five Secretary level officers who will be ex officio members, and two joint secretary-level officers who will be full-time members.
- Representatives of the CPCB, ISRO, air pollution experts, and three representatives of non-government organisations (NGOs).
- As associate members, the Commission will have representatives from various other ministries including the Ministries of Agriculture, Petroleum, Power, Road Transport and Highways, Housing and Urban Affairs, and Commerce and Industry.

Powers of the Commission:

- It can issue directions and entertain complaints for the purpose of protecting and improving the quality of the air in the National Capital Region and Adjoining Areas and shall also have the duty to take all such measures for protecting and improving the air quality.
- The commission can take measures to abate air pollution and to regulate or prohibit activities that are likely to cause or increase pollution in NCR and adjoining areas.
- The Commission is to have exclusive jurisdiction over NCR, including areas in Haryana, Punjab, Uttar Pradesh and Rajasthan, in matters of air pollution.
- The Commission has penal powers including imprisonment and heavy fines.

- Cases involving the Commission can be heard only by the National Green Tribunal and not by civil courts.

Initiatives in News

19. Green Charcoal Hackathon

Context:

- NVVN (NTPC Vidyut Vyapar Nigam), a wholly-owned subsidiary company of NTPC Ltd, launched the Green Charcoal Hackathon.

About the Green Charcoal Hackathon:

- It is a technology challenge with an aim to fast-track technology developments conducted by NVVN in partnership with EESL (Energy Efficiency Services Ltd – a 100% govt. owned energy service company).
- The purpose of the event is to leverage the innovative Indian mind to bridge the technology gap, with the prime objective to:
 - * Clean the air by eliminating farm fire, producing renewable energy out of the agro residue.
 - * Promote local entrepreneurship.
 - * Increase the income of the farmers.
- The ultimate goal is to reduce the carbon footprint of the nation.
- At the end of the hackathon, the organisers hope to come up with an economical and commercially viable machine that can convert agro residue to charcoal without emissions.
- This is expected to benefit farmers as well as the environment.

Background:

- The increasing air pollution due to the burning of stubble and agro residue by local farmers has become a major concern for the country. As a result, NVVN is looking for technologies to convert the agricultural waste to a form that can be used in the power plants in the form of the Green Charcoal Hackathon. One such option is torrefaction which converts the agro residue to green charcoal.
- The technology to produce torrefied fuel using agro residue biomass is not easily accessible to small entrepreneurs due to the higher cost of imported machines, lack of sufficient manufacturers.
- The technology to produce torrefied fuel using agro residue biomass once developed in India will be made accessible to small entrepreneurs.

*Initiatives in News***20. India Water Impact Summit (IWIS)****Context:**

- 5th India Water Impact Summit (IWIS), organised by the National Mission for Clean Ganga and Center for Ganga River Basin Management and Studies (cGanga)
- The theme being comprehensive analysis and holistic management of local rivers and water bodies with a focus on Arth Ganga – river conservation synchronised development.

Details:

- The India Water Impact Summit is an annual event where stakeholders get together to discuss, debate and develop model solutions for some of the biggest water-related problems in the country.
- 5th IWIS will forge greater interaction between investors and stakeholders in the water sector and promote international cooperation between India and many foreign countries for water and river management."
- It will bring together various stakeholders to discuss, debate and develop model solutions to some of the biggest water-related issues in the country.

Summit:

- As part of Gyan Ganga initiative, engagement with scientists and researchers at the national and international level has been witnessed.
- Summit will try to discuss and address issues of Agriculture, Human Habitation, both urban and rural, on banks of rivers, Tourism, Energy and Flood Management.
- The summit has intentions to work towards implementation of the Prime Minister's vision of Arth Ganga on the ground
- It was said that river conservation itself is an economic activity giving employment to many and is contributing to the GDP.

Need for water use efficiency:

- Two back to back weak monsoons has meant that 330 million people — a quarter of the country's population — are affected by a severe drought. With nearly 50 per cent of India grappling with drought-like conditions, the situation has been particularly grim this year in western and southern states that received below-average rainfall.
- According to the Composite Water Management Index (CWMI) report released by the NITI Aayog in 2018, 21 major cities (Delhi, Bengaluru, Chennai, Hyderabad and others) are racing to reach zero groundwater levels by 2020, affecting access for 100 million people.

- There is a huge scope of water conservation both at the demand-side and supply-side management. The summit endorsed "5 R's" for wastewater management which are recycled, reuse, reduce, recharge (groundwater) and respect (for water).

*Initiatives in News***21. JSA II: Catch the Rain****Context:**

- "JSA II: Catch the Rain" Awareness Generation Campaign launched.

About the campaign:

- The National Water Mission launched the "Jal Shakti Abhiyan II: Catch the Rain" awareness campaign to promote rainwater harvesting.
- The National Water Mission initiated the campaign in collaboration with Nehru Yuva Kendra Sangathan (NYKS) under the Ministry of Youth Affairs & Sports.
- This campaign will run from December 2020 to March 2021.
- NYKS will undertake this awareness building campaign through various Information, Education & Communication (IEC) activities which will include conducting education and motivational programmes and mass awareness campaigns.
- During this period, NYKS teams will also meet the district administrations, line departments and water agencies, hold meetings with pradhans, local influencers and volunteers to further the cause and also prepare plans for the water conservation to be taken up in the next phase of the campaign.

*Miscellaneous***22. Recognition for two new zoos****Context:**

- Rajgir Zoo Safari in Nalanda, Bihar and Shaheed Ashfaqullah Khan PraniUdyaan in Gorakhpur, Uttar Pradesh were granted recognition by the Central Government.

About Rajgir Zoo Safari:






- It is located in Nalanda, Bihar.
- The zoo is established exclusively comprising only safari enclosures which, unlike conventional enclosures, offer larger space for captive animals.
- The zoo proposes to house lions, bears, tigers, leopards and a mixed safari of common herbivore species such as spotted deer, sambar among others.

About Shaheed Ashfaquallah Khan Prani Udyaan:

- It is located in Gorakhpur, Uttar Pradesh.
- This zoo takes the total number of zoos in UP to nine.
- The zoo features enclosures for a range of birds, herbivores and carnivores.

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HEALTH ISSUES

Issues relating to development and management of Social Sector/Services relating to Health

1. Stopping the slide of healthcare in India

- » Prelims: Ayushman Bharath scheme provisions and features
- » Mains: Challenges/concerns in the Indian healthcare system and steps to be taken to overcome them

Context:

- The COVID-19 pandemic has brought in much-needed focus on the ailing Indian healthcare sector.

Concerns:

Issues in public healthcare:

- The public healthcare system faces issues such as, shortage of manpower, infrastructural inadequacies, rampant corruption etc.
 - * There is a huge shortage of healthcare workers particularly nurses and midwives. WHO prescribes 3 nurses per doctor, whereas in the Indian scenario it is roughly 0.6 nurses per doctor, falling way behind the standards.
 - * Currently, the public expenditure on health stands at 1.13% of GDP. The National Health Policy 2017 prescribes a public spend in the range of 2.5% of GDP.

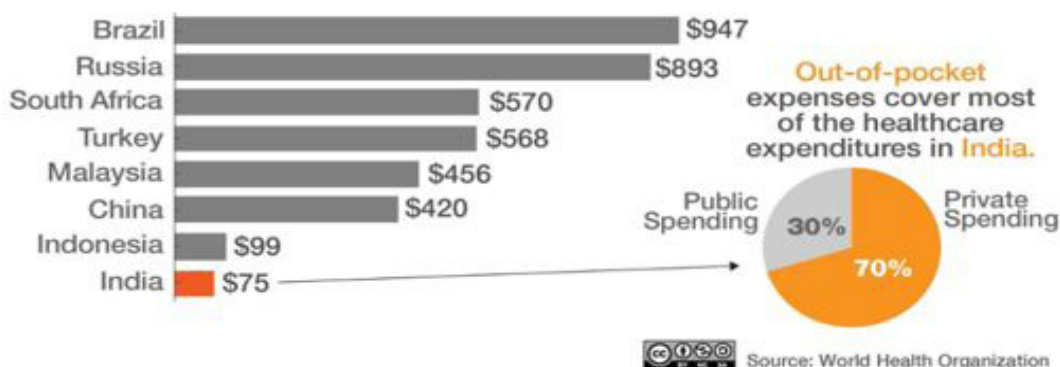
- The core theme of private enterprises in any sector is profit. All major activities are directed towards securing higher profits and private healthcare is not an exception.
- With public healthcare failing to step up, many are left at the mercy of private health enterprises.
 - * India's health problem can be approximately expressed by the 80:20 rule, wherein 20% of people can afford modern healthcare, 40% cannot afford it at all whereas the rest 40% can afford it but with difficulty.

Exclusive nature of private healthcare:

- The private healthcare mainly caters to only a certain segment of people who can afford private healthcare.
- 85% of the population cannot afford expensive corporate private healthcare, but the demand-supply mismatch pushes the needy to end up at the doorsteps of private healthcare.

Health expenditure per person

Among the BRICS and other newly industrialised nations, India spends the least on health per capita.



Privatization of healthcare:

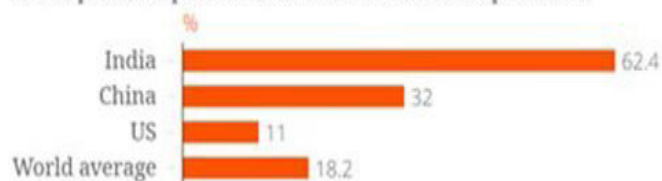
- Indian healthcare has become skewed towards the private sector, with close to 70% being in the private sector, especially when India is largely a low middle-income country.

High out of pocket expenditure:

- The increasing privatization of Indian healthcare system invariably leads to high out of pocket expenditure for Indians.

- * India's out of pocket expenditure is one of the highest in the world with 62.5%.

Out of pocket expenditure as % of total health expenditure



- This high out of pocket expenditure for securing healthcare pushes millions into poverty.
- Each year witnesses close to 70 crore Indians slip into poverty because of issues like accessibility, affordability of healthcare.

Insurance scheme:

- The social insurance schemes have brought in windfalls to the private healthcare sector, the combination of insurance and private sector has become an unholy nexus.
 - * The health insurance schemes provide for covering medical and surgical expenses of an insured individual. It reimburses the expenses incurred due to illness or injury to the healthcare provider.
- The insurance schemes have provided private healthcare providers with an incentive to maximize their returns by expanding the bill.
- There has been sufficient evidence wherein the insurance is claimed to the ceiling level without delivering the commensurate services.

The moral hazard:

- Under the social insurance schemes, the doctors or health practitioners are not constrained by the ability of the patient to pay as they are covered under the social insurance scheme.
- The doctors and hospitals have been seen encouraging the patients to opt for more tests and intervention even when it is not necessary.
- The knowledge differential between the health practitioners and the ignorant patients is being exploited, this drives up consumption of services, creating a false demand-supply mismatch.

Neglect of Primary healthcare:

- The increasing focus towards secondary and tertiary healthcare would squeeze out financial support to primary health care and weaken its ability to deliver.
 - * Primary health care (PHC) is a whole-of-society approach to health and well-being centred on the needs and preferences of individuals, families and communities. It addresses the broader determinants of health and focuses on the comprehensive

and interrelated aspects of physical, mental and social health and wellbeing.

- Neglect of primary healthcare can have dangerous consequences on public health. Evidence has suggested that the vacuum created by PHC is filled by Registered Medical Practitioners and quacks who are not equipped and trained to prescribe medications to the people. They routinely prescribe antibiotics and steroids which have led to the building up of antimicrobial resistance.

Way forward:

Ensuring adequate staffing:

- Empowering graduates of BSc (Nursing) to be nursing practitioners will plug the shortfall in PHCs.
- Imposing an obligation of serving in rural areas for doctors will also see better access to healthcare in rural areas.

Public spending:

- The Government has to draw a timeline to indicate how it will aim to increase financial support to the health sector in a phased manner in line with the National Health Policy 2017 which prescribes a public spend in the range of 2.5% of GDP.

Prominence to PHC:

- PHC is the edifice on which the secondary and tertiary healthcare stand on, thus PHC requires more support in terms of financial outlay, personnel deployment and basic infrastructure.
- Primary health care is rooted in a commitment to social justice and equity.

Conclusion:

- The COVID-19 pandemic has exposed some of the vulnerabilities of India's health sector, it is time the policy-makers take stock of the situation and take necessary steps to make health care what it is supposed to be, accessible, affordable and of good quality a reality.

Additional information:

Ayushman Bharat:

- Nearly 50 crore people or 40% of India's population will have health insurance under Ayushman Bharat, a health policy for the underprivileged.
- Ayushman Bharat is being implemented through a trust model and not the insurance model.
 - * Under the trust model, the premium will not be paid to an insurance company but will be pooled into a trust. It is this trust that will manage and administer the health scheme and also pay the claims.

* Under the insurance model, the state will pay premiums to an insurance company just like you do to your health insurer. The onus will be on the insurer to administer and pay the claims.

- Currently, among the 12 crore cardholders under the scheme, only 1.27 crore people have secured benefits of the scheme.

Issues relating to development and management of Social Sector/Services relating to Health

2. House panel moots law to keep a check on private hospitals

- » Prelims: National health policy provisions and targets
- » Mains: Concerns associated with privatization of healthcare system in India and associated concerns

Context:

- The Parliamentary Standing Committee on Home Affairs' report has echoed the need to have a Public Health Act to keep a track on private hospitals and healthcare centres.
- The committee's recommendation has been in the light of the COVID-19 pandemic. The Committee has noted that during the COVID-19 pandemic several private hospitals were indulging in malpractices such as charging exorbitant prices, black marketing of medicines, etc.

Report's observations:

Lack of a comprehensive law:

- The panel was of the opinion that the present legal mechanisms are not robust to curb the malpractices that are widely prevalent in private healthcare.

Insistence on cash payments:

- Extremely profit-motivated private enterprises have been known to insist on cash payment.

Insurance:

- Private hospitals refused to admit COVID-19 patients even when insured, this caused a financial strain on the families at a time when the pandemic induced lockdown was squeezing the disposable income.
- The panel saw this behaviour of hospitals as a breach of trust and abdication of the responsibility on behalf of the hospitals.
- Another observation noted by the panel is the rise in the premium costs of insurance in COVID times, especially for senior citizens.

Report's recommendations:

Regulatory oversight:

- Thus, the panel has called for a comprehensive Public Health Act that obligates the private healthcare establishments to adhere to the regulatory standards. A regulatory oversight would compel all the hospitals functioning in the country to abide by the laws.
- A suitable legislation would help better monitor the private health establishments to prevent malpractices.

Cashless treatment:

- The panel has recommend allowing cashless treatment for COVID-19 for people who are covered by insurance.
- This will be a major relief to patients suffering from COVID-19, as these are difficult times with prevalent job losses and unemployment making it difficult to pay in cash.

Conclusion:

- Access to quality, affordable healthcare should not be made conditional to the ability to pay. The private hospitals have been guilty of several malpractices which aggravated the pandemic's impact on patients.
- The Parliamentary Standing Committee's call for legislation to oversee the functioning of the private hospitals is a step in the right direction provided that monitoring doesn't mean micro-managing private hospitals.
- Universal state-provided health services under a rights-based, non-exclusionary framework, implemented by states will be needed to make quality health truly accessible and affordable.
- The implementation of the recommendations of the panel along with addressing the lacunae in the health system will go a long way in making the right to health a fully legal and justiciable right.

Issues relating to development and management of Social Sector/Services relating to Health

3. Delivery of COVID-19 vaccines poses a huge challenge

- » Prelims: Functioning of vaccines, terminology associated with vaccines, eVIN project
- » Mains: Challenges associated with delivery of COVID-19 vaccines in India and suggestions to ensure an effective vaccine delivery system

Context:

- As the COVID-19 vaccine development efforts are progressing the attention is shifting towards the effective delivery of COVID vaccines to all.

The article analyzes the challenges and concerns in this regard.

Challenges:

Scale:

- Studies indicate the need to vaccinate at least 60-70% of the population to end the pandemic. This would amount to around 80-90 crore people in India.
- Unlike the national immunisation programme which is limited to vaccinating children, COVID-19 vaccination will be across age groups, including older people.

Financial challenge:

- Given the number of doses of the vaccine required in India, the financial resources required to purchase vaccines would be substantial. Given the already bleak economic condition and low government revenues, the need for the financial resources to buy these vaccines would only challenge the finances further.

Infrastructure challenge:

- Most of the COVID-19 vaccines, the RNA vaccines in particular, require ultralow storage and distribution temperatures in the range of -70 degrees C to -80 degree C.
- Though such temperatures could be obtained, the scale of cold storage required to store hundreds of millions of such vaccine doses poses a critical challenge.
- Building new ultra-cold storage infrastructure would require considerable resources and also the uninterrupted power supply. This could pose challenges in rural areas where ensuring uninterrupted power supply is a challenge.

Logistics challenge:

- Given the large geographical area of India and the fact that it includes some difficult terrain necessitates the need to take into consideration the logistics needed to distribute and deliver vaccines to everyone.
- Given that most vaccines under development use two doses of the vaccine to achieve best results, the vaccine delivery would also face the herculean challenge of the need to vaccinate people with two doses four weeks apart.
- Most of the vaccines under development include injectable vaccines. This would require trained professionals in very large numbers.

Ethical challenges:

- Given that the vaccines would be in short supply in the initial phases until mass production of the vaccines pick up the pace, there would be the scramble to get access to the vaccines. The richer countries and individuals might have greater access to such vaccines.

- The access to potential vaccines involves some ethically contentious questions like deciding whom to vaccinate when there is an insufficient supply of vaccines to all.

Vaccine hesitancy:

- Vaccine hesitancy refers to delay in acceptance or refusal of vaccines despite the availability of vaccine services and this can be a major impediment to the success of the vaccine drive.

Way forward:

Newer approaches:

- Given the non uniform availability of cold storage in the country, it may make sense to consider bringing people to the vaccine, instead of taking the vaccine to people in some settings.

Developing suitable vaccines:

- There are ongoing attempts to modify the vaccines and increase their stability to suit the storage conditions that already exist. Though such vaccines are unlikely to become available in the first-generation vaccines, the efforts should continue.
- The Oxford vaccine does not require ultracold temperatures, and hence, the existing system used in the routine immunisation programme may be able to handle the vaccines.

Learning from past experience:

- India's experience with polio and measles-rubella campaigns could help guide India in its COVID-19 vaccine delivery programme.
- The lessons learnt from the national immunisation programme for children can be replicated.
- India's eVIN Project could provide some valuable lessons for the maintenance of the vaccine cold chains.
 - * eVIN (Electronic Vaccine Intelligence Network) is an indigenously developed technology system in India that digitizes vaccine stocks and monitors the temperature of the cold chain through a smartphone application. The innovative eVIN is presently being implemented across twelve states in India. eVIN aims to support the Government of India's Universal Immunization Programme by providing real-time information on vaccine stocks and flows, and storage temperatures across all cold chain points in these states.

Prioritizing:

- The vaccines should be prioritised for vulnerable groups as identified by the government.
 - * The government recently said it will procure the vaccine and distribute it under a special COVID-19 immunisation programme to four categories of people, free-of-charge. The priority groups named are healthcare

professionals including doctors, nurses and ASHA workers, a second category that includes frontline workers including police and armed forces, the third category of those aged above 50 and finally those below 50 years of age with co-morbidities.

Ensuring accessibility:

- To ensure equitable access to all, the vaccines may be made available only in the public sector, at least when supplies are limited. There is a need to ensure that the vaccines are available for free.
- However, it does not make sense to rule out the possibility of letting companies sell vaccines to people who can afford as and when such vaccines become available in plenty. This approach could help reduce the burden on the government and also help the companies to maintain business continuity.

Conclusion

- There is a need to ensure people receive factual and timely information and updates on vaccine rollout progress and benefits.
- A mechanism will have to be set up to deal with the public's anxiety and queries regarding government's decision for prioritization of vaccine administration and the apprehension about the vaccines introduced after a short trial raising safety concerns.
- The vaccine strategy has to be reinforced by a robust mechanism to deliver and also adequate manpower to carry out the vaccination drive.
- The fear of adverse events, misconception about vaccine efficacy, rumours and negative narrative in media/social media space will have to be managed sensitively to ensure the vaccination drive finds success.

India's COVID-19 vaccine policy:

- The government's procurement and distribution strategy has been limited to procuring solely from domestic sources and to depend entirely on public resources for distribution without any participation from private hospitals.
- The government appears to have planned to carry the full burden of the cost of vaccination. It is a commendable step because it will ensure accessibility to all.
- India is aiming to vaccinate around 300 million people against COVID-19 during the course of 6-7 months. This will mean that roughly 20% of the population will be vaccinated by July or August 2021.
- The scale of vaccination is in gradual steps, with identified beneficiaries to be given preference.

* The health care workers have been given the first priority as they are the frontline personnel and are exposed to the virus on a very frequent basis and at a proximate distance.

* The elderly population follows the health care workers, people above the age of 50 are considered under this, with preference being given to those that are aged 60 and above.

- The electoral roll will be used for identification and verification of the beneficiaries.
- The COVID Vaccine Intelligence Network (Co-WIN) system — a digitalized platform, will be used to track enlisted beneficiaries for the vaccination and anti-coronavirus vaccines on a real-time basis.

Diseases in news

4. WHO World Malaria Report 2020

- » Prelims: Micro-organism associated with Malaria, vectors of malaria
- » Mains: Initiatives taken to control Malaria in India

Context:

- The World Malaria Report 2020 released by WHO.

Background:

About Malaria:

- Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. Malaria is caused by Plasmodium parasites.
- It is preventable and curable. If untreated, malaria can be fatal.

Malaria in India:

- Malaria has been a problem for India since centuries. During the latter parts of the nineteenth and early twentieth centuries, nearly one-fourth of India's population suffered from malaria, particularly in the states like Punjab and Bengal. The economic losses were also enormous due to malaria.
- The National Malaria Control Programme was first launched in 1953. This was a successful programme which helped to reduce the number of malaria cases significantly by 1958.
- In more recent times, the National Framework for Malaria Elimination (NFME) was launched in 2016 by the Health Ministry. Based on the NFME's framework, the National Strategic Plan for Elimination of Malaria was launched in 2017. This plan lays down the strategies for 2017 to 2022.
- Malaria has been made notifiable in 31 states/UTs of India. The states with a high burden of the disease are West Bengal, Jharkhand, Madhya Pradesh and Chhattisgarh.

About the World Malaria Report:

- The World Malaria Report gives the estimated cases for malaria across the world, based on mathematical projections. It provides a comprehensive update on global and regional malaria data and trends. The report tracks investments in malaria programmes and research as well as progress across all intervention areas: prevention, diagnosis, treatment and surveillance. It also includes dedicated chapters on malaria elimination and on key threats in the fight against malaria.
- The report is based on information received from national malaria control programmes and other partners in endemic countries.
- It is published by WHO annually.

Highlights of World Malaria Report 2020

- The report indicates that India has made considerable progress in reducing its malaria burden.
 - * India is the only high endemic country which has reported a decline of 17.6% in 2019 as compared to 2018.
 - * India has also contributed to the largest drop in cases region-wide, from approximately 20 million to about 6 million. The percentage drop in the malaria cases was 71.8% and deaths was 73.9% between 2000 to 2019.
 - * India achieved a reduction of 83.34% in malaria morbidity and 92% in malaria mortality between the year 2000 and 2019.
- This helped India achieve Goal 6 of the Millennium Development Goals (50-75% decrease in case incidence between 2000 and 2019).

High Burden to High Impact:

- WHO launched the High Burden to High Impact approach as a targeted response to malaria.
- The approach is currently being driven by the 11 countries that carry a high burden of the disease (Burkina Faso, Cameroon, Democratic Republic of the Congo, Ghana, India, Mali, Mozambique, Niger, Nigeria, Uganda and United Republic of Tanzania).
- Key elements include:
 - * political will to reduce the toll of malaria;
 - * strategic information to drive impact;
 - * better guidance, policies and strategies; and
 - * A coordinated national malaria response.

Diseases in news**5. Eluru 'mystery' illness**

- » Prelims: Eluru illness
- » Mains: The threat posed to human health by water pollution

Context:

- Eluru a city located in Andhra Pradesh has been affected by a mysterious illness.

Symptoms

- Reported symptoms include headache, vomiting, dizziness, convulsions, seizures, nausea, anxiety, loss of consciousness and other neurological symptoms

What could have contributed to the sickness?

- The cause is currently unknown but it is being investigated.
- The All India Institute of Medical Sciences (AIIMS), New Delhi found traces of lead and nickel in blood samples
- Nickel was detected during the preliminary investigation in milk samples collected from Eluru.
- Primary suspicion is on water contamination by heavy metals.
- Scientists suspect that pesticide or insecticide has seeped into drinking water sources.
- Samples from local fish were collected
- The district administration and Eluru Municipal Corporation officials are also investigating if excessive use of bleaching powder and chlorine in sanitation programmes as part of Covid-19 prevention measures caused water contamination.

Action taken by the Government

- The West Godavari district administration deployed medical teams to monitor residents in the town and nearby areas affected by the mystery illness.
- The medical and relief teams have conducted household surveys to check the condition of people

Diseases in news**6. Mucormycosis**

- » Prelims: Mucormycosis
- It is a serious but rare fungal infection caused by a group of molds called mucormycetes.
- It mainly affects people who have health problems or take medicines that lower the body's ability to fight germs and sickness.

- It most commonly affects the sinuses or the lungs after inhaling fungal spores from the air, or the skin after the fungus enters the skin through a cut, burn, or other type of skin injury. However, it can occur in nearly any part of the body.

Diseases in news-COVID19

7. SARS-CoV-2 Genomic Consortia (INSACOG)

- » Prelims: SARS-CoV-2 Genomic Consortia
- The government has launched the Indian SARS-CoV-2 Genomic Consortia (INSACOG), comprising 10 labs spread across India.
- The overall aim of the Indian SARS-CoV-2 Genomics Consortium is to monitor the genomic variations in the SARS-CoV-2 on a regular basis through a multi-laboratory network.
- This vital research consortium will also assist in developing potential vaccines in the future.
- The consortium will ascertain the status of new variant of SARS-CoV-2 (SARS-CoV-2 VUI 202012/01) in the country, establish a sentinel surveillance for early detection of genomic variants with public health implication, and determine the genomic variants in the unusual events/trends (super-spreader events, high mortality/morbidity trend areas, etc.).

Diseases in news-COVID19

8. Ethical challenges of vaccinating people with comorbidities

- » Prelims: Co-morbidities
- » Mains: Ethical challenges in vaccinating people with comorbidities

Context:

- The union health ministry has issued operational guidelines for COVID-19 vaccination
- It has identified four high-risk groups — healthcare workers, frontline workers, persons over 50 years of age, and persons younger than 50 years with comorbidities — that would receive COVID vaccine on priority.

What are comorbidities?

- Comorbidity or a comorbid condition is the presence of two or more diseases or conditions that occur together in the same person at the same time
- As per the National Centre for Disease Control, New Delhi, hypertension, diabetes, liver disease, heart disease, asthma, chronic renal failure, chronic obstructive pulmonary disease (COPD), cancer and bronchitis have been associated with hospitalisation and disease severity.

Database of people with comorbidities:

- National databases of people with comorbidities are not available.
- However, though not comprehensive, since 2010, State governments have been conducting population-based district level screening to detect non-communicable diseases under the National Program for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) guidelines.
 - * India is experiencing a rapid health transition with a rising burden of Non-Communicable Diseases (NCD) surpassing the burden of Communicable diseases like water-borne or vectorborne diseases, TB, HIV, etc.
 - * The objective was
 - » Health promotion through behaviour change with involvement of community, civil society, community based organizations, media etc.
 - » Screening and early detection
 - » Timely affordable and accurate diagnosis
 - » Access to affordable treatment
 - » Rehabilitation
 - * Under NPCDCS, Non-Communicable Diseases (NCD) Cells are being established at National, State and District levels for programme management, and NCD Clinics are being set up at District and CHC levels, to provide services for early diagnosis, treatment and follow-up for common NCDs.
- Also, as part of the Ayushman Bharat initiative, States have been carrying out universal screening of people aged over 30 years.
- State governments have been asked to refer to the screening data for non-communicable diseases to identify individuals with comorbidities for COVID vaccination.
- Even the union government's guidance to States is to use the existing database of comorbidities to vaccinate people. Since the database is not comprehensive, relying solely on that can be problematic.

Which comorbidities?

- Considering a range of comorbidities that increases the risk of disease severity, people with which comorbidity should be given more priority for vaccination?
- The evidence available is insufficient to indicate the degree of severity amongst the comorbidities.
- As per the evidence elsewhere, diabetes, hypertension, coronary artery disease and chronic kidney disease increase the risk of COVID-19.

Multiple comorbidities:

- But considering that Indians often have many risk factors, should people with two or more comorbidities be prioritised over those with just one comorbidity?
- Each comorbidity increases vulnerability. However, in case of shortage of vaccines, multimorbidity should be given first preference
- In general, elderly people with multi morbidity, elderly with any comorbidity, elderly, young with multi morbidity, and young with any comorbidity seems to be a sensible order of priority

Health inequality:

- Also, poor people and those living in rural areas very often are unaware of their disease status.
- Besides the poor and people in rural areas, millions of middle-class Indians are unaware of their underlying chronic conditions.
- Only a few people qualify for consideration based on documentation of their comorbidities. This will unduly favour the rich and educated who keep documentation and thereby further exacerbate health inequity

Males over females?

- Another ethical challenge revolves around gender. Males have been found to be at a greater risk of progressing to severe disease and even dying compared with females.
- Should males with comorbidities then be prioritised over females with comorbidities? Will that further exacerbate the underlying gender-based inequities?

Way forward:

- This poses a challenge, but would hopefully also catalyse fresh efforts to develop the right health databases
- In addition to using the NCD database, States should allow people with comorbidities to self-report and also conduct a quick survey to screen, enrol and schedule the vulnerable for vaccination in the entire country
- Comprehensive efforts should be done to test the blood glucose levels and blood pressure to make a new diagnosis and vaccinate them.

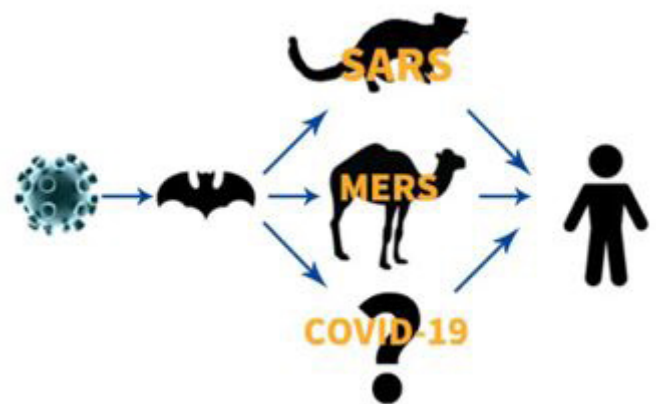
Diseases in news-COVID19**9. Slow progress**

- » Prelims: SARS-CoV, MERS-CoV
- » Mains: Preparing for the next pandemic

Introduction:

- In 2003, a WHO team was able to identify the animal source of SARS coronavirus within weeks

- In the case of MERS coronavirus, the intermediate host was identified more than a year after the first human case was reported.
 - * Generally speaking, the intermediate host of SARS-CoV is masked palm civet, whereas the intermediate host of MERS-CoV is dromedary camel.
- However, in the case of the novel coronavirus (SARS-CoV-2), its source is still after WHO reported the first case.
 - * As of now it looks like bats appear to be the reservoir and human is the final host.
 - * However, there are still many difficulties in identifying intermediate host(s).

**Importance of detection:**

- Knowing the natural reservoirs and intermediate hosts and the events that allowed the virus to jump across the species barrier are important in prevention.
- Discovery of the potential intermediate host is beneficial for us to cut the transmission between animals and humans via timely and effective intervention, and thus helps prevent this pandemic further deteriorating and decreases loss of life and property.

Impediments in detection:

- First, there is no direct evidence for source tracing. China found an infection source from Wuhan
 - * However, the market had been shut down and cleaned up from January 1 and the surveillance video record was no longer available. Therefore, it is difficult to uncover the species.
- Second, large-scale screening of wildlife is time consuming. In the absence of direct evidence, the most feasible approach is to screen wild animals on a large scale.

- * Since the outbreak of COVID-19, several research teams have pointed out that mink, pangolin, and tortoises may be the intermediate hosts.
- * However, all animals are suspicious in theory, so the number of samples to be analyzed is very large, which makes the work impossible to complete in a short time.

Concerns:

- Even as the global focus shifted to therapeutics and vaccine trials, it is reassuring that the global health body is still determined to find the virus's origin. But the pace of investigation leaves much to be desired.
- If China failed to alert WHO immediately after a Wuhan cluster was reported, its reluctance to quickly and earnestly investigate the source.
 - * The reluctance has only increased after mounting international ire over its reporting the outbreak and the huge economic cost of the pandemic globally.
- With the virus spread so wide, zeroing in on the intermediate host becomes more difficult as the possibility of humans having spread the virus to animals cannot be ruled out.

Conclusion :

- Hence, a multi-pronged approach with an emphasis on investigating China's wildlife farms becomes crucial.
- This highlights the importance of working alongside China to uncover the virus's origin.
- Given the scale and complexity of the COVID-19 pandemic, we need a sustained and comprehensive set of scientific investigations in China and elsewhere to find the intermediate host(s) and virus origins.

Issues relating to health

10. Triclosan

- » Prelims: Triclosan and its usage
- » Mains: Concerns associated with usage of Triclosan

Context:

- IIT Hyderabad Bio Researchers reveal neurotoxic nature of Triclosan
- The research findings were published in the scientific journal 'Chemosphere' of the United Kingdom.

Background:

- Triclosan is an antibacterial and antifungal agent present in some consumer products, including toothpaste, soaps, detergents, toys, and surgical cleaning treatments.

- Triclosan is used in several consumer products to increase their shelf life by stopping the growth of unwanted micro-organisms, which might degrade the product.
- One can find triclosan even in the kitchenware and clothes although its initial use in the 1960s was restricted to medical care products.

Details:

- The permissible limit of triclosan is 0.3% in India
- The study reveals that triclosan in minute amounts cannot only affect the genes and enzymes involved in neurotransmission, but it can also damage the neurons.
- The presence of triclosan in human tissues and fluids may lead to neuro-behavioral alterations in humans, which may be further linked to neurodegenerative diseases.

Concerns:

- Generally, in very low amounts, Triclosan may be well tolerated by humans but the use of triclosan based products on a daily basis poses a big risk to humans in the long term.

Is it regulated in India?

- India lacks any such regulation so far on the use of triclosan based products.

Recommendation:

- This study suggests caution in the use of triclosan based products and perhaps it is time that triclosan use in India is banned or restricted.

Issues relating to health

11. Honey, the sweetener on your plate may be sugar syrup

- » Prelims: FAO's Codex Alimentarius
- » Mains: Need for regulating quality and purity of food items consumed by humans

What's in News?

- The Centre for Science and Environment (CSE) has claimed that the honey marketed by prominent Indian brands failed a key test of purity.
- Current regulations specify around 18 parameters that honey must comply with for producers to label it 'pure honey'.
- While the Indian brands qualified the tests that are required under national food regulatory laws to be labelled as honey, only three qualified the Nuclear Magnetic Resonance test.

Nuclear Magnetic Resonance:

- The NMR spectroscopy is an important technique for structural characterization of pharmaceutical and other chemical molecules.

- NMR can ascertain the composition of a product at the molecular level.
- It has wide applications in analysing molecular structure, quality control as well as for determining purity of samples.

How does it work?

- The sample to be tested is placed in a magnetic field and the Nuclear Magnetic Resonance signal is produced by excitation of the nuclei sample with radio waves into NMR, which is detected with sensitive radio receivers.
- The intramolecular magnetic field around an atom in a molecule changes the resonance frequency, thereby providing access to details of the electronic structure of a molecule and its individual functional groups.

Definition of Honey:

- The Globally accepted definition of honey given by the Food and Agriculture Organization's (FAO's) Codex Alimentarius Commission is "(it) is the natural sweet substance produced by honeybees from the nectar of plants or from the secretions of living parts of the plants or excretions of plant sucking insects on the living parts of the plants, that bees collect, transform by combining with specific substances of their own, deposit, dehydrate, store and leave in the honey comb to ripen and mature".

Way forward:

- To check this, there are three ways:
 - * One, to further tighten standards and testing requirements for honey. To do this, Food Safety and Standards Authority of India (FSSAI) would need to include Nuclear Magnetic Resonance (NMR), which is already being done for honey for export.
 - * Two, is to test and make data available publicly. FSSAI must be required to buy samples from the market and disclose the results in the public domain and take punitive action against companies selling adulterated honey or those making misleading test-related claims.
 - * Third, and much more critical, is the food-system approach. To do this, we need a system of traceability and transparency across the honey supply chain. Every honey producer must know their bees — the botanical source of all honey produced along with the geographical location of the apiary should be traceable to the stakeholders, including the consumer. Each entity in the supply chain such as the collector, trader, packer or seller should keep a record of required details which should be open for inspection.

Miscellaneous

12. Universal Healthcare Coverage Day

- » Prelims: National Health policy provisions
- » Mains: Meaning of UHC and its significance

Context:

- Universal Healthcare Coverage Day celebrated in Health Ministry.

Details:

- In a bid to give access to health services to people belonging to every strata of the society, December 12 is celebrated as the Universal Health Coverage Day all across the world.
- The theme of 2020 is "Health for all: protect everyone".
- UHC is a means to promote the human right to health. Universal health coverage has been included in the new Sustainable Development Goals adopted by the United Nations.
- Universal Health Coverage (UHC) means everyone can access the quality health services they need without financial hardship. The major features of UHC could be understood by the following three heads:
 - * WHO: All people, including the poorest and most vulnerable.
 - * WHAT: Full range of essential health services, including prevention, treatment, hospital care and pain control.
 - * HOW: Costs shared among entire population through pre- payment and risk-pooling, rather than shouldered by the sick. Access should be based on need and unrelated to ability to pay.

SOCIAL ISSUES

Population and associated issues

1. **Health data shows India doesn't need a two-child policy: PCI**

- » Prelims: Total fertility rate, replacement level TFR definition and trends
- » Mains: Need for population control measures in India, government initiatives

Context

- The National Family Health Survey-5 Phase-1 statistics covering 22 states and union territories has been released by the Ministry of Health and Family Welfare (MoH&FW)

Details:

- The data from phase-1 of the National Family Health Survey-5 (NFHS-5) has revealed that India is making good strides in population control. The country's population is finding a balance as per the latest reports of the NFHS-5 data.
- The international non-profit organization Population Council of India upon analysis of the data has appreciated India's progress.
- The population metrics like total fertility rate, replacement level fertility which indicate the population dynamics are showing signs of optimism.

Total fertility rate:

- The total fertility rate in a specific year is defined as the total number of children that would be born to each woman if she were to live to the end of her child-bearing years and give birth to children in alignment with the prevailing age-specific fertility rates.
- The total fertility rate has decreased across 14 of 17 states and is at 2.1 children per woman or less.

Replacement level fertility:

- Replacement level fertility is the level of fertility at which a population exactly replaces itself from one generation to the next.
- As per the survey, most Indian states have attained the replacement level fertility.

Use of contraceptives:

- The survey reports plenty of evidence of usage of modern contraceptives in both rural and urban areas.
- Another encouraging data is the improvement over the preceding two NFHS surveys, i.e, NFHS-3 and 4 where it was observed that there was a slump in the usage of modern methods of contraceptives and this has been reversed as per

the recent NFHS survey.

Conclusion:

- India has shown that through awareness generation and increasing access to modern contraceptives, the population has stabilized.
- Health data shows India doesn't need a coercive population control policy like the two-child policy.

Population and associated issues

2. **Not in favour of imposing family planning, government tells Supreme Court**

- » Prelims: Total fertility rate, replacement level TFR definition and trends
- » Mains: Need for population control measures in India, government initiatives

Context

- A petition was filed in the Supreme Court (SC) by an advocate stating the need for a population control law.
- The petition highlighted the banes of population explosion, it further went on to state that without a population controlling legislation, the dream of Healthy India, Prosperous India, Clean India, Crime-free India won't be a reality.

Government's response:

- The government made the SC know that it had no plans of imposing mandatory family planning measures.
- The government stated that pressurizing couples to have a specific number of children is not part of their plans to limit population explosion.

Voluntary nature:

- India's family planning exercises so far have been based on voluntary actions of the individuals, as against the 'One child policy' of China, which has been slightly relaxed now.
- India's programme has placed autonomy of the couples at the centre of the policy, allowing the couples to have a say in the size of the family they wish to have.
- India is also a party to the Programme of Action of the International Conference on Population and Development, which categorically decries coercion as a means to family planning.

What do the statistics say?

- The census statistics of 2001-2011 give a sense of optimism, it happened to be the first decade in the last 100 years that added less population from the decade preceding it.
- The particular decade witnessed the sharpest decline in the decadal growth rate of the Indian population in 100 years.
- The Total Fertility Rate (TFR) which refers to the number of children that would be born per woman (or per 1,000 women) if she/they were to pass through the childbearing years bearing children according to a current schedule of age-specific fertility rates has been declining.
- The NFHS survey – 4 is only 1.8, indicating that couples do not want to have more than 2 offsprings.

Social issues-Related to Nutritional insecurity**3. Nutritional agenda for India**

- » Prelims: Important government schemes related to nutrition
- » Mains: Reasons for bad nutritional indicators, steps to be taken.

Context

- The National Family Health Survey-5 Phase-1 statistics covering 22 states and union territories has been released by the Ministry of Health and Family Welfare (MoH&FW)

Malnutrition:

- Malnutrition includes under nutrition (wasting, stunting, underweight), inadequate intake of vitamins or minerals and also condition of overweight or obesity. This results in diet-related non-communicable diseases

Under nutrition:

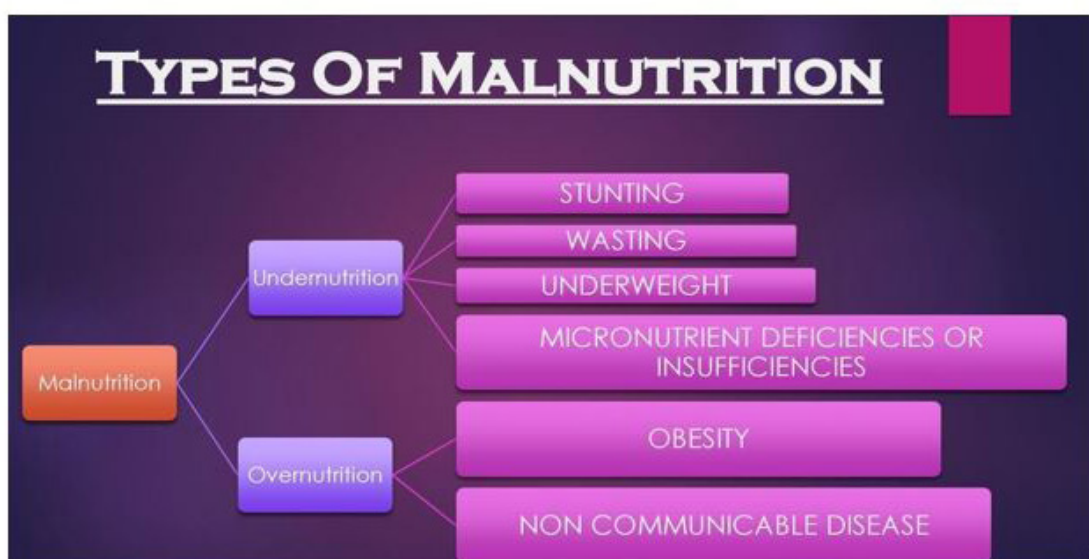
- Under nutrition includes being underweight for one's age, too short for one's age (stunted), being thin for one's height (wasted) and deficient in vitamins and minerals (micronutrient malnutrition).
- Under nutrition is the outcome of insufficient food intake and repeated infectious diseases.

Anaemia:

- Anaemia is a condition in which one lacks enough healthy red blood cells to carry adequate oxygen to your body's tissues. Having anemia can make one feel tired and weak.

The NFHS-5 survey:

- The National Family Health Survey (NFHS) is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
- The survey provides state and national information for India on fertility, infant and child mortality, the practice of family planning, maternal and child health, reproductive health, nutrition, anaemia, utilization and quality of health and family planning services
- The NFHS-5 phase-1 data, though covering only 22 states and UTs and doesn't include the major states like Tamil Nadu, Rajasthan, Punjab, Uttar Pradesh to name a few paints a very gloomy picture about the nutritional status in the country.



Concerns:

Poor nutritional indicators:

- The data paints a poor picture of key nutritional indicators.
 - * The NFHS-5 states that 16 states/UTs have seen a rise in the prevalence of acute malnutrition in comparison to NFHS-4 statistics. Karnataka and Kerala are the only two big states that have seen an improvement.
 - * There has been a rise in adult malnutrition pointing at obesity, poor diet, unhealthy lifestyle.
- The survey reveals that important child nutrition metrics have deteriorated in comparison to the NFHS-4 in many of the surveyed states.
 - * A high number of children seem to be suffering from wasting, stunting, underweight issue etc.
 - * Child stunting which is a key indicator of a child's health has seen an increase in 13 of the surveyed 22 states and UTs when compared to the preceding NFHS survey. Amongst the remaining 9 states, 5 states have seen a very marginal improvement, witnessing improvement of less than 1 percentage point in the five-year period. The World Health Organisation calls stunting as "a marker of inequalities in human development".
 - * The recent NFHS survey points out that Under-5 age underweight proportion has increased in 16 states/UTs. This is a worrying indication as being underweight increases the risk of low bone mineral density and also compromises immunity.
 - * Anaemia has also been seen to be prevalent among the children and women, this has seen to have increased in most of the states and only 4 states/UTs have seen a decline and none of the four includes major or big states.

Economic growth not leading to nutritional security:

- Even some of the industrialised states that have a vibrant economy like Maharashtra and Gujarat too have witnessed a rise in anaemia and wasting.

Why periods of healthy economic growth rates have not transcended into better nutritional outcomes?

- India in the past two decades has had healthy economic growth rates however, this hasn't been inclusive in nature.
- The benefits accruing from the expansion of the economy has not been reaped by all sections of society.

- This period has witnessed rising inequality, greater informalisation of the labour force and reducing employment elasticity of growth
 - * The employment elasticity refers to the percentage change in employment associated with a 1% increase in GDP. Therefore, the higher the employment elasticity, the more labour-intensive growth.

Poor progress:

- Even in states that have seen a reduction in stunting, the decrease has been very minimal and less than the rate required to achieve the government's targets.

Starvation death:

- The agrarian distress and unemployment issue has pushed many into poverty. There have been numerous starvation deaths in the country.
- Volunteers of Right to Food campaign have listed over 100 starvation death post-2015.
- These problems could be now exacerbated by the pandemic and the lockdown that followed.

Pandemic impact on nutrition:

- The available data paints a gloomy picture of health and nutritional indicators. There is a high possibility that the current scenario may be worse off since the COVID-19 pandemic and lockdown has further aggravated the health and nutritional indices.
- The data from NFHS highlights how the pandemic and the lockdown that followed had deleterious effects on food security.
- 'Hunger Watch', a recent survey revealed that there is a decline in food consumption and food insecurity, particularly among the poor and vulnerable households.

Impact on India's development:

- The poor nutritional status does not bode well for India, because deterioration of child nutritional status can lead to a potential drain in India's future human resources.

Positive takeaways from the survey:

- Access to sanitation and clean cooking fuels have been better and widespread when compared to NFHS-4, which bodes well for tackling factors that aid malnutrition.
- Women have witnessed an improvement in indicators linked to their wellbeing, such as spousal violence declined in all but 5 states surveyed, child marriage dipped in 18 states and the access to bank accounts increased in all the 22 states and UTs.

Way forward:**Holistic approach:**

- There is a need for a holistic approach to bring about a more accelerated improvement in nutritional outcomes.
- The nutritional status of children to improve must begin with the health and nutritional status of mothers, thus there is a need for universal maternity entitlements and childcare services to ensure a healthy mother and a healthy infant.
- Improving nutritional standards will also involve health services accessibility and equitable gender relations.
- Creating more employment along with increased access to basic services of health, education, food, social security will entail a more holistic approach.

Decentralized approach:

- There is also a need to come up with region-specific plans, the states and the panchayats can play a pivotal role in identifying the lacunae in meeting the nutritional targets and come up with a region-centric plan to tackle malnutrition.

Social sector programmes:

- The welfare nature of the Indian state has meant that there have been a number of programmes aiming to provide a protection net to the vulnerable people.
- There have been a plethora of initiatives by the central government and the state governments to ensure food security; Schemes like MGNREGA, Public Distribution System (PDS), Integrated Child Development Scheme (ICDS), Mid-day meal scheme has contributed to making a dent in the absolute poverty levels and also improving nutritional indicators.
 - * These schemes are very important for a healthy and prosperous India, thus these schemes require increased coverage backed with increased financial outlay, but unfortunately, these programmes are being hamstrung by underfunding, delay in the release of funds.
 - * Recent data of fund utilization of the POSHAN Abhiyaan showed that only close to one-third of the earmarked funds was utilized post-2017-18.
- There is a compelling case to review the schemes, increase its coverage and enhance delivery mechanisms.

Focus on agriculture:

- Agriculture is important to nutritional outcomes in two ways:

Foods produced:

- Diversification in the food basket to improve nutritional outcomes will have a linkage to what is being produced, thus there is the need to encourage farmers to diversify from paddy and wheat is important.
- Increased emphasis on poultry farming will bring about improved access to other sources of proteins.

Agrarian livelihoods:

- Agrarian economy is the backbone of rural India, close to 69% of the Indian population reside in rural India as per the 2011 census, thus remunerative agriculture will go a long way in improving nutritional outcomes in India.

Conclusion:

- A healthy population is essential for the general welfare and when an opportunity to utilize the demographic dividend is beckoning, India should not miss out on this opportunity.

Social Issues-Related to Nutritional Insecurity**4. Global Hunger Index**

- » Prelims: Parameters in Global Hunger Index
- » Mains: Food security concerns in India and the necessary steps to be taken

Context:

- The Global Hunger Index

Food security concerns in India:

- The Global Hunger Index has ranked India at the 94th position in a list of 107 countries.
- India's malnutrition levels have been alarming, with the malnutrition levels being worse off than some of the neighbours and also some of the African nations.
- India has attained self-sufficiency in food grain production, yet as per a UN-FAO report, 194 million people go hungry every day in India, comprising almost one-fourth of the world's undernourished population.
 - * Right to food was recognized as an intrinsic part of Right to Life by the Supreme Court in the Right to Food case.

India's food production:

- India's annual food grain production is one of the highest in the world recent data reveals that in the year 2018-19 India produced 283.4 million tonnes of food grains.
- India is the leading millet producer in the world and ranks second in rice and wheat production in the world.

- India's horticultural crops, such as fruits and vegetables, have surpassed food grain production with over 313 million tonnes in 2018-19.

Challenges:

Damage at the storage level:

- According to data released by the Department of Consumer Affairs, almost 62,000 tons of food grains were damaged in Food Corporation of India warehouses between 2011 and 2017.
- In 2016-17 alone, over 8,600 tons of food grains were lost.
- The method of storage is not reflective of the times we live in, most of the FCI godowns have a 'Cover and plinth' system where jute bags are used.
- The developed countries store food grains in steel silos that prevent bacterial and fungal growth which are witnessed under the 'cover and plinth' system.

Leakage of food grains:

- A study conducted by the Indian Council for Research on International Economic Relations found that while there is a proliferation of millions of ineligible and bogus ration cards, there are also, simultaneously, a multitude of genuinely poor families that do not even possess ration cards.
- These data expose the poor management of the food ecosystem in India.

Way forward:

- To ensure India's food security, following factors need to be focussed upon.
 - * The government must ensure remunerative prices for farm produce. For this, the Minimum Support Price (MSP) should be made available to the maximum range of farm products. This will apart from incentivizing farmers to grow more will also enhance the purchasing power of farmers so that they can purchase essential food items.
 - * India must improve the Public Distribution System and Public Procurement.
 - * There is a need to diversify the food basket and thus this is an ideal time to include pulses into the Public Distribution System.

Pulses – a rich protein source:

- The Global Pulse Confederation in its report stated that pulses are part of a healthy, balanced diet and have been shown to have an important role in preventing illnesses such as cancer, diabetes, and heart disease.

- The World Food Programme (WFP) recommends 60 grams of pulses in its typical food basket, alongside cereals, oils and sugar and salt.
- The Parliamentary Standing Committee on Food, Consumer Affairs and Public Distribution in its report titled Price Rise of Essential Commodities – Causes and Effects (2020) stated that with the dietary shift in favour of proteins, in an otherwise vegetarian society, the consumption of pulses is rising but the production has largely lagged.
 - * Production of pulses has increased during the last two years which has resulted partly from the continuous increase in MSP, increased procurement, and creation of buffer stock of pulses.

Conclusion

- It is a paradox that India while being one of the leading producers of food grains, continues to perform badly in nutrition indices.
- Food security is being pushed forward through several social welfare schemes like the National Food Security Act, Annapurna scheme, the Public Distribution System, and there is a need to dovetail these efforts with schemes like POSHAN Abhiyaan, Mid-day meal scheme and ICDS to meet nutritional security.
- Under the Annapurna scheme ten kilograms of food grains are distributed per month free of cost to destitute persons above 65 years of age, with no or meagre subsistence.

Social Issues-Human development

5. Human Development Index

- » Prelims: HDI parameters and publishing agency
- » Mains: India's progress in terms of HDI and shortcomings

Context:

- United Nations' Human Development Index (HDI) 2019.

Human Development Index:

- The HDI measures average achievement in three basic dimensions of human development:
 - * Life expectancy
 - * Education
 - * Per capita income

Concerns for India:

- India's HDI value for 2019 is 0.645, which put the country in the medium human development category.
- India dropped two ranks in the HDI standing to 131 out of 189 countries.

- India's gross national income (GNI) per capita on the basis of purchasing power parity (PPP), too, fell.

Encouraging observations for India:

- Though India's overall ranking has come down, however, if the Index were adjusted to assess the planetary pressures caused by each nation's development, India would move up eight places in the ranking, according to the report.
 - * For the first time, the UNDP introduced a new metric to reflect the impact caused by each country's per-capita carbon emissions and its material footprint, which measures the amount of fossil fuels, metals and other resources used to make the goods and services it consumes. This is called "Planetary Pressure-adjusted HDI" (PHDI).
- The report was upbeat about India's green energy initiatives.
 - * Solar capacity in India increased from 2.6 gigawatts in March 2014 to 30 gigawatts in July 2019, achieving its target of 20 gigawatts four years ahead of schedule. In 2019, India ranked fifth for installed solar capacity.
- Between 1990 and 2019, India's HDI value increased from 0.429 to 0.645, an increase of 50.3%.

Government Initiatives

6. Post Matric Scholarship to students belonging to Scheduled Castes (PMS-SC)

- » Prelims: Schemes of the government
- » Mains: Evaluate the government schemes efficacy in empowering the Sc and ST community

Context:

- The Cabinet Committee on Economic Affairs has approved major and transformatory changes in the Centrally Sponsored Scheme 'Post Matric Scholarship to students belonging to Scheduled Castes (PMS-SC)'

Background

- Under the current formula, the Centre provides only funds above the 'committed liability', which in effect translates to about 11 per cent of the total cost.
- This led to many states ending the scheme.

Details

- The Cabinet has now approved a total investment of Rs 59,048 crore for the scheme, of which the central government will spend Rs 35,534 crore — around 60 per cent of the total. State governments will have to cover the remaining amount.

- Apart from the funding, the Cabinet has approved a number of revisions to the existing scheme. For instance, a campaign will be launched to enroll students from the poorest households passing Class 10, in the higher education courses of their choice.
- This replaces the existing system and brings greater involvement of the central government in this scheme.
- The States will undertake fool-proof verification of the eligibility, caste status, Aadhar identification and bank account details on the online portal.
- Transfer of financial assistance to the students under the scheme shall be on DBT mode, and preferably using the Aadhar Enabled Payment System.

Significance:

- It is estimated that 1.36 crore poorest students, who are currently not continuing their education beyond Class 10 would be brought into the higher education system in the next 5 years
- In addition to this, the scheme will be run on an online platform with cyber security measures that would assure transparency, accountability, efficiency, and timely delivery of the assistance without any delays.

Miscellaneous

7. Aadi Mahotsav

- Aadi Mahotsav is a national tribal festival and a joint initiative of the Ministry of Tribal Affairs, Government of India & Tribal Cooperative Marketing Development Federation of India (TRIFED).
- The festival showcases traditional art and handicrafts and cultural heritage of the country.
- The concept of organising Aadi Mahotsav in major cities is to eliminate the middleman and provide direct access to large markets, otherwise impossible for tribal artisans.

8. Minorities Day

Context:

- December 18 is observed as Minorities Day or Minority Rights Day in India.

About Minorities Day:

- The day is observed to safeguard the Constitutionally-guaranteed rights of religious minorities in the country.
- In 1992, the United Nations adopted the Statement on the Individual's Rights belonging to religious, linguistic or ethnic minorities and the same year the National Commission for

Minorities was set up by the Government of India.

- In 2006, the Ministry of Minority Affairs was carved out of the Ministry of Social Justice and Empowerment.
- Note:- In India, five religious communities have been notified as minorities. These include Muslims, Sikhs, Christians, Buddhists and Zoroastrians or Parsis. After 2014, Jains have also been notified as a minority community.

9. International Day of Persons with Disabilities

- 3rd December is observed as the International Day of Persons with Disabilities.
- This annual observance was initiated by the UN in 1992.
- It aims to promote the rights and well-being of persons with disabilities in all spheres of society and development and to increase awareness of the situation of persons with disabilities in every aspect of political, social, economic and cultural life.
- The theme for the International Day of Persons with Disabilities 2020: "Building back better: towards an inclusive, accessible and sustainable post-COVID-19 world by, for and with persons with disabilities".

Social Issues-Related to Tribals

10. Sentinelese Tribe

- » Prelims: Sentinelese and other tribes of Andaman and Nicobar, Map based questions
- » Mains: Balancing tribal rights and developmental needs

Context:

- The Anthropological Survey of India has released a policy document for the Sentinelese tribe.
 - * The policy document was prepared at the behest of the Andaman and Nicobar administration.

Background:

- The North Sentinel Island of the Andamans consists of one of the most secluded tribal population in the name of Sentinelese.
 - * The Sentinelese, with a population of about 50 to 100 on the North Sentinel Island are among the most isolated of nearly 70 PVTGs across the country.
 - » Sentinelese are among the five PVTG's in the Andaman and Nicobar Islands which include the Great Andamanese, the Onge, the Jarawa, and the Shompens.
 - * The Sentinelese is a pre-Neolithic people who have inhabited North Sentinel Island for an estimated 55,000 years without contact with the outside world.
 - * The Sentinelese have remained hostile to any efforts from the Government to reach out, they have time and again rebuffed any such efforts.

Details:

- The policy document released by the Anthropological Survey of India talks about the need to protect the rights of the Sentinelese.
- The policy document highlights the need to develop a repository of the Sentinelese tribe, which could help in understanding the tribe better.



Policy document recommendations:

- The document has warned that any attempts at commercial exploitation or a strategic venture in the North Sentinel Island of the Andamans could be detrimental to the existence of the Sentinelese tribe.
- Anthropological Survey of India says that the right of the people to the island is non-negotiable and cannot be traded off for commercial and strategic gains.
- The state has the cardinal duty to protect is to protect these rights as eternal and sacrosanct.

What are Particularly Vulnerable Tribal Groups (PVTGs)?

- In 1973, the Dhebar Commission created Primitive Tribal Groups (PTGs) as a separate category, who are less developed among the tribal groups.
- In 2006, the Government of India renamed the PTGs as Particularly Vulnerable Tribal Groups (PVTGs).
- PVTGs have some basic characteristics -they are mostly homogenous, with a small population, relatively physically isolated, social institutes cast in a simple mould, absence of written language, relatively simple technology and a slower rate of change etc.

HISTORY

Modern India-Important personalities from Freedom struggle phase

1. Khudiram Bose

- » Prelims: Khudiram Bose, Muzaffarpur Conspiracy Case
- » Mains: Role of revolutionaries in the freedom struggle of India
- Khudiram Bose was born in 1889 at a small village in Midnapore district. From his adolescent years he was drawn towards revolutionary activities, being inspired by a series of public lectures given by Sri Aurobindo and sister Nivedita, when the duo visited Midnapore in the early 1900s.
- In 1905, when Bengal was partitioned, he actively participated in protests against the British. At the age of 15, Bose joined the Anushilan Samiti, an early 20th century organisation that propounded revolutionary activities in Bengal. Within a year, he had learnt how to make bombs and would plant them in front of police stations.
- The deciding moment of Bose's life came in 1908 when he along with another revolutionary, Prafulla Chaki were assigned the task of assassinating the district magistrate of Muzaffarpur, Kingsford.
- Thereafter, on April 30, 1908, Bose threw a bomb on a carriage which he suspected was carrying Kingsford. But it turned out that it was carrying the wife and daughter of a barrister named Pringle Kennedy, who lost their lives, as Kingsford escaped.
- He is remembered for his attempt to assassinate the British judge, Magistrate Douglas Kingsford, which ultimately led him to be sentenced to death at the young age of 18.

Modern India-Important personalities from Freedom struggle phase

2. International Bharathi Festival

- » Prelims: Subramanya Bharathi associated facts, Swadesamitran newspaper
- » Mains: Subramanya Bharathi contribution in the domain of social reforms and the Indian national movement

Context

- Prime Minister Shri Narendra Modi addressed International Bharathi Festival 2020 through video conferencing which was organised by Vanavil Cultural Centre to celebrate the 138th birth anniversary of Mahakavi Subramanya Bharathi.

- Scholar Shri Seeni Viswanathan received the Bharathi Award for the year 2020.

Subramanya Bharathi:

- Popularly known as "Mahakavi Bharathi", he was a Tamil writer, poet, journalist, Indian independence activist, social reformer and polyglot.
- He fought for the emancipation of women, against child marriage, stood for reforming Brahminism and religion.

His work as a Journalist:

- Bharati, as a young man began his career as a journalist and as a sub-editor in "Swadesamitran" in 1904.
- He brought out a weekly, "India" in May 1906. It declared as its motto the three slogans of the French Revolution: Liberty, Equality and Fraternity.
 - * "India" was the first paper in Tamil Nadu to publish political cartoons

Strong willed social reformer:

- Bharati was against casteism. He undertook several revolutionary measures challenging orthodoxy, by adorning many Dalits in Tamil Nadu with the upanayana (sacred thread).
- Bharati advocated and ensured entry of Dalits into temples.

Champion of gender justice:

- He visualised 'woman' as Shakti or Power. Bharati also brought out a front cover for the magazine, "Chakravarthini", in 1906, which focussed mainly on the empowerment of Indian women.
- He also advocated and campaigned for women to participate in politics, their rights and education.

Bharathi Award:

- It was instituted in 1994 by Vanavil Cultural Centre.
- Every year it is being conferred on eminent persons who have done laudable service in any field of social relevance and thus worked towards the fulfilment of Bharathi's dreams.

GEOGRAPHY

Geography - River systems of India

1. Barak River

- » Prelims: Barak river associated facts, Tipaimukh project
- » Mains: India-Bangladesh water sharing and inter-country river disputes

Context

- Bangladesh's opposition to the Tipaimukh project.

Details:

- Barak river rises in the Manipur Hills in northern Manipur state
- It flows through the states of Manipur, Nagaland, Mizoram and Assam in India and into the Bay of Bengal via Bangladesh.
- The upper part of its navigable part is in India between Lakhimpur and Bhanga, declared as National Waterway 6
- The principal tributaries are all in India: the Sonai (or Tuiri), the Jiri, the Tlawng (or Dhaleswari, or Katakai), the Jatinga, the Longai and the Madhura.
- Tipaimukh Dam is a proposed dam on the river
 - * Tipaimukh Dam rests in an ecologically sensitive region in one of the most seismically volatile areas on earth. The project can cause loss of land and distort the indigenous community of Mizoram and few areas of Bangladesh.

Geography - Use of technology

2. Digital Ocean

- » Prelims: INCOIS
- » Mains: Use of geospatial technology

Context

- Union Minister launches 'Digital Ocean'.

Details:

- 'Digital Ocean' is a web-based application developed by INCOIS of the Ministry of Earth Sciences.
- It is the first of its kind digital platform for Ocean Data Management.
- The platform will help share knowledge about the ocean with a wide range of users including research institutions, operational agencies, strategic users, academic community, maritime industry and policymakers.

- It is expected to play a central role in the sustainable management of oceans and expanding 'Blue Economy' initiatives.
- Further, the Digital Ocean will be promoted as a platform for capacity building on Ocean Data Management for all Indian Ocean Rim countries.
- The platform includes a set of applications developed to organize and present heterogeneous oceanographic data by adopting rapid advancements in geospatial technology.
- It facilitates an online interactive web-based environment for data integration, 3D and 4D (3D in-space with time animation) data visualization, data analysis to assess the evolution of oceanographic features, data fusion and multi-format download of disparate data from multiple sources viz., in-situ, remote sensing and model data, all of which is rendered on a geo referenced 3D Ocean.

Additional information:

INCOIS:

- The mission of the Indian National Centre for Ocean Information Services is to provide ocean data, information and advisory services to society, industry, government and scientific community through sustained ocean observations, and constant improvements through systematic and focused research in information management and ocean modelling.
- The ocean information and advisory services include
 - * Potential Fishing Zone (PFZ) advisories,
 - * Ocean State Forecast (OSF),
 - * High wave alerts,
 - * Tsunami early warnings,
 - * Storm surge and oil-spill advisories, among others,
 - * State-of-the-art technologies and tools to get real-time information on oceanographic and marine meteorological data.

Geography - Climatology

3. Meteorological (Met) Centre at Leh

- » Prelims: Glacial lake outbursts
- » Mains: Early warning systems with respect to climatic disaster

Context

- Union Minister for Science & Technology inaugurates Meteorological (Met) Centre at Leh.

Meteorological Centre at Leh:

- The Government has established the Meteorological Centre at Leh, Ladakh to strengthen weather-related Early Warning System in Ladakh.
- At 3500m, Meteorological Centre, Leh will be the highest meteorological centre in India.
- The centre has been established with a view to averting adverse weather events to which the region is witness to such as cloud bursts, flash floods, glacial lake outbursts (GLOFs), avalanches, droughts, etc.
 - * Ladakh has a complex mountain terrain with annual precipitation of only 10 cm/year, thus it is a cold desert.
 - * However, being a mountainous region, the place has a very harsh and extreme climate and experiences various kinds of disastrous weather events.
- With the availability of quality data from Ladakh, the India Meteorological Department (IMD) will generate city-specific forecasts based on numerical models.
- It will provide forecasts for important tourist places like Nubra, Changthang, Pangong Lake, Zaskar, Kargil, Drass, Dha-Baima (Aryan valley), Khalsi among others.

GOVERNANCE

Important Aspects of Governance

1. Humans are still core to Digital India

- » Prelims: Digital India pillars
- » Mains: Challenge of digital divide, Significance of intermediaries in ensuring success of digital India programme

Context:

- The pandemic and the lockdown that followed threatened to bring the curtain down on many businesses. Darwin's theory of evolution of survival of the fittest can be seen in how the businesses to first survive and then thrive shifted their mode of operation to online.
- This transformation in service delivery is evolving in public services as well.

Digital India:

- Digital India is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy.

- The 'digital divide' is a term that refers to the gap between demographics and regions that have access to modern information and communications technology, and those that don't or have restricted access.
- The barriers are at their worst for marginalized sections like women, poor, elderly, caste and gender minorities.

Role of intermediaries:

- Intermediaries are those people that work to narrow the distance between the governments and the people.
- Though the contours of digital India was to exclude the human link and bring about a direct citizen to government interaction, the role of intermediaries cannot be understated.



- Among the nine pillars of the Digital India initiative, eKranti- electronic delivery of services is a key component.

Digital divide:

- The awareness about digital services is lacking in many of the intended beneficiaries, thus preventing them from claiming what is rightfully theirs.

Address accessibility and ability issues:

- Intermediaries help citizens overcome obstacles to awareness and ability and thus play a critical role in achieving better governance outcomes by taking governance to the doorsteps of the excluded communities.

A vital cog in the wheel of governance:

- Intermediaries are important offline architecture; they will enable the state to deliver better. The intermediaries are seen as 'delivery agents'.

- The intermediaries can also be a part of a feedback mechanism that will enable the government in designing the programmes better.
 - * A case in point is the recent Andhra Pradesh government's ward secretariat programme with over 16,000 ward secretaries and volunteers for delivering government services at citizen's doorstep.

Way forward:

Formalized structure of intermediation:

- Intermediaries are a natural extension of the governance model, there is a need to have a formalized structure of intermediation.
- The traditional markets where intermediation is formalized have benefitted from formal governance mechanisms, structured capacity building, widespread awareness campaigns, and process re-engineering enabled growth and usage, something that can be borrowed to the domain of governance.

Collaboration:

- The state should work with intermediaries to raise citizens' awareness, build intermediaries' skills and capabilities, and establish governance frameworks with suitable feedback loops. In doing so, we will be able to support the process of responsible, responsive and data-driven governance across domains.

Diversified nature of form and functions of intermediaries:

- A variety in the nature of intermediation has to be evolved, a universal model will not succeed.
- A model that is in line with the regional, social, cultural and economic context will be more likely to deliver better.

Government schemes

2. Prime Minister Wi-Fi Access Network Interface (PM-WANI)

- » Prelims: PM WANI scheme provisions
- » Mains: Significance of and challenges with respect to the PM WANI scheme

Context

- The Union Cabinet has approved setting up of public Wi-Fi networks across the country under the PM- WANI scheme.

Background:

- Bringing broadband internet to remote locations at minimum investment, and giving subscribers the option of making small, need-based payments to use it has remained a challenge thus far.

- PM WANI scheme aims to bridge that divide using wireless technologies.
- The proposal to set up public Wi-Fi networks was first recommended by the Telecom Regulatory Authority of India (TRAI) in 2017.
 - * According to TRAI, in most major economies, for 50%-70 % of their total usage time, mobile users use Wi Fi technology to communicate. However, in India, this figure is less than 10%.
 - * Existing public wi-fi options run on a limited scale by some entities compel consumers to pay through a single gateway app, underscoring the need for reform.
- Public Wi-Fi suffered neglect because it was seen as a competitor to data services sold by mobile telecom firms, rather than as a complementary technology.
- Similar attempts have been made by both Facebook and Google in the past, but have failed.
 - * Facebook had introduced its Express WiFi service in India to help mobile network operators or internet service providers 'build, operate, grow, and monetize their Wi-Fi business.' However, the program was shut down later.
 - * Meanwhile, Google had partnered with RailTel to provide free WiFi at Indian stations and around the globe. Started in 2015, the scheme was expanded to 400 railway stations. It registered 2.6 crore user logins in a month and over 9,491 TB of aggregated data. It had the same fate as Facebook's Express WiFi service and was shut down earlier this year.

Framework of the proposed system:

- The scheme aims to bring large scale deployment of Wi-Fi hotspots through the country to drive up connectivity options and improve digital access.
- The proposed framework will involve multiple players, including PDOs, Public Data Office Aggregators (PDOA), app providers, and a central registry.

Public Data Office (PDO):

- Public Wi-Fi networks will be provided across the length and breadth of the country through public data offices (PDOs).
- It will establish, maintain, and operate only WANI compliant Wi-Fi Access Points and also deliver broadband services to subscribers.
- The PDO would be set up along the lines of public calling office. It could be a store in the area or the common services centre present in various small towns, gram panchayats, and villages in the country.

- The PDOs can either provide the internet on their own or lease it from other telecom and internet service providers

Public Data Office Aggregator (PDOA):

- The PDOA will basically be an aggregator who will purchase bandwidth from the Internet Service Provider (ISPs) and telecom companies and sell it to PDOs.
- It will also perform the functions relating to authorization and accounting.

Central Registry:

- It will maintain the details of App Providers, PDOAs, and PDOs. To begin with, the Central Registry will be maintained by C-DoT

App Provider:

- It will develop an App to register users and discover WANI compliant Wi-Fi hotspots in the nearby area and display the same within the App for accessing the internet service.

Key elements of the initiative:

Convenience to the consumer:

- Interoperability – The user has to log in only once and can stay connected across access points.
- Multiple payment options – Both online and offline options would end up providing flexibility to users.
- Economical – Products worth as low as Rs.2 is on the cards, thus making the internet affordable.

Convenience to the Public Data Office (PDO):

- The scheme envisages setting up of public Wi-Fi networks and access points by local Kirana and neighbourhood shops through public data offices (PDO will be set up on the lines of Public Call Offices (PCOs)) that will not involve any licence, fee or registration.
- There is also no regulatory burden on them, they need not undergo the cumbersome process of registration.
- PDO can be anyone, which means there is a possibility that in future this can be a means to generate revenue for individuals.

Significance:

Increase connectivity:

- Similar to the expansion of long-distance telephony through STD public call offices, this move can get many more people connected.
- The WANI system offers a great way forward to connect low revenue consumers.
- This initiative will widen the internet coverage with anyone within the range of a public Wi-Fi hotspot being able to access it, thus ensuring better last-mile delivery.

- This initiative will go a long way in democratizing internet access.

Address digital divide:

- India's digital divide remains huge as only 54% of Indians have access to the internet as per the Telecom Regulatory Authority of India (TRAI).
 - * The 'digital divide' is a term that refers to the gap between demographics and regions that have access to modern information and communications technology, and those that don't or have restricted access. This technology can include telephone, television, personal computers and the Internet.
- Also, the spatial digital divide is huge (internet density in rural areas is lower than in urban areas) with The India Internet Report 2019 stating that rural India has half the internet penetration as urban India and also there is a gender digital divide (far fewer women have access to smartphones than men).
- The 75th National Statistical Organisation survey says that only one-fifth of the population has the skills to operate the internet.
- PM-WANI can help bridge the digital divide in terms of access to the internet on multiple fronts.

Explore untapped potential of Wi-Fi technology:

- The proposal will promote the growth of Public Wi-Fi Networks in the country. This will significantly improve Wi-Fi availability across the country.
- Wi-Fi linked to broadband fibre service can be the fastest route to bridging the existing gap in access to internet.

Low cost alternative:

- Upcoming mobile technologies such as 5G may provide good quality data, but they involve high investment in the new spectrum, connectivity equipment and regular subscriber fees.
- The PM-WANI framework through the PDOs can provide premium service to their customer without much overhead and investment.

Impetus to broadband internet:

- PM-WANI will accelerate the widespread use of broadband internet services via public Wi-Fi networks.
- PM-WANI can reinvigorate Bharat Net programme. Bharat Net which envisages broadband connectivity across all villages in the country has been found to have missed several deadlines and has failed to convince the ISPs to use the infrastructure in place to provide internet services.

Impetus to economy:

- The PM WANI initiative will open up new income avenues for the PDOs. This will help in enhancement of income and employment and empowerment of people.
- The increased access to internet may also revolutionize the tech world.
- PM WANI will be able to connect a new wave of users not just to commercial and entertainment options, but also to education, tele-health and agriculture extension.
- According to the TRAI report, public Wi-Fi system on the WANI architecture can lead to a 10% rise in net penetration which in turn can lead to a 1.4% increase in GDP.

Impetus to digital India vision:

- Proliferation of Broadband Services through public Wi-Fi is a step towards digital India and consequential benefit thereon.
- It will further boost the "ease of doing business" and "ease of living" in India.

Impact on rural areas:

- A decentralized internet facility like the one envisaged in PM-WANI can be a game-changer in the rural areas.
- A rapid scale-up of Internet in rural India will be transformative, given the low level of penetration.
- It opens up opportunities for community organisations, libraries, educational institutions, panchayats and small entrepreneurs to tap into a whole new ecosystem, purchasing bandwidth from a public data office aggregator to serve local consumers.
- This initiative can make the rural populace a part of the digital evolution of the country from a developing to a developed nation.

Impact on e-governance:

- It would bring greater accountability to government by boosting transparency and interactivity.
- By cutting through layers of bureaucracy and eliminating licences and fees, it can make online registrations easier, opening up new income avenues.

Decongestion of mobile internet network:

- India Internet Report shows nearly 99% of all users in India access the internet on mobile and about 88% of them are connected to 4G network. This places tremendous load resulting in bad speed and quality of internet access.
- The PM WANI initiative will help decongest the mobile internet network to a large extent.

- It has the potential to reduce the traffic congestion of the service provider's TDM network and improve the QoS (quality of service) for mobile data users.

Concerns/Challenges:**Security and privacy concerns:**

- Security and privacy concerns are known to be an issue common with Wi-Fi hotspots.
 - * Experiences of Wi-Fi hotspots in airports in Germany, US, Australia and India have shown that around 66% of the users leak personal information while accessing the internet.
- A public Wi-Fi network has several security issues. That's because several people access the network at the same time on the same spot. Thus public Wi-Fi is at a high risk of sending out confidential data (like passwords, pins etc.) over the network.
- Most Wi-Fi hotspots don't encrypt information that is sent over the Internet and therefore aren't secure. This could potentially lead to hacking or unapproved access to personal information on the device.
- TRAI in its report suggests the local storage of 'community interest' data raises concerns over data protection especially when there is no data protection law in the country.
- Protection of data integrity, transparency on commercial use of data, and security against cyberattacks are major concerns.

Low Speed:

- As public WiFi network is usually accessed by several people at the same time, it can result in a considerable loss of bandwidth resulting in a slow network speed

Alternatives:

- The availability of cheap mobile data rates question the operating financial viability of the proposed model. As per TRAI in 2019, India now has among the cheapest mobile data per GB in the world, with mobile data prices having reduced by 95% in the last five years.

Steps to be taken:**Ensuring robust Cyber-Security Architecture:**

- The framework should have measures to ensure protection of data integrity, transparency on commercial use of data, and security against cyberattacks.
- PM WANI should ensure the public data is protected and safe. In this context, the enactment of the public data protection bill, 2019 may be necessary.

Ensuring Competition:

- The government must also ensure true unbundling of hardware, software, apps and payment gateways in the WANI system, as advocated by TRAI, to prevent monopolies.
- Increased competition will also help address the low data speed issue.

Empowering last mile users:

- Apart from ensuring last mile connectivity, the government must also work towards addressing the issue of digital divide.
- The last mile internet availability and digital literacy are intertwined with internet accessibility.

Conclusion:

- The PM-WANI scheme can be a game-changer in the context of internet accessibility and can herald a new digital revolution of a scale that has not been witnessed so far.

Government schemes**3. PM-KUSUM Scheme**

- » Prelims: PM KUSUM scheme provisions
- » Mains: Significance of the scheme

Context:

- MNRE issues guidelines for the implementation of Feeder Level Solarisation under Component-C of PM-KUSUM Scheme.

Background:

- The KUSUM scheme consists of three components.
 - * Component-A includes installation of Decentralized Ground Mounted Grid Connected Renewable Power Plants
 - * Component-B includes installation of standalone Solar Powered Agriculture Pumps
 - * Component-C includes Solarisation of Grid-connected Agriculture Pumps

Details:

- The objective of Component-C of PM-KUSUM Scheme is to provide reliable day-time power to farmers, enhancing their income by purchasing surplus solar power and thus incentivising them for saving water. This will be an important measure for conserving groundwater level.
 - * In the case of feeder level solarisation, farmers will get daytime reliable solar power for irrigation, but there is no provision of selling surplus solar power.

- The DISCOMs shall assess the average power requirement by farmers of an area depending upon various factors. This power requirement will be treated as their benchmark consumption. The DISCOMs shall incentivise farmers for consuming power, less than the benchmark consumption. Such saving of power shall be treated as surplus power injected by farmers and they will be paid by DISCOMs against this saved power at pre-determined tariff.

Government schemes**4. PM- FME Scheme**

- » Prelims: PM-FME scheme and TRIFED
- » Mains: Significance of the scheme

Context:

- TRIFED Signs MoU with Ministry of Food Processing Industries (MoFPI) for the Implementation of Pradhan Mantri Formalisation of Micro food processing Enterprises scheme (PM-FME Scheme).

PM-FME scheme:

- Ministry of Food Processing Industries (MoFPI), in partnership with the State/ UT Governments, has launched an all India Centrally Sponsored PM Formalisation of Micro food processing Enterprises Scheme (PM FME Scheme)
 - * The FME scheme is a landmark initiative under the Aatmanirbhar Bharat Abhiyan to support micro-level food entrepreneurs, FPOs, SHGs and co-operatives.
- The scheme aims for providing financial, technical and business support for upgradation of existing micro food processing enterprises.

Objectives:

- Increase access to finance
- Increase in revenues of target enterprises
- Enhanced compliance with food quality and safety standards
- Strengthening capacities of support systems
- Special focus on Women entrepreneurs and Aspirational Districts
- Encourage Waste to Wealth activities
- Focus on minor forest produce in Tribal Districts
- Transition from the unorganized sector to the formal sector

TRIFED:

- The Tribal Cooperative Marketing Development Federation of India (TRIFED) was established in 1987, under the Multi-State Cooperative Societies Act, 1984.

- This body works for the social and economic development of the tribal people of the country.
- It is administered by the Ministry of Tribal Affairs.

TRIFED initiatives:

- TRIFED has been looking to identify prospective convergences and partnerships with organisations which are like-minded. This will help in forging cooperation with the central goal of tribal empowerment and improving their livelihoods.
- In this regard, TRIFED has started tying up with government departments and other like-minded organisations.
- TRIFED has aligned with is Minister of Food Processing (MoFPI). MoFPI is implementing the Prime Minister Formalisation of Micro food processing Enterprises (PM-FME) Scheme.

Government schemes

5. Boost for ethanol production

- » Prelims: Production of ethanol, feedstocks and production, National bio fuel policy
- » Mains: Significance of ethanol blended petrol

Context:

- Modification in scheme for interest subvention for ethanol production.

Details:

- The Union Cabinet has approved a modified scheme for interest subvention for ethanol production, expanding the scheme to include grain-based distilleries and not just molasses-based ones.
 - * The government would bear interest subvention for five years including a one-year moratorium against the loan availed by project proponents from banks @ 6% per annum or 50% of the rate of interest charged by banks whichever is lower.

Significance:

- The decision would encourage ethanol production from grains like barley, maize, corn and rice.
- The scheme would boost production and distillation capacity to 1,000 crore litres and help in meeting the goal of 20% ethanol blending with petrol by 2030.

Miscellaneous

6. ASCI guidelines on online gaming and fantasy sports

Context:

- The Ministry of Information and Broadcasting (I&B) has issued an advisory asking all private

television broadcasters to follow guidelines issued by the Advertising Standards Council of India (ASCI) for advertisements relating to online gaming, fantasy sports etc.

- The Ministry has advised that the advertisements should not promote any activity prohibited by statute or law.

The need for Guidelines:

- The Ministry of I&B felt that a large number of advertisements on Online Gaming, Fantasy Sports, etc have been appearing on the television.
- Concerns were expressed that such advertisements appear to be misleading, do not correctly convey to the customers the financial and other risks associated thereof, are not in strict conformity with the Advertising Code laid down under Cable Television Networks (Regulation) Act, 1995 and the Consumer Protection Act, 2019.
- The advisory therefore has been issued to "protect consumers' interest".

ASCI guidelines:

- Print ads on online games and fantasy sports are required to carry a disclaimer that says "playing these games may involve financial risk and can be addictive".
- The disclaimer should not occupy less than 20% of the space of the entire print ad.
- Audio-visual and audio ads must also run a disclaimer.
- The disclaimer should be placed after the ads and must be in the same language as the advertisement.
- The guidelines state that no gaming advertisement may depict any person under the age of 18 years engaged in playing online games and winning real money or even suggest that such a person can even play these games.
- The guidelines also say that any person who even appears to be under the age of 18 should not be depicted in such ads.
- The advertisements should also not depict winning in online games as an income opportunity or an alternate employment option.
- The advertisements should also not suggest that the person winning money through online games is in any way more successful than others.

Advertising Standards Council of India:

- The Advertising Standards Council of India, established in 1985, is a Mumbai based self-regulatory voluntary organization of the advertising industry in India.

- It seeks to ensure that advertisements conform to its Code for Self-Regulation.
- Under the Cable Television Networks (Regulation) Act, 1995 it is mandatory for television networks to follow the advertising code laid down by ASCI.

Government schemes

7. Jal Jeevan Mission

- » Prelims: Jal Jeevan Mission targets and provisions
- » Mains: Government initiatives to counter the threat of water insecurity in India

Context:

- Evaluation of the Jal Jeevan Mission.

Jal Jeevan Mission:

- Jal Jeevan Mission is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India.
- The programme will also implement source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, rainwater harvesting
- The Jal Jeevan Mission will be based on a community approach to water and will include extensive Information, Education and communication as a key component of the mission.
- JJM looks to create a Jan Andolan for water, thereby making it everyone's priority.

Need for Jal Jeevan Mission:

Water security:

- Less than 50 per cent of the population in India has access to safely managed drinking water.
 - * The two-thirds of India's 718 districts are impacted by extreme water depletion, and the current lack of planning for water safety and security is a major concern.
- One of the challenges is the fast rate of groundwater depletion in India, which is known as the world's highest user of this source due to the proliferation of drilling over the past few decades.

Economic and health angle:

- A safe water supply is the backbone of a healthy economy, yet is woefully under prioritized, globally.
- It is estimated that waterborne diseases have an economic burden of approximately USD 600 million a year in India. This is especially true for

drought- and flood-prone areas, which affected a third of the nation in the past couple of years.

Commendable progress:

- In a year since the beginning of the implementation of the Jal Jeevan scheme, more than 3 crore households have been provided with tap water connections.
- The Jal Jeevan Mission which aims to give access to safe drinking water has achieved 32.3% coverage of tap connections in rural India.
- The implementation of this scheme has been appreciated as it has achieved considerable progress even in the times of the pandemic.
- The scale and speed of the implementation have been very encouraging, every year more than 3 crore households are to be given tap water connections, with almost 1 lakh new connections are getting added on daily basis.

Conclusion

- It is very important that the Jal Jeevan scheme is implemented across all districts with active participation from local bodies and states.

MISCELLANEOUS

1. Asia Pacific Broadcasting Union (ABU)

Context

- CEO, Prasar Bharati elected Vice President of ABU.

Details:

- The ABU was established in 1964 as a non-profit, non-governmental, non-political, professional association with a mandate to assist the development of broadcasting in the Asia-Pacific region.
- ABU promotes the collective interests of television and radio broadcasters as well as key industry players and facilitates regional and international media cooperation.
- It is a member of the World Broadcasters' Union and works closely with the other regional broadcasting unions on matters of common concern such as reserving frequencies for broadcasters, harmonisation of operating and technical broadcasting standards and systems and finalising the Broadcasting Treaty.
- Currently, the ABU has over 260 members in over 70 countries on four continents.
- It is headquartered in Kuala Lumpur, Malaysia.

2. Better Than Cash Alliance

- The Better Than Cash Alliance is a partnership of governments, companies, and international organizations that accelerates the transition from cash to digital payments in order to reduce poverty and drive inclusive growth, and to advance the Sustainable Development Goals.
- The United Nations Capital Development Fund serves as the secretariat.
- India became a member of the Better Than Cash Alliance in 2015 to digitize payments to achieve financial inclusion and to share success stories from Pradhan Mantri Jan Dhan Yojana, the world's largest financial inclusion program.
- Alliance is working with several state governments towards the goal of building knowledge and programs where people, governments, and businesses can make and receive digital payments.

3. Giant Rock Bee Honey

Context

- Giant Rock Bee Honey added to the Tribes India collection.

About Giant Rock Bee Honey:

- It is a natural, fresh, organic produce from the Malayali tribes of Tamil Nadu.

About Malayali Tribe:

- Malayali is a tribal group from the Eastern Ghats in North Tamil Nadu.
- With a population of around 3,58,000, they are the largest Scheduled Tribe in that region.
- The tribespeople are usually hill farmers and they cultivate different types of millet

4. HelpAge India presented UN Population Award for 2020

Context

- NGO HelpAge India received the "2020 UN Population Award" for its contribution towards serving disadvantaged elderly people and raising awareness on their cause.

Details:

- HelpAge India became the first Indian NGO to be awarded the prestigious 2020 UN Population Award in the institutional category.
- The selection of HelpAge is in recognition of its work on population issues and efforts in the realization of rights of older persons in India since 1978. It works for the welfare of the elderly.
- The award brings focus to the issue of ageing with India housing an estimated 140 million elderly.

UN Population Award:

- It was established by the United Nations General Assembly (UNGA) in 1981
- It recognises contributions in the fields of population and reproductive health.
- It consists of a gold medal, a diploma and a monetary prize.

5. Jadav Payeng

- Jadav Payeng, known as 'The Forest Man of India'
- He is an environmental activist and forestry worker from Majuli a river island in the Brahmaputra River, Assam
- He has turned a barren land of 550 hectares (over 1300 acres) into a lush green forest all by himself.
- It took close to 30 years for the land to turn into a forest and Jadav is protective about it.
- He started planting in 1979 and continues doing that even today.
- According to wild life experts the forest now attracts 80% of the world's migratory birds has been declared by wildlife experts. It is officially called Molai forest and is located near Kokilamukh of Jorhat, Assam
- He was born in the indigenous Mising tribe of Assam.
 - * The community members are also present in Arunachal Pradesh.
 - * Misings are recognised as a Scheduled Tribe by the Indian government under the name 'Miri'.
 - * Their language, Mising, is part of the Sino-Tibetan family.

6. Pandit Deendayal Upadhyay Telecom Skill Excellence Awards

Context

- Union Minister presents Pandit Deendayal Upadhyay Telecom Skill Excellence Awards.

Details:

- The Awards were instituted by the Department of Telecommunications in 2017 to motivate the telecom skill ecosystem.
- It rewards successful telecom skilled people for their special contributions in the areas of Telecom Skilling, Telecom Services, Telecom Manufacturing, Telecom Applications in deploying telecom dependent sectoral solutions for different fields such as agriculture, commerce, health, education, etc.
- The award was named after Pandit Deendayal Upadhyay to commemorate his birth centenary.

7. Partners in Population and Development (PPD)

Context

- Union Minister for Health and Family Welfare addresses the Inter-Ministerial Conference by Partners in Population and Development (PPD).

About PPD:

- Partners in Population and Development is an intergovernmental organisation for promoting south-south cooperation in the fields of reproductive health, population, and development.
- PPD was launched at the 1994 International Conference on Population and Development (ICPD), when ten developing countries from Asia, Africa and Latin America formed an intergovernmental alliance to help implement the Cairo Program of Action (POA).
- This POA, endorsed by 179 nations, stresses the need to establish mechanisms to promote development through the sharing of experiences in reproductive health (RH) and family planning (FP) within and among countries and to promote effective partnerships among the governments, NGOs, research institutions and the private sector.

8. Prime Minister's Special Scholarship Scheme (PMSSS)

Context

- The AICTE has decided to release the installment of Rs. 20,000/- as maintenance allowance under the Prime Minister's Special Scholarship Scheme (PMSSS).

Details:

- Under the PMSSS, the youths of J&K and Ladakh are supported by way of scholarship in two parts namely the academic fee & maintenance allowance.
- The scheme is under the All India Council for Technical Education (AICTE).
- The scheme is being implemented in the wake of the Expert Group that was constituted by the Prime Minister in 2010 for enhancing employment opportunity among the youths of J&K and Ladakh.
- The Scheme aims to build the capacities of the youths of J&K and Ladakh by Educating, Enabling and empowering them to compete in the normal course.
- The academic fee covers tuition fee and other components as per the ceiling fixed for various professional, medical and other under-graduate courses.
- In order to meet expenditure towards hostel accommodation, mess expenses, books & stationery etc., a fixed amount of Rs.1.00 Lakh is provided to the beneficiary and is paid in instalments @ Rs. 10,000/- per month directly into the student's account.

9. Ramanujan Prize for Young Mathematicians

Context

- The Ramanujan Prize for Young Mathematicians 2020 has been awarded to Carolina Araujo, Mathematician from the Institute for Pure and Applied Mathematics (IMPA), Rio de Janeiro, Brazil, in a virtual ceremony
- Her work area focuses on birational geometry, which aims to classify and describe the structure of algebraic varieties.

Details:

- The Ramanujan Prize is given every year to young mathematicians less than 45 years of age who have conducted outstanding research in a developing country.
- The Prize has been instituted by Department of Science and Technology (DST) in the memory of Srinivasa Ramanujan, a genius in pure mathematics who was essentially self-taught and made spectacular contributions to elliptic functions, continued fractions, infinite series, and analytical theory of numbers.
- Researchers working in any branch of the mathematical sciences are eligible.
- The Prize carries a \$15,000 cash award.

10. Swachh Swasth Sarvatra

- It is a joint initiative of the Ministry of Health & Family Welfare and the Ministry of Drinking Water and Sanitation.
- It was launched in 2016 to achieve better health outcomes through improved sanitation and increase awareness on healthy lifestyle.
- Under this, a one-time grant of Rs. 10 lakh is provided to the non-Kayakalp awardee community health centre (CHC) located in the ODF block.
- Kayakalp is an award given to public health facilities for contribution towards the Swachh Bharat Abhiyan.
- The grant is provided with the intention that the resource would help the CHC become a Kayakalp awardee.

PRACTICE QUESTIONS

1. Consider the following statements:

1. The Mathura School of Art was influenced by Greek methodologies.
2. The stone used in the Mathura School of Art was red sandstone.
3. A smiling Buddha and less emphasis on spiritual aspects are the prominent features of the Mathura School of Art.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. 1 and 3 only
- D. None of the above

2. Consider the following statements with respect to Guru Nanak Dev:

1. He aimed at creating a casteless society in which there is no hierarchy.
2. He founded the city of Amritsar.
3. He advocated the concept of "dasvandh".

Which of the given statement/s is/are INCORRECT?

- A. 1 and 2 only
- B. 2 only
- C. 3 Only
- D. None of the above

3. Which of the following are the members of the Shanghai Cooperation Organisation (SCO)?

1. Afghanistan
2. Russia
3. Kazakhstan
4. Turkmenistan
5. Tajikistan
6. Kyrgyzstan

Choose the correct option:

- A. 2, 3, 4, 5 and 6 only
- B. 1, 2, 3 and 6 only
- C. 2, 3, 5 and 6 only
- D. 1, 3, 4 and 5 only

4. Consider the following statements with respect to the Indian peacock softshell turtle:

1. It is a riverine turtle.
2. It is listed in the "vulnerable" category in the IUCN Red List.
3. It is a herbivore.

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. None of the above

5. Consider the following statements:

1. Ammonia is used in making urea.
2. Coating urea with neem oil facilitates the rapid release of nitrogen from urea.

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:

1. The Purchasing Managers' Index (PMI) is an index of the prevailing direction of economic trends in the manufacturing sector.
2. The headline PMI is a number from 0 to 100.
3. PMI reading at 50 indicates expansion.

Which of the given statement/s is/are INCORRECT?

- A. 2 only
- B. 1 and 2 only
- C. 3 only
- D. None of the above

7. Consider the following statements with respect to the Shanghai Cooperation Organisation (SCO):

1. It is headquartered at Bishkek in Kyrgyzstan.
2. Uzbekistan, India and Pakistan became the permanent members of SCO in the Astana summit of 2017.
3. The organization has two permanent bodies namely the Executive Committee of the Regional Anti-Terrorist Structure (RATS) and the SCO Secretariat.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 3 only
- C. 1 and 2 only
- D. 2 and 3 only

8. Consider the following statements with respect to torrefaction:

1. It is a thermal process used to produce liquid biofuels from various streams of woody biomass or agro residues.
2. It involves heating the biomass to temperatures between 250 and 300 degrees Celsius in a low-oxygen atmosphere.
3. The end product of torrefaction has better fuel characteristics than the original biomass.

Which of the given statement/s is/are correct?

- A. 1 Only
- B. 2 and 3 Only
- C. 1 and 2 Only
- D. 3 Only

9. Consider the following statements with respect to Interpol:

1. Interpol is a global police co-operation agency and a non-governmental organization (NGO).
2. It is headquartered at Geneva, Switzerland.
3. Interpol Orange Notice is issued to locate, identify or obtain information on a person of interest in a criminal investigation.

Which of the given statement/s is/are INCORRECT?

- A. 1 and 2 only
- B. 1, 2 and 3
- C. 2 and 3 only
- D. None of the above

10. Consider the following statements:

1. The governor can pardon the death sentence.
2. The governor can suspend or remit the death sentence.
3. The governor can commute the death sentence.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. None of the above

11. Consider the following statements with respect to Chang'e 5:

1. Chang'e 5 is a robotic lunar exploration mission consisting of a service module, lunar lander, ascender, and a sample-return vehicle.
2. It is a mission under the Chinese Lunar Exploration Program.
3. The mission aims at retrieving samples from the moon.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. None of the above

12. Consider the following statements with respect to NETRA:

1. It is a real-time network surveillance tool.
2. It is being developed by the Defence Research and Development Organisation (DRDO).

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor

13. Where are the Natanz and Fordow nuclear facilities located?

- A. Russia
- B. Israel
- C. Iran
- D. North Korea

14. Consider the following statements with respect to RT-PCR Testing:

1. It is a nuclear-derived method for detecting the presence of specific genetic material from any pathogen.
2. It combines reverse transcription of RNA into DNA and amplification of specific DNA targets using polymerase chain reaction.

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

15. Consider the following statements:

1. The definition of goods under the GST Act includes actionable claim.
2. The term actionable claim is defined under GST law.
3. Lottery, gambling and betting are taxable under the GST Act as they are actionable claims.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

16. Which country has India procured the Poseidon P-8I aircrafts from?

- A. Russia
- B. The U.S.A
- C. Japan
- D. France

17. Consider the following statements with respect to National Air Quality Index (AQI):

1. The measurement of air quality is based on eight pollutants.
2. AQI has six categories of air quality.
3. Both Particulate Matter (PM10) and Particulate Matter (PM2.5) are among the pollutants considered for measuring the AQI.

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

18. Consider the following statements with respect to the 6th Schedule of the constitution:

1. The Schedule consists of provisions for the administration of tribal areas according to Article 244 of the Indian Constitution.
2. The Schedule currently includes 10 autonomous district councils (ADCs) in 4 northeastern States.
3. It deals with the administration of northeastern states of Assam, Nagaland, Tripura and Manipur.

Which of the given statement/s is/are INCORRECT?

- A. 3 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. None of the above

19. Consider the following statements with respect to HL-2M Tokamak reactor:

1. It is Iran's largest and most advanced nuclear fusion experimental research device.
2. It is called an "artificial sun" on account of the enormous heat and power it produces.

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

20. Which of the following is/are applications of Technical Textiles?

1. Radiation protection for fire fighter clothing
2. Geosynthetics for reinforcement of embankments
3. Medical implants
4. Spacesuits

Choose the correct option:

- A. 1 only
- B. 1 and 4 only
- C. 1, 2 and 3 only
- D. 1, 2, 3 and 4

21. Consider the following statements.

1. Great Indian Bustards are classified as near threatened under IUCN classification.
2. Their habitats include swampy areas, mangroves, lakes.

Which of the following statements are correct?

- A. 1 only.
- B. 2 only.
- C. Both 1 and 2.
- D. None

22. Anshi Tiger reserve is located in.

- A. Chhattisgarh.
- B. Bihar.
- C. Karnataka.
- D. Kerala

23. Which of the following statements is/are correct regarding the Monetary Policy Committee (MPC)?

1. It decides the RBI's benchmark interest rates.
2. It is a 10-member body including the Governor of RBI and is reconstituted every year.

3. Its functions under the chairmanship of the Union Finance Minister.

Select the correct answer using the code given below:

- A. 1 only
- B. 1 and 2 only
- C. 3 only
- D. 2 and 3 only.

24. Kra canal project was associated which of the following pair of countries.

- A. India and Maldives
- B. China and Sri Lanka
- C. Indonesia and Malaysia.
- D. China and Thailand

25. Consider the following pairs:

- 1. MiG-29K: Russia
- 2. Rafale: France
- 3. Mirage 2000: United States
- 4. Boeing 737: United Kingdom

Which of the pairs are correctly matched?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 2, 3 and 4 only
- D. 1, 2, 3 and 4

26. Consider the following statements about the Bannerghatta National Park:

- 1. The national park is located in Tamil Nadu.
- 2. It is a part of the Nilgiri Biosphere Reserve.

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

27. The Stone Chariot in Hampi is situated within which of the following?

- A. Lotus Mahal Complex
- B. Pattabhirama Temple Complex
- C. Vijaya Vittala Temple Complex
- D. Hemakuta Group of Temples

28. Consider the following statements with respect to the Directorate of Revenue Intelligence (DRI):

- 1. It is the apex anti-money laundering agency of India.
- 2. It is the lead agency for Anti-Smuggling National Coordination Centre (SCord).
- 3. The Directorate is run by officers from the Central Board of Indirect Taxes and Customs (CBIC).

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

29. Consider the following statements with respect to Lakshadweep:

- 1. Lakshadweep is the first Union Territory to be declared a 100% organic agricultural area.
- 2. Under the union government's 'One District One Product' programme of food processing, the entire island is being considered as a single district.
- 3. In the island, Tobacco has been identified as the product under the 'One District One Product' programme of food processing.

Which of the given statement/s is/are INCORRECT?

- A. 3 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1 only

30. Consider the following statements:

- 1. LiDAR is a remote sensing method that uses light in the form of a pulsed laser to measure ranges to the Earth.
- 2. LiDAR uses ultraviolet, visible, or near-infrared light to image objects.
- 3. LiDAR can target a wide range of materials, including non-metallic objects, chemical compounds and single molecules.

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

31. Consider the following statements:

- 1. India is the world's biggest rice exporter and China the biggest importer
- 2. As of 2019, India was the largest exporter of iron ore to China.

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

32. Consider the following statements with respect to the National Crime Records Bureau (NCRB):

1. The Crime in India report is the comprehensive statistics of crime across the country published by the NCRB.
2. The Crime and Criminal Tracking Network & Systems (CCTNS) project is implemented by NCRB.
3. 'Prison Statistics of India' is the only annual statistical publication started by NCRB.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 2 only
- D. 1, 2 and 3

33. Consider the following statements with respect to Dibru-Saikhowa National Park:

1. It is situated in the south bank of the river Brahmaputra.
2. It is bound by Dibru River in the south.
3. The Park is renowned for the natural regeneration of Salix trees.
4. It is a designated biosphere reserve.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3 only
- B. 3 and 4 only
- C. 2, 3 and 4 only
- D. 1, 2, 3 and 4

34. Consider the following statements:

1. Uttar Pradesh has the longest network of National Highways in India.
2. National Highway 44 (NH 44) is the longest-running National Highway in India.
3. NH 44 passes through Uttar Pradesh.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. None of the above

35. Which of these airports was tagged the "World's emptiest airport"?

- A. Ratmalana International Airport
- B. Mattala Rajapaksa International Airport
- C. Bandaranaike International Airport
- D. Batticaloa International Airport

36. Consider the following pairs:

1. Burevi – Iran
2. Gati – India
3. Amphan – Bangladesh
4. Nivar – Maldives

Which of these are correctly matched?

- A. 2 only
- B. 2, 3 and 4 only
- C. 1 and 2 only
- D. 3 and 4 only

37. Which of these Wildlife Sanctuaries is known as "Mini Kaziranga"?

- A. Chakrashila Wildlife Sanctuary
- B. Pobitora Wildlife Sanctuary
- C. Dehing Patkai Wildlife Sanctuary
- D. Deepar Beel Wildlife Sanctuary

38. Consider the following statements with respect to Universal Service Obligation Fund (USOF):

1. It aims at providing widespread and non-discriminatory access to quality Information and communications technology (ICT) services at affordable prices to people in unconnected areas, especially in rural and remote areas.
2. It has been granted statutory status.
3. Funds for this come from the Universal Service Levy (USL) charged from all the telecom operators on their Adjusted Gross Revenue (AGR).

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. 2 and 3 only
- D. None of the above

39. What is the classification of Indian Bison/ Gaur in the IUCN Red List?

- A. Endangered
- B. Critically Endangered
- C. Vulnerable
- D. Near Threatened

40. Consider the following statements with respect to Exchange Traded Funds:

1. It is an investment fund traded on stock exchanges.
2. They offer anytime liquidity through the exchanges.
3. An ETF holds assets such as stocks, bonds or commodities.
4. ETF reflects the composition of an Index.

Which of the give statement/s is/are correct?

- A. 1, 2 and 3 only
- B. 1 and 4 only
- C. 1, 3 and 4 only
- D. 1, 2, 3 and 4

41. Herod's Palace recently seen in news is in which country?

- A. Iran
- B. Indonesia
- C. Israel
- D. Japan

42. Consider the following statements with reference to Kathakali:

1. It is a well-known dance drama from the state of Kerala whose movements are influenced by ancient martial arts and athletic tradition
2. It is performed by Male dancers only

Which of the above statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both
- D. None

43. The only African country with coastal exposure to both the Atlantic Ocean and the Mediterranean Sea is

- A. Algeria
- B. Mauritania
- C. Morocco
- D. Libya

44. Which of the following are correctly matched?

Wildlife Sanctuary	State
1. Pobitora Wildlife Sanctuary	Arunachal Pradesh
2. Chinnar Wildlife Sanctuary	Tamilnadu
3. Sipahijola Wildlife Sanctuary	West Bengal

Options:

- A. 2 and 3 only
- B. 3 only
- C. None
- D. 1 and 2 only

45. Which of the following statement/s about C. Rajagopalachari is/are correct?

1. He was independent India's first and last Indian Governor General.
2. Rajagopalachari founded the Swatantra Party and was one of the first recipients of India's highest civilian award, the Bharat Ratna.
3. It was founded on the conviction that social justice and welfare can be attained through the fostering of individual interest and individual enterprise in all fields better than through State ownership and Government control.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

46. Arrange the following from North to South:

1. North Sea
2. Barents Sea
3. Mediterranean Sea
4. Black Sea

Choose the correct option:

- A. 1, 2, 4, 3
- B. 2, 1, 4, 3
- C. 3, 4, 1, 2
- D. 2, 4, 1, 3

47. Which of the given pairs are correctly matched?

No	Schedule	Subject Matter
1	1st Schedule	Name of States and UTs and Territorial Jurisdiction of states
2	4th Schedule	Forms of oath and affirmation
3	7th Schedule	Official languages
4	9th Schedule	The state acts and regulations that deal with land reforms
5	10th Schedule	Anti-Defection Laws

Options:

- A. 1, 2, 4 and 5 only
- B. 2, 3 and 5 only
- C. 1, 4 and 5 only
- D. 1, 2, 3, 4 and 5

48. Consider the following statements with respect to Rossby Waves:

1. They are a type of inertial wave naturally occurring in rotating fluids.
2. It is the meandering or the whirl movement of the Jet Stream.
3. Oceanic Rossby waves move along the thermocline.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. None of the above

49. Consider the following statements:

1. The Soviet Union's uncrewed Luna 1 and 2 became the first rover to visit the Moon.
2. The US, Japan, China and India have sent missions to explore the Moon.
3. Chang'e 4 spacecraft made the first landing on the far side of the Moon.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. 2 and 3 only
- D. None of the above

50. Which of the following Indian state/s share a physical border with Myanmar and Bangladesh?

1. Nagaland
2. Mizoram
3. Manipur
4. Tripura

Select the correct answer.

- A. 1 and 2.
- B. 2 only
- C. 3 only
- D. 1 and 4

51. Which among the following belong to Snow Leopard range countries.

1. Russia
2. Mongolia
3. India
4. Iran
5. Kyrgyzstan

Select the correct answer.

- A. 1, 3 and 4.
- B. 2, 3 and 4.
- C. 1, 2, 3 and 5.
- D. 1, 2, 3, 4, 5.

52. Sahrawi tribe is associated with which of the following countries?

- A. Botswana
- B. Kenya
- C. Mauritania
- D. Democratic Republic of Congo

53. Consider the following statements about Climate Action Summit.

1. The key focus of the summit is to accelerate the actions to implement the Rio declaration.
2. ActNow is the United Nations campaign for individual action on climate change and sustainability.

Which of the following statement/s is true?

- A. 1 only.
- B. 2 only.
- C. Both 1 and 2.
- D. Neither 1 and 2.

54. Which is the western most range in the Kaziranga National Park?

- A. Agoratoli
- B. Bagori
- C. Kohora
- D. Burapahar

55. Consider the following statements with respect to Myristica swamp treefrog:

1. It is an arboreal species known for exhibiting unique breeding behaviour.
2. It is endemic to the Western Ghats.

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

56. Consider the following statements with respect to River Teesta:

1. River Teesta is a tributary of the River Brahmaputra.
2. It flows through Sikkim and West Bengal.
3. It is known as Jamuna in Bangladesh.

Which of the given statement/s are correct?

- A. 1 only
- B. 1, 2 and 3
- C. 2 and 3 only
- D. None of the above

57. Consider the following statements with respect to Jhum cultivation:

1. Under this method, the cultivators cut the tree-tops to allow sunlight to reach the ground and burn the vegetation on the land to clear it for cultivation.
2. It is also known as slash and burn agriculture.
3. Potash, the ash from the burning of the vegetation increases the nutrient content of the soil.
4. This form of cultivation has caused significant damage to the diversity of Indian forests.

Which of the given statement/s is/are correct?

- A. 1, 2 and 4 only
- B. 1 and 2 only
- C. 1, 2, 3 and 4
- D. 2 and 3 only

58. Consider the following statements with respect to Presidential elections in India:

1. Nominated members of the houses of the parliament cannot vote in the presidential election.
2. The value of the vote of the member of a legislative assembly is dependent on the population of the state or union territory.
3. The voting is done by an open ballot system.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 1, 2 and 3
- C. 1 and 3 only
- D. 2 only

59. "Mucormycosis" recently seen in news is a:

- A. Fungal infection
- B. Viral disease
- C. Genetic disorder
- D. Bacterial infection

60. Consider the following statements with respect to Pradhan Mantri Jan Arogya Yojana (PM-JAY):

1. It is a health assurance scheme which aims at providing a health cover of Rs. 1 lakh per family per year for secondary and tertiary care hospitalization to poor and vulnerable families.

2. It subsumed the Rashtriya Swasthya Bima Yojana (RSBY).
3. There is no cap on family size or age of members for the beneficiaries.
4. Pre-existing diseases are not covered under the scheme.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3 only
- B. 2 and 3 only
- C. 2, 3 and 4 only
- D. 1 and 4 only

61. Consider the following statements with respect to Malabar Tree Toad:

1. It is endemic to Western Ghats.
2. It is categorised as 'Critically Endangered' on the IUCN Red List.
3. It spends most of its life on trees, coming to the ground only during the first monsoon showers to mate.

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

62. Consider the following statements:

1. Rakhine State is situated on the western coast of Myanmar.
2. Sittwe port is located in Rakhine State.
3. Rakhine state is bordered by Bangladesh and India to the northwest.

Which of the given statement is/are INCORRECT?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 3 only
- D. None of the above

63. Consider the following statements with respect to the Collegium System:

1. It is the system of appointment and transfer of judges as per the provisions of the Constitution.
2. Collegium is a forum comprising of the Chief Justice of India and the four senior-most judges of the Supreme Court.
3. There was no mention of the Collegium in the original Constitution of India, it was added in the Constitution through successive amendments.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. 1, 2 and 3
- D. 1 and 2 only

64. Consider the following statements with respect to the Shore Temple:

1. It was built during the reign of the Pallava dynasty.
2. The Shore Temple complex is a part of the Mamallapuram monuments, designated a UNESCO World Heritage.
3. It overlooks the shore of Bay of Bengal.
4. It has been built in the Dravidian style.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 1, 2 and 3 only
- C. 2, 3 and 4 only
- D. 1, 2, 3 and 4

65. Consider the following statements with respect to S-400 Triumph:

1. It is a modern long-range surface-to-air missile system.
2. It can engage aerial targets such as aircraft, ballistic and cruise missiles, unmanned aerial vehicles (UAV), which are within the range of 400km.
3. S-400 was designed and developed by France.

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. None of the above

66. Consider the following statements with respect to enzyme-linked immunosorbent assay (ELISA):

1. It detects and measures antibodies, hormones, peptides and proteins in the blood.
2. ELISA can provide a useful measurement of antigen-antibody concentration.
3. It is used to diagnose HIV and Zika virus.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 3 only
- C. 1 and 2 only
- D. None of the above

67. Consider the following statements with respect to the Directive Principles of State Policy (DPSP):

1. DPSPs are borrowed from the Constitution of Ireland.
2. DPSPs are ideals which are not legally enforceable by the courts for their violation.
3. The DPSP followed the idea of the 'Instrument of Instructions' of the Government of India Act of 1935.
4. They embody the concept of a 'police state'.

Which of the given statement/s is/are correct?

- A. 2 and 3 only
- B. 1, 2 and 3 only
- C. 2, 3 and 4 only
- D. 1, 2, 3 and 4

68. Which of the following indices are released by the United Nations Development Programme (UNDP)?

1. Human Development Index
2. Inequality-adjusted Human Development Index
3. Gender Development Index
4. Gender Inequality Index
5. Multidimensional Poverty Index

Choose the correct option:

- A. 1, 2 and 5 only
- B. 1, 3 and 4 only
- C. 1, 4 and 5 only
- D. 1, 2, 3, 4 and 5

69. Consider the following statements with respect to the National Hydrology Project:

1. The project aims at improving the extent, reliability and accessibility of water resources information and to strengthen the capacity of targeted water resource management institutions in India.
2. It is a Centrally Sponsored Scheme.
3. The National Water Informatics Centre (NWIC) has been established under the project as a nationwide repository of water resources data.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 1 and 2 only
- C. 1, 2 and 3
- D. None of the above

70. Rivers Icchamati and Hariabhangra are transboundary rivers flowing through India and which another country?

- A. Bangladesh
- B. China
- C. Nepal
- D. Pakistan

71. Consider the following statements with respect to CMS-01 satellite:

1. Its applications range from telecommunication, disaster management support to satellite internet access.

2. Its coverage will include the Indian mainland and the Andaman & Nicobar and Lakshadweep islands.

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

72. Consider the following statements with respect to Human Freedom Index:

1. It is a global ranking of personal, civil and economic freedom.

2. The index is published annually by the United Nations Development Programme.

3. The index takes into account 3 indicators to rank 162 countries.

Which of the given statement/s is/are INCORRECT?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 3 only
- D. None of the above

73. Consider the following statements with respect to the United Nations Office for Disaster Risk Reduction (UNDRR):

1. It is tasked with the implementation, follow-up, support and review of the Sendai Framework.

2. UN Global Assessment Report on Disaster Risk Reduction (GAR) is published annually by UNDRR.

3. India is a member of UNDRR's Private Sector Alliance for Disaster Resilient Societies (ARISE).

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1, 2 and 3
- C. 1 and 3 only
- D. 2 only

74. Inner Line Permit is applicable to which of these states?

- 1. Arunachal Pradesh
- 2. Assam
- 3. Nagaland
- 4. Mizoram
- 5. Manipur
- 6. Tripura

Choose the correct option:

- A. 1, 2, 3, 5 and 6 only
- B. 2, 4, 5 and 6 only
- C. 1, 3, 4 and 5 only
- D. 1, 2, 5 and 6 only

75. Consider the following statements:

1. Ethanol is a common by-product of biomass left by agricultural feedstock.

2. The National Policy on Bio-fuels has set a target of 20% blending of biofuels.

3. The current permissible level of ethanol blending is 10%.

Which of the given statement/s is/are correct?

- A. 2 only
- B. 1 and 2 only
- C. 1, 2 and 3
- D. None of the above

76. Gurudwara Sis Ganj Sahib and Gurdwara Rakab Ganj Sahib mark the places of execution and cremation of which of the following Sikh Gurus?

- A. Guru Tegh Bahadur
- B. Guru Gobind Singh
- C. Guru Har Krishan
- D. Guru Har Gobind

77. India conducts military exercise Sampriti with which of the following countries?

- A. Sri Lanka
- B. Bangladesh
- C. Nepal
- D. Myanmar

78. Consider the following statements

1. LOFAR (Low-Frequency Array) is currently the largest radio telescope operating at the lowest frequencies that can be observed from Earth.

2. LOFAR is a single-dish telescope located in the US.

Which of the following statements are correct?

- A. 1 only.
- B. 2 only.
- C. Both 1 and 2.
- D. Neither 1 and 2.

A. 3 only

B. 1 and 2 only

C. 2 only

D. None of the above

79. Arrange the following places from north to south

- 1. Rutland Island
- 2. North Sentinel Island
- 3. Barren Island
- 4. Havelock Island

Which of the following is the correct answer?

- A. II-I-IV-III
- B. III-I-IV-II
- C. III-IV-II-I
- D. III-I-II-IV

80. Which of the following countries are members of NATO:

- 1. Denmark
- 2. Turkey
- 3. Switzerland
- 4. Greece

Identify the correct combination.

- A. II only.
- B. I, III, IV.
- C. I, II, IV.
- D. All of the above.

81. The town of Chibok, seen in news is located in which of the following countries?

- A. Sudan
- B. Nigeria
- C. Ethiopia
- D. Chad

82. Consider the following statements with respect to Guru Tegh Bahadur:

- 1. He founded the city of Anandpur Sahib.
- 2. He is the 6th Guru of the Sikh religion.
- 3. He was beheaded on the orders of Mughal Emperor Aurangzeb.

Which of the given statement/s is/are INCORRECT?

83. Consider the following statements with respect to sedimentary basins:

- 1. They are the primary locations on the continents where sufficient subsidence exists for long-term preservation of continental sediments.
- 2. Cambay, Assam Shelf and Assam Arakan Fold Belt are basins with commercial production.
- 3. Bengal basin is India's latest addition to producing Basins.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1 and 3 only
- C. 1, 2 and 3
- D. None of the above

84. Consider the following pairs:

- 1. Thang-Ta: Assam
- 2. Kalaripayattu: Karnataka
- 3. Gatka: Punjab

Which of the given pairs are correctly matched?

- A. 1, 2 and 3
- B. 1 and 3 only
- C. 3 only
- D. 1 and 2 only

85. Consider the following statements with respect to the Information Management and Analysis Centre:

- 1. It is the nodal agency for maritime data fusion.
- 2. It is located in Andaman.
- 3. It was set up after the 26/11 Mumbai terror attacks.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1 and 2 only

86. River Patuxent flows in which of the following countries?

- A. Finland
- B. France
- C. United States of America
- D. Hungary

87. Consider the following statements about Electronically Transmitted Postal Ballot System:

1. Electronically Transmitted Postal Ballot System is jointly developed by ECI and DRDO.
2. Electronically Transmitted Postal Ballot System is currently restricted to 'Service voters'.

Choose the correct option:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 and 2

88. Consider the following statements about Subhas Chandra Bose:

1. He founded the All India Forward Bloc in the year 1939.
2. He along with Jawaharlal Nehru criticized the Nehru Report over the issue of dominion status.
3. Subhas Chandra Bose was elected as the President of the Indian National Congress (INC) in 1938.

Which of the above are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. All of the above

89. The English Channel separates which of the following countries?

- A. The United Kingdom and Spain
- B. The United Kingdom and France
- C. The United Kingdom and Belgium
- D. The United Kingdom and Portugal

90. Which of the following countries border Nigeria?

1. Mauritania
2. Cameroon
3. Ghana
4. Chad

Choose the correct option:

- A. 1, 2 and 3 only
- B. 2 and 3 only
- C. 2 and 4 only
- D. 1, 3 and 4 only

91. Consider the following statements:

1. Leopards are classified by IUCN as 'Critically Endangered'.
2. The Northeast landscape is home to the maximum number of leopards in India.

Choose the correct option:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

92. The Copenhagen consensus is related to which of the following?

- A. An agreement signed at the 2009 Copenhagen Conference of Parties (CoP 15)
- B. An agreement signed by all the European countries with regards to internet governance in Europe
- C. Deals with food fortification
- D. None of the above

93. Mouling National Park is located in

- A. Assam
- B. Goa
- C. Arunachal Pradesh
- D. Sikkim

94. Consider the following statements:

1. Article 43-A was added to the Constitution by the 42nd Constitutional Amendment Act, 1976.
2. A-43-A belongs to Gandhian directive principles.

Choose the correct answer:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

95. Consider the following statements:

1. The International Labour Organisation (ILO) was formed in 1945 at the end of the Second World War.
2. India is a founding member of the International Labour Organisation.
3. The World Employment and Social Outlook (WESO) is released by ILO.

Choose the correct option:

- A. 1 and 2 only
- B. 2 and 3 only

- C. 1 and 3 only
- D. All of the above

96. Consider the following statements:

1. National Commission for Minorities (NCM) is a constitutional body.
2. 5 communities are notified as religious minorities.
3. The tenure of the members of the National Commission for Minorities is 3 years.

Choose the correct answer:

- A. 1 only
- B. 1 and 3 only
- C. 3 only
- D. All of the above

97. Which of the following countries border the Central African Republic?

1. Tanzania
2. Sudan
3. Democratic Republic of Congo
4. Senegal

Choose the correct answer:

- A. 1 and 4 only
- B. 2 and 3 only
- C. 1, 2 and 3 only
- D. 3 and 4 only

98. The city of Basra is located in

- A. Saudi Arabia
- B. Iran
- C. Syria
- D. Iraq

99. Consider the following statements.

1. Kaundinya Elephant Sanctuary is located in West Bengal.

2. The sanctuary is covered under Project Elephant.

Which of the following statements are correct?

- A. I only
- B. II only
- C. Both I and II
- D. Neither I and II

100. Considering the degree of economic integration, arrange the following in the increasing order of integration:

1. Free Trade Agreement
2. Economic Union.
3. III. Preferential trading area.
4. Customs Union.

Choose the correct answer:

- A. III-I-IV-II
- B. I-II-III-IV
- C. III-I-II-IV
- D. I-III-II-IV

101. Consider the following statements.

1. All India Trade Union Congress is the first Central Trade Union of India.
2. All India Trade Union Congress was founded by Gopal Krishna Gokhale.
3. The first session of the All India Trade Union Congress was held in 1920 at Bombay

Choose the correct answer.

- A. I and II.
- B. II and III
- C. I and III
- D. All of the above.

102. Consider the following statements

1. President Rule under Article 356 was first imposed in the state of Kerala in 1959.
2. The concept of President Rule was borrowed from Indian Councils Act of 1892.

Choose the correct answer.

- A. 1 only.
- B. 2 only.
- C. Both 1 and 2.
- D. Neither 1 and 2.

103. Satkosia wildlife sanctuary is located in

- A. West Bengal
- B. Odisha
- C. Meghalaya
- D. Sikkim

104. India signed a deal for jointly producing Ka-226T helicopter with which of the following countries.

- A. United States of America
- B. Israel
- C. Russia
- D. France

105. Consider the following statements

1. National Textile Corporation Limited, (NTC) is a schedule "A" public sector company under the ambit of Ministry of Textile, Government of India
2. National Textile Corporation was established in 1968 to look after the functioning of 119 sick textile mills acquired through three Nationalisation Acts

Which of the following statements are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 and 2

106. Consider the following statements

1. Securities Appellate Tribunal (SAT) is a statutory body established under the provisions of the Securities and Exchange Board of India Act, 1992 to hear and dispose of appeals against orders passed by the Securities and Exchange Board of India.
2. SAT hears and disposes of appeals against orders passed by the Pension Fund Regulatory and Development Authority (PFRDA)

Which of the following statements are correct?

- A. 1 only
- B. 2 only.
- C. Both 1 and 2
- D. Neither 1 and 2

107. Coringa wildlife sanctuary is situated in

- A. Maharashtra
- B. Tamil Nadu
- C. Kerala
- D. Andhra Pradesh

108. Consider the following statements

1. Polavaram project is a multi-purpose irrigation project on river Krishna.
2. The project has been accorded 'National project' status.

Which of the following statements are true?

- A. 1 only.
- B. 2 only.
- C. Both 1 and 2.
- D. Neither 1 and 2.

109. Consider the following statements

1. Recessions generally occur when there is a widespread increase in spending causing high inflation.
2. Disinflation is a temporary slowing of the pace of price inflation.

Which of the following statements are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 and 2

110. Consider the following statements:

1. Sudan opens to the Persian Gulf.
2. Sudan shares its land borders with Somalia.

Which of the above statements is/are incorrect?

- A. 1 only.
- B. 2 only.
- C. Both 1 and 2.
- D. Neither 1 nor 2

111. Human Freedom Index is released by

- A. World Bank
- B. World Economic Forum
- C. International Monetary Fund
- D. None of the above

112. Consider the following statements about the Inner Line Permit (ILP):

1. The Inner Line Permit (ILP) has its genesis in the State Reorganization Act 1956.
2. All the states in the northeast have the Inner Line Permit.

Which of the following statements is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

113. If one is travelling from Andhra Pradesh to Punjab, what is the minimum number of states one has to pass through including the source and destination states?

- A. 6
- B. 7
- C. 5
- D. 4

114. Consider the following statements with respect to Blue Flag Certification:

1. Blue Flag is a certification awarded to beaches, marinas and sustainable boat tourism operators that meet the requirements.
2. It is awarded by the Global Environment Facility.
3. India does not have any blue flag certifications to its credit.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 2 and 3 only

115. "Bhashan Char Island", recently in news, is a part of which country?

- A. India
- B. Bangladesh
- C. Myanmar
- D. Malaysia

116. Consider the following statements regarding the Hubble Space Telescope:

1. It was built by the United States space agency NASA, with contributions from the European Space Agency.
2. Hubble is the only telescope designed to be serviced in space by astronauts.
3. It is the first space telescope.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 and 3 only
- C. 3 only
- D. None of the above

117. "Malayali" tribe belongs to which state?

- A. Karnataka
- B. Tamil Nadu
- C. Kerala
- D. Telangana

118. Which of the following countries share a land border with Bangladesh?

1. India
2. Myanmar
3. China

Choose the correct answer:

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. All of the above

119. Consider the following statements with respect to Western Ghats:

1. Western Ghats is spread across 7 states.
2. Western Ghats is one of the biodiversity hotspots of India.
3. Western Ghats is listed among the UNESCO World Heritage Sites.

Which of the above statements are true?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. All of the above

120. Consider the following statements with respect to Central Information Commission (CIC):

1. Central Information Commission is an executive body.
2. Chief Information Commissioner is not eligible for reappointment.

Which of the above statements is/are true?

- A. 1 only.
- B. 2 only.
- C. Both 1 and 2.
- D. Neither 1 and 2

121. Global Environment Outlook is released by

- A. UNESCO
- B. UNEP
- C. World Bank
- D. NITI Aayog

122. Consider the following statements with respect to Akash Missile:

- 1. Akash is a medium-range mobile surface-to-surface missile.
- 2. It has been indigenously developed by DRDO under Integrated Guided-Missile Development Programme.

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

123. Consider the following statements with respect to SAHAYAK-NG:

- 1. It is India's first indigenously designed and developed Air Droppable Container.
- 2. It has the capacity to carry a payload of up to 500 kg and can be dropped from a heavy aircraft.
- 3. It is a GPS aided air dropped container.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 1 and 2 only
- C. 2 only
- D. 2 and 3 only

124. Consider the following statements Dibru-Saikhowa:

- 1. Dibru-Saikhowa is a National Park as well as a Biosphere Reserve situated on the south bank of the river Brahmaputra.
- 2. It is an identified Important Bird Area (IBA) notified by the Bombay Natural History Society.
- 3. The park is bound by the Lohit River in the south and Dibru river in the north.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2 and 3

125. Consider the following statements with respect to Kala-azar:

- 1. Kala-azar is endemic to the Indian subcontinent.
- 2. It is also known as Visceral leishmaniasis (VL).

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

ANSWER KEYS

1	A
2	B
3	C
4	A
5	A
6	C
7	B
8	B
9	C
10	A
11	C
12	C
13	C
14	D
15	A
16	B
17	D
18	A
19	B
20	D

21	D
22	C
23	A
24	D
25	A
26	D
27	C
28	C
29	A
30	C
31	A
32	D
33	D
34	C
35	B
36	A
37	B
38	D
39	C
40	D

[CLICK HERE TO READ EXPLANATION](#)

41	C
42	A
43	C
44	C
45	D
46	B
47	C
48	C
49	D
50	B
51	C
52	C
53	B
54	D
55	C
56	B
57	C
58	A
59	A
60	B

61	C
62	C
63	B
64	D
65	A
66	D
67	B
68	D
69	A
70	A
71	D
72	B
73	C
74	C
75	C
76	A
77	B
78	A
79	C
80	C

[CLICK HERE TO READ EXPLANATION](#)

81	B
82	C
83	C
84	C
85	B
86	C
87	B
88	D
89	B
90	C
91	D
92	C
93	C
94	A
95	B
96	C
97	B
98	D
99	
100	

101	C
102	D
103	B
104	C
105	C
106	C
107	D
108	B
109	B
110	C
111	D
112	D
113	C
114	A
115	B
116	C
117	B
118	B
119	B
120	B

[CLICK HERE TO READ EXPLANATION](#)

121	B
122	B
123	C
124	A
125	D

[CLICK HERE TO READ EXPLANATION](#)

MAINS PRACTICE QUESTIONS

GS Paper 1

Geography

1. "The Himalayan range is the chief driver of Asian climate". In the light of the above statement explain its significance and discuss the measures to be taken to mitigate the negative impact of development activities in the region. (15 marks, 250 words)

Society and Social issues

1. Discuss the problems associated with rapid urbanization in the Indian context and highlight the risks faced by migrants in the urban centres. (15 marks, 250 words)
2. "Indian population growth statistics are showing a healthy trend towards stabilizing", in the light of the above statement discuss the Government initiatives to control population growth. (15 marks, 250 words)
3. What are the salient features of Tribal Panchsheel? Explain its relevance today in the context of protection of the tribes in Andaman and Nicobar. (15 marks, 250 words)

GS Paper 2

Polity and Governance

1. Explain the role of Parliament in India's democratic setup. Discuss the concept of 'decline of parliament'. (15 marks, 250 words)
2. Explain the concept of 'Rights-based approach' and provide adequate examples to substantiate your answer. (15 marks, 250 words)
3. Discuss the importance of data collection, tracking and monitoring of Nutritional Services in tackling the problems of hunger and poverty in India. What are the challenges involved? (15 Marks, 250 Words)
4. "Parliamentary committees examine the ground realities and put the bills in a better shape. Making these systems non-functional and irrelevant is sure to invite disaster." Elucidate the statement in the backdrop of the ongoing agitations and demand for repeal of farm bills recently passed by Parliament. (15 Marks, 250 Words)
5. The backlog of cases is an age-old problem haunting Indian judiciary. Suggest steps that can be taken to solve the burden of the backlog. (10 marks, 150 words)
6. Explain the role of intermediaries and their importance in delivering last mile governance. (10 marks, 150 words)
7. "Lack of proper consultation mechanism in policy making has left stakeholders alienated", explain the above statement with respect to farmer protests and boycott by labour unions. (15 marks, 250 words)
8. "The misuse of Article 356 is a blot on Indian federal setup", explain. (10 marks, 150 words)
9. What is Inner Line Permit? Explain its importance to the north-eastern states of India. (15 marks, 250 words)
10. What are the implications of the rapid deployment of facial recognition system by the government without any law in place, on the fundamental rights? Examine. (15 Marks, 250 Words).

Government schemes/interventions

1. Explain the need for an urban employment guarantee programme and highlight steps taken towards securing social security for the urban poor. (15marks, 250 words)
2. Explain how the POSHAN Abhiyan intervention is different from previous Government interventions to tackle under nutrition. (10 marks, 150 words)

3. "Digital revolution in India has the potential to take governance to the doorsteps of people." In light of the above statement discuss the initiatives taken by the Government to enhance digital connectivity. (15 marks, 250 words)
4. "A safe water supply is the backbone of a healthy economy", in the light of the above statement highlight the steps taken by the governments to improve the supply of safe and adequate water in the country. (10 marks, 150 words)

International relations

1. How can India leverage its geography and economic profile to forge better relations in the immediate neighbourhood? (15 marks, 250 words)
2. The SCO, sometimes referred to as "Asian NATO", serves as a geo-politically important regional grouping. Discuss. Can the SCO serve as a platform to overcome the challenges India face with its immediate neighbours? (15 marks, 250 words)
3. Discuss how fluctuation in the US policy of Iran has affected the India – Iran relationship. (10 marks, 150 words).
4. What is multiculturalism? Explain its relevance in the 21st century. (15 marks, 250 words)
5. "US's exit from the Iran nuke deal may have collateral consequences for India", In the light of the above statement explain the outcomes for India. (10 marks, 150 words)
6. Explain the regional consequences in Africa due to the US-brokered Morocco-Israel deal. (10 marks, 150 words)
7. "World Trade Organisation as a multilateral body is facing numerous challenges." In light of the above statement, discuss the relevance of WTO and also suggest suitable reforms to ensure its smooth functioning. (15 marks, 250 words)
8. What are the implications of Brexit on the India-UK relationship? (10 marks, 150 words)
9. Throw light upon key opportunities for India in Bangladesh, examining the recent trends in India's relationship with its all-weather friend. (15 Marks, 250 Words)
10. Critically analyse the impact of Brexit on India's commercial relationship with United Kingdom. (15 marks, 250 words)

Hunger

1. Despite achieving self-sufficiency in food grains production, India's hunger levels and malnutrition levels are a cause for concern. Elucidate. (15 marks 250 words)

Health

1. In the backdrop of poor handling of the pandemic by WHO, discuss the role of WHO in global health efforts and the inherent challenges faced by it while suggesting measures to strengthen the same. (10 marks, 150 words)
2. Explain anti-microbial resistance and suggest steps to tackle this public health concern. (10 marks, 150 words)
3. What is herd immunity? Explain its role in public health and critically discuss its role in tackling COVID-19. (15 marks, 250 words).
4. "Primary healthcare is the gatekeeper of the health system." In light of the above statement, explain the significance of primary healthcare in the overall health setup. (15 marks, 250 words)
5. Discuss the administrative challenges associated with carrying out the COVID-19 vaccination drive across the country. (10 marks, 150 words)

Education

1. In the light of the recommendations of the New Education Policy 2020, critically examine the role of foreign universities opening branches in Indian soil. (15 marks, 250 words)

GS Paper 3**Economy**

1. What do you understand by Technical Textiles? What are the steps taken by the government to promote technical textiles in the domestic and international markets? (10 Marks, 150 Words)
2. Explain inflation targeting? Explain briefly about the interplay between inflation and growth. (10 marks, 150 words).
3. Discuss the need for implementing labour reforms to improve the performance of India's manufacturing sector. (15 marks, 250 words)
4. India's agriculture marketing and its cropping pattern both undoubtedly require reforms, Discuss. (15 marks, 250 words)
5. PM-WANI Scheme has the potential to genuinely empower citizens going well beyond 'Ease of Doing Business'. Examine the statement and discuss the challenges. (15 Marks, 250 Words)
6. "India has been promoting renewable energy capacity addition at a rapid scale", in the light of the above statement discuss the problems associated with renewable energy. (10 marks, 150 words)
7. The share of Indian indirect tax revenue vis-a-vis direct tax revenue collection is skewed, what are the steps that needs to be taken to reverse the trend. (15 marks, 250 words)
8. Explain the salient features of the Insolvency & Bankruptcy Code (IBC) 2016, and critically analyze the other alternatives available to deal with insolvency and bankruptcy during the suspension of certain provisions of IBC. (15 marks, 250 words)
9. "Industrial Disputes have seen an upward trend in recent years." In light of the above statement, critically examine the new Labour Codes passed by the government. Do the recent Codes help in bridging employer-employee trust deficit? (15 marks 250 marks)
10. The Cairns arbitration award and the Vodafone case have the potential to hurt India as an investment destination. Discuss the possible steps that can be taken by the government to avert similar incidences in the future. (10 marks, 15 words)
11. What is a bilateral investment treaty? What is the significance of such arrangements? (10 marks, 150 words)
12. India's economy has been witnessed a sustained decline in growth rates, explain the factors contributing to such a decline and also suggest measures to reverse such a decline. (15 marks, 250 words)
13. India in the last decade has seen a decline in savings and investment rate, identify the factors that have contributed to their decline and suggest measures to improve them. (15 marks, 250 words)
14. What is contract farming? Critically analyze its impact on small and marginal farmers in India. (15 marks, 150 words)
15. Is India's spending on farm subsidies from the exchequer justified? Substantiate your answer by drawing a comparison with those of other countries having substantial interests in agriculture. (15 Marks, 250 Words).

Science and Technology

1. The future of AI looks promising, but to convert potential to reality requires sound strategies. Explain the steps taken by India so far to harness AI. (15 marks, 250 words)

Environment and Ecology

1. Explain the principles behind Environment Impact Assessment (EIA) and discuss the new draft EIA notification. (15 marks, 250 words)
2. What are the various sources of air pollution and its impact on human health? Explain various Government initiatives to tackle the same. (15 marks, 250 words)
3. "Waste management is going to get increasingly difficult with rapid urbanization and also a change in lifestyle." In light of the above statement, explain some of the strategies that are needed to be implemented to ensure better waste management. (15 marks, 150 words)
4. What do you understand by "E20 fuel"? Discuss its benefits for India and the associated challenges. (10 Marks, 150 Words)
5. "India is a mega-diverse country, however, commercial exploitation is driving many species to the verge of extinction", in the light of the above statement, explain the applications and the nature of the threat faced by the Himalayan trillium. (10 marks, 150 words)
6. "India has done well in wildlife conservation with an increase in populations of tigers, lions, leopards in recent times." In light of the above statement, discuss the measures taken towards wildlife conservation and suggest measures to improve it. (15 marks, 250 words)
7. "The Western Ghats are a treasure of biodiversity." In light of the above statement, discuss the threats that endanger the biodiversity of the region. (15 marks, 250 words)

Internal Security

1. Left-wing extremism is showing a downward trend, but still affects a significant part of our country. Briefly explain the direct and indirect benefits of the Government's move to increase security forces in the left-wing affected areas. (10 marks, 150 words)
2. Explain the challenges faced by India in dealing with infiltration along the borders. Mention the steps taken by the government in tackling this menace. (15 marks, 250 words)
3. What is two-front warfare? Explain the broad contours of the strategy that must be followed by India in an event of a two-front war. (15 marks, 150 words)
4. What is money-laundering? Discuss the Government initiatives taken to curb money laundering? (10 marks, 150 words)

INTERVIEW TRANSCRIPT

Candidate Details:

- Name: Suresh Kumar Jagat
- AIR: 556 (CSE 2017)
- Optional subject: Geography

Personal Details:

- Education: B.Tech in Mechanical Engineering, National Institute of Technology, Raipur
- Home town: Korba, Chhattisgarh
- Hobbies: Watching movies, spending time with children, travelling

Work-experience:

- 3.5 years in NTPC Ltd.
- 2 years in Central Water Commission (through ESE- 2013)
- Indian Railways Traffic Service through CSE-2016

Chairman of the Interview Board: Air Marshal Ajit Bhonsle**Questions asked by the interview board:****Questions on previous work experience:**

- You have worked in very crucial sectors, how do you think this will help in civil service?
- Were your previous jobs gender-sensitive?
- How did you manage to come out from a remote village and what are the challenges associated with it?
- What are the challenges faced by the water sector in India?
- Give some data on water availability in India.
- Do you think the Central Water Commission (CWC) is doing a good job?

Questions related to Hometown:

- Tell me something about your native place.
- What do you know about custodial death in the jails of Chhattisgarh and what needs to be done?

Questions on polity and governance:

- Why is linking Aadhar with social sector programmes necessary?
- What are the issues related to data protection with Aadhar?
- Mechanism of maintaining transparency in India.
- How will you ensure a corruption-free society?

Questions on economy:

- Banking fraud, reasons and solution.
- How to confiscate the assets of a person?
- Letter of Understanding vs Letter of Credit?
- Tell me something about financial resolution and deposit insurance bill.
- Demonetisation - effect on the economy.
- What are the important railway sector reforms?
- What is Telgo Train?

Questions related to International Relations:

- How do you see the international relations of India with neighbouring countries considering the water disputes?

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AK Rastogi
(IAS Retd., Former
Secretary to Govt of India)

S N Jha
(IAS Retd., Former
Chief Secretary, Bihar)

CNS Nair
(IAS Retd., Former
Secretary to Govt of India)

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(IPS Retd., Former
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Vineet Ohri
(IRS Retd., Former
Chief Commissioner,
Customs & Excise)

B S Lamba
(IAS Retd., Former
Indian Envoy to UNO)

Prabhakar Mani Tripathi
(Sr. Psychologist)

G. Subba Rao
(IAS Retd., Former Chairman,
Gujarat State Police
Complaints Authority)

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