SEPTEMBER -2021
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POLITY

Issues and Challenges Pertaining to the Federal Structure

1. Asymmetric federalism

- » Prelims: Asymmetric federalism- features; Examples in Indian context
- » Mains: Relevance of the concept in the Indian context and issues associated with it

What is Asymmetrical Federalism?

- Asymmetric federalism or asymmetrical federalism is found in a federation in which different constituent states possess different powers.
- One or more of the sub-states has/have considerably more autonomy than the other sub-states, although they have the same constitutional status.

Examples:

- Article 370 that gave Jammu and Kashmir a special constitutional status (which was abrogated in 2019).
- Article 371 which, among others, gives expansive constitutional powers to Nagas over land and resources (Article 371A), and to Manipur's Hill Areas Committee (Article 371C) over tribal identity, culture, development and local administration.

Arguments against asymmetric federalism:

Destabilising Potential of Asymmetric Federalism:

- Antagonists of asymmetric federalism increasingly rally around the idea of a monolith, homogenous nation.
- This is driven by the argument that giving distinctive constitutional status to territorially concentrated minorities would promote centrifugal tendencies (moving or tending to move away from a centre). It is argued that it would over time inhibit national/state integration, development, and peace.

Arguments in favour of asymmetric federalism:

- It marks an attempt to acknowledge and accommodate the diversity present in the country. This recognition becomes inevitable to protect the rights of communities to protect their distinctiveness.

Deliberations in India's Constituent Assembly:

- The argument that asymmetric federalism fosters subversive institutions, political instability and breakup of States had also informed the minds of some of the founding fathers of the nation, when they participated in India's Constituent Assembly debates.
- The Gopinath Bordoloi Committee had proposed the idea of 'autonomous' district councils.
    - * Gopinath Bordoloi Committee was a sub-committee of the Constituent Assembly that sought to accommodate the distinctive identity, culture and way of life of tribal groups in the Northeast by envisioning self-rule.
- While members like Jaipal Singh and B.R. Ambedkar recognised tribal distinctiveness and underscored the need for separate institutional accommodation, Kuladhar Chaliha, a prominent member from Assam, brought in an integrationist approach when he openly advocated assimilation of tribal groups. Chaliha reinforced his integrationist push by contending that tribal self-rule would leverage "tribalstan" or "communistan" and would be detrimental to India's territorial integrity and security.

Recent Developments in Manipur:

- The Manipur government recently took steps to:
    - * stop the introduction and passage of the Manipur (Hill Areas) Autonomous District Council (Amendment) Bill, 2021, and
    - * induct nine Assembly members from the valley areas into the Hill Areas Committee.
- This points towards the Manipur government following the integrationist approach.
- While the Manipur government says that the Bill is a sensitive matter requiring legal approval by the Department of Law and Advocate General of the State, the Speaker's order to induct nine Assembly members from the valley areas is seen as a direct assault on the Hill Areas Committee and the constitutional protection accorded to the Hill Areas of Manipur under Article 371C. It amounted to a transgression of a domain exclusively reserved for the President of India under the Manipur Legislative Assembly (Hill Areas Committee) Order, 1972.
- This project is increasingly seen as the majoritarian state's attempt to transgress and snatch away tribal lands through legal manipulation and sacralisation projects.

Conclusion:

- There seems to be a lack of sincere commitment to promote tribal development, identity and culture that Article 371C seeks to bridge.

- Recognising and institutionally accommodating tribal distinctiveness not just as a matter of political convenience, but as a valuable and enduring good will be key to promote the State's integrity, stability and peace in the long run.

Statutory, Regulatory and various Quasi-judicial Bodies

2. National Investigation Agency

» Prelims: NIA- Powers and functions

- The National Investigation Agency (NIA) is India's counter-terrorist task force.

- It is headquartered in New Delhi.

- NIA came into existence with the enactment of the National Investigation Agency Act 2008.

- The Agency has been empowered to conduct investigation and prosecution of offences under the Acts specified in the Schedule of the NIA Act.

  * The agency is empowered to deal with terror related crimes across states.

  * The NIA was empowered to probe cases of cyber terrorism under the National Investigation Agency (Amendment) Act, passed of 2019.

  * The National Investigation Agency (Amendment) Act, 2019 states that, officers of the NIA will have the power to investigate scheduled offences committed outside India, subject to international treaties and domestic laws of other countries.

Context:

- Experts have emphasized the need to provide the National Investigation Agency (NIA) with additional infrastructure and domain experts to probe cyber terrorism offences more efficiently.

Statutory, Regulatory and various Quasi-judicial Bodies

3. Railways falling foul of CVC norms

» Prelims: CVC- Powers and functions

» Mains: Threat posed by corruption in government agencies; Measures in place to counter corruption and their effectiveness

Context

- The report on the 'Rationalisation of Government Bodies and Proposal for the Ministry of Railways', prepared by Principal Economic Adviser, Ministry of Finance, Government of India.

Background:

Vigilance Directorate of the Railways:

- The Vigilance Directorate of the Railways deals with allegations of corruption, misappropriation of funds, abuse of official power and other irregularities and recommends punishments.

- It is the largest Vigilance Directorate in the Central government with over 1,170 personnel, including 192 officers.

Details:

- The report notes with concern that the Vigilance Directorate of the Railways is functioning in violation of the Central Vigilance Commission (CVC) guidelines.

  * The CVC guidelines prescribe that the Chief Vigilance Officer (CVO) should be appointed from other Ministries (external) for a certain tenure.

- It points out that the administrative structure of the Vigilance Directorate of the Railways is not compliant with the CVC guidelines.

  * As against the guidelines of the CVC, the Chief Vigilance Officer (CVO) is being appointed with internal officers in the Railways.

  * In many cases, the Vigilance Officers have tenures longer that what is permitted by the CVC.

Concerns:

- The observations made in the report raises questions on the legality of the decisions made in the past and pending cases of the Vigilance Directorate relating to allegations of corruption and other irregularities.

Parliament and State Legislatures—Structure, Functioning, Conduct of Business

4. Deputy Speaker of Lok Sabha

» Prelims: Article 93 of the Indian Constitution; Powers and duties of deputy speaker; Panel of chairpersons

Context

- The Delhi High Court has asked the Union government to explain its stand on a petition that challenges the government's reluctance to conduct the elections to the post of Deputy Speaker of the Lok Sabha.

Details:

- The petition argues that keeping the post of Deputy Speaker of the Lok Sabha vacant is a violation of Article 93 of the Indian Constitution.

* Article 93 states that "The Speaker and Deputy Speaker of the House of the People The House of the People shall, as soon as may be, choose two members of the House to be respectively Speaker and Deputy Speaker thereof and, so often as the office of Speaker or Deputy Speaker becomes vacant, the House shall choose another member to be Speaker or Deputy Speaker, as the case may be".

* It states that the office of the Deputy Speaker should never be empty.

Deputy Speaker:

- The position of Deputy Speaker is a Constitutional post.

- The Deputy Speaker is elected by the Lok Sabha from amongst its members right after the election of the Speaker has taken place.

- The Deputy Speaker enjoys the same legislative powers as the Speaker. And in the absence of the Speaker because of death, illness or any other reason, the Deputy Speaker assumes the administrative powers of the speaker.

Panel of chairpersons:

- There is also a panel of 10 chairpersons for the Lok Sabha nominated by the speaker from amongst Lok Sabha MP's to preside if both the Speaker and Deputy Speaker are both absent.

- The panel can't preside over the house when the office of speaker or deputy speaker is vacant; in such cases the president decides who shall preside over the house from amongst its members.

- When even these panelists are absent, any member of the house, as determined by the house acts as the presiding officer.

Statutory, Regulatory and various Quasi-judicial Bodies

5. Tribunal Reforms Bill 2021

» Mains: Features of the tribunal reforms bill 2021; Criticisms and the need for a national tribunals commission

Background:

- The parliament had passed the Tribunal Reforms Bill 2021 recently. Some of the salient aspects of the bill are as follows:

  * The bill replaces the Tribunals Reforms (Rationalisation and Conditions of Service) Ordinance, 2021.

  * The bill has sought the abolishment of as many as nine appellate tribunals, including the Film Certificate Appellate Tribunal.

  * It dissolves certain existing appellate bodies and transfers their functions to other existing judicial bodies.

Criticism of the bill:

- The bill has been criticised saying that the legislation undermines the autonomy of the various tribunals in the country.

- Besides, the Bill has also revived provisions of tenure and service of members of tribunals which were earlier struck down by the Supreme Court in a judgment.

- The issue of tribunals has been a source of considerable friction between the Government and the Court. They have often disagreed on the eligibility criteria and conditions of service and a series of judgments have gone against the Government.

- Abolishing Tribunals may increase the disposal time for new cases, as High Courts already have a large number of cases awaiting judgement.

- The Supreme Court has also noted that the minimum age limit requirement of 50 years for the appointment of members may discourage young talent. It had earlier directed that advocates with 10 years of experience be made eligible to be appointed as judicial members.

Way Forward:

- The aspects raised by the Supreme Court regarding appointment to the tribunals need more attention.

  * Courts want to ensure that a reasonable tenure is available to the appointees, and criteria related to age and experience don't undermine the independence of the judiciary.

- There is wide agreement that administrative tribunals are required for quicker and more focused adjudication of cases that require specialisation and domain expertise.

- The establishment of a national tribunals commission to make suitable appointments and evaluate the functioning of tribunals should become a top priority.

Functioning of the Indian Judiciary

6. Supreme court Collegium clears 68 names for HC judges

» Prelims: Article 217 of the Indian constitution; collegiums system functioning

» Mains: Concerns associated with the collegiums system and the need to reform it

Context:

- In a recent meeting, the Supreme Court collegium has recommended some names for appointment to the position of high court judges.

Background:

Appointment procedure of HC Judges:

- Article 217 of the Constitution: It states that the Judge of a High Court shall be appointed by the President in consultation with the Chief Justice of India (CJI), the Governor of the State.

  * In the case of appointment of a Judge other than the Chief Justice, the Chief Justice of the High Court is consulted.

- Consultation Process: High Court judges are recommended by a Collegium comprising the CJI and two senior-most judges.

  * The proposal, however, is initiated by the Chief Justice of the High Court concerned in consultation with two senior-most colleagues.

  * The recommendation is sent to the Chief Minister, who advises the Governor to send the proposal to the Union Law Minister.

Evolution of Collegium System:

- It is the system of appointment and transfer of judges that has evolved through judgments of the SC, but not by an Act of Parliament or by a provision of the Constitution.

  * First Judges Case (1981): It declared that the "primacy" of the Chief Justice of India's (CJI) recommendation on judicial appointments and transfers can be refused by the President and consultation doesn't mean concurrence.

    » Thus, the ruling gave the Executive primacy over the Judiciary in judicial appointments for the next 12 years.

  * Second Judges Case (1993): SC introduced the Collegium system, holding that consultation means concurrence.

    » It added that it was not the CJI's individual opinion, but an institutional opinion formed in consultation with the two senior-most judges in the SC.

  * Third Judges Case (1998): SC on President's reference expanded the Collegium to a five-member body, comprising the CJI and four of his senior-most colleagues (for example for the transfer of HC judges).

Issues involved in appointment:

- Cumbersome Process: There are inordinate delays in the appointment of High Court judges and it leads to the pendency of cases.

- Lack of Transparency: There is no objective criteria for selection and people come to know about judges only after selection. It also promotes nepotism in the judiciary.

- Improper Representation: Certain sections of societies have higher representation whereas many vulnerable sections have nil representation.

Attempts of Reform:

- The attempt was made to replace the Collegium with a 'National Judicial Appointments Commission (NJAC)' in 2014 through the 99th Constitutional Amendment Act, 2014. However, the Constitutional Bench of the Supreme Court declared NJAC unconstitutional in 2015, citing that it violates the Basic Structure of the Constitution of India on the ground that it posed a threat to the independence of the judiciary.

Way Forward:

- It is high time to think of a permanent, independent body to institutionalize the process with adequate safeguards to preserve the judiciary's independence guaranteeing judicial primacy but not judicial exclusivity.

- It should ensure independence, reflect diversity, demonstrate professional competence and integrity.

- Instead of selecting the number of judges required against a certain number of vacancies, the collegium must provide a panel of possible names to the President to appoint in order of preference and other valid criteria. Judiciary should balance accountability as well as independence provided by the Constitution.

Issues and Challenges Pertaining to the Federal Structure

7. Spirit of federalism lies in consultation

» Prelims: Doctrine of pith and substance; seventh schedule of the Indian Constitution

» Mains: Challenges to co-operative federalism in India

Background:

- Of late, various State governments have raised concerns about Central unilaterally enacting critical laws on subjects in the Concurrent List of the Seventh Schedule of the Constitution without taking the states into confidence. This the states argue undermines the federal principles as envisaged in the Indian Constitution.

  * The Seventh Schedule contains a three-fold distribution of legislative subjects between the Centre and the states, viz., List-I (the Union List), List-II (the State List) and List-III (the Concurrent List).

- The states have also pointed out to several other measures by the central government which seem to be eroding federal powers of the states.
  * The enactment of farm laws without consultation with the States even though the Parliament does not have legislative competence to deal with agriculture. The laws, essentially related to Entry 14 (agriculture clause) belonging to the State List, were purportedly passed by Parliament citing Entry 33 (trade and commerce clause) in the Concurrent List. According to various decisions of the Supreme Court, beginning from the State of Bombay vs F.N. Balsara case, if an enactment falls within one of the matters assigned to the State List and reconciliation is not possible with any entry in the Concurrent or Union List after employing the doctrine of "pith and substance", the legislative domain of the State Legislature must prevail.
    » Pith and substance is a doctrine used to determine under which head of power a given piece of legislation falls. The doctrine is primarily used when a law is challenged on the basis that one level of government has encroached upon the exclusive jurisdiction of another level of government.
- The States and the Legislative Assemblies are showing their disapproval in varied forms.
  * The Kerala Legislative Assembly unanimously passed a resolution against the Electricity (Amendment) Bill, 2020.
  * The Tamil Nadu Legislative Assembly passed a resolution against the controversial farm laws.

Distribution of power between the Centre and the States:

- The model envisioned in the Government of India Act, 1935, was adopted by the framers of the Constitution and certain subjects were put in the Concurrent List by giving the Union and the State Legislatures concurrent powers regarding them.
  * The fields in the Concurrent List were to be of common interest to the Union and the States, and the power to legislate on these subjects to be shared with the Union so that there would be uniformity in law across the country.
- However, one of the worst fears of Constituent Assembly member K.T.M. Ahmad Ibrahim Sahib Bahadur was that the subjects in the Concurrent List might end up being transferred to the Union List over a period of time due to the Union government's high-handedness.

  * This fear seems to be coming true with the latest developments.
- The Sarkaria Commission Report had specifically recommended that there should be a coordination of policy and action in all areas of concurrent or overlapping jurisdiction through a process of mutual consultation and cooperation is, therefore, a prerequisite of smooth and harmonious working of the dual system.
  * It was further recommended that the Union government, while exercising powers under the Concurrent List, limit itself to the purpose of ensuring uniformity in basic issues of national policy and not more.
- The National Commission to Review the Working of the Constitution (NCRWC), or the Venkatachaliah Commission, had recommended that individual and collective consultation with the States should be undertaken through the Inter-State Council established under Article 263 of the Constitution.

Concerns:

- The Union government increasingly extending its hands on subjects in the Concurrent List is a cause of grave concern.
- It is not in the essence of federalism for the Union government to legislate unilaterally, avoiding discussions with the States on the subjects in the Concurrent List.

Conclusion:

- As the Supreme Court held in the S.R. Bommai vs Union of India case, the States are not mere appendages of the Union. The Centre should not meddle with the power of the States. The intention of the framers of the Constitution is to ensure that public welfare is subserved and the key to that lies in listening to stakeholders. The essence of cooperative federalism lies in consultation and dialogue, and unilateral legislation without taking the States into confidence will lead to more protests on the streets.

Functioning of the Indian Judiciary

8. High degree of judicial pendency

» Mains: Issue of high degree of Judicial pendency in India; Concerns associated with it and measures needed to address it

Judicial Pendency:

- The term Judicial pendency is used to refer to all cases which have not yet been disposed of, without any reference to how long the case has spent in the judicial system.

Concerns:

- More than 40% of cases are decided after three years in India, while in many other countries less than 1% of cases are decided after three years.

- Data shows that about 70% of prisoners in India are undertrials and are mostly poor citizens.

- The rich, the powerful and the wrongdoers have been making use of the judiciary by getting their cases expedited or delayed as they wish.

- The increase in corruption and crime is a direct fallout of the sluggish justice delivery system, severely impacting the poor and marginalised for whom the judicial process itself becomes a punishment.

Need for Speedy Justice:

- "Justice delayed is justice denied" is a legal maxim. It means that if legal redress or equitable relief to an injured party is available, but is not forthcoming in a timely fashion, it is effectively the same as having no remedy at all.

- A measure of the justice delivery system is the pendency of cases in courts across the country.

Ensuring Speedy Justice:

- The following measures can be implemented to tackle this issue.

Filling Vacancies:

- A major intervention which can help is filling the sanctioned judicial positions, by expediting the process of judicial appointments.

- The responsibility of ensuring near-zero vacancies should be with the Chief Justices of the High Courts and the Chief Justice of India and they should be held accountable for the same.

Use of technology:

- In the backdrop of the pandemic, there is a dire need of improving working with the use of technology.

- The e-Committee of the Supreme Court has been in existence since 2005. It has made the following recommendations.

  * Computer algorithms should decide on case listing, case allocation and adjournments with only a 5% override given to judges.

  * All rational reasons and limits should be put on adjournments. Case listing should give main weightage to 'first in, first out'.

  * Case allocation should take into account logical criteria. This would be a big step in reducing arbitrariness and the unfair advantage that the powerful enjoy.

  * The courts should focus on e-filing. This should be implemented in all seriousness and would also save about three lakh trees annually.

  * Virtual hearings must be considered. COVID-19 prompted the courts to adopt virtual hearings. If a hybrid virtual hearing model is not adopted, the backlog of cases could cross 5 crore in 2022. The dysfunctional justice system will be perpetually overwhelmed.

Indianise Courts:

- In the backdrop of increasing backlog of cases in the Indian courts, the Chief Justice of India has made a plea to 'Indianise' courts.

- That is to make them responsive to the needs of the Indian citizens.

Miscellaneous

9. **Plea in HC seeks removal of verdict from Net**

   » Prelims: Right to be Forgotten; Article 21 and right to Privacy

   » Mains: Relevance of Right to be Forgotten in the current context

Context:

- The Delhi High Court sought replies from the Centre, Google and India Kanoon on a plea seeking removal of a judgment and an order in connection with a seven-year-old FIR under 'Right to be Forgotten'.

Right to be Forgotten:

- The Right to be Forgotten falls under the purview of an individual's right to privacy.

- In 2017, the court said that the right to privacy is protected as an intrinsic part of the right to life and personal liberty under Article 21 and as a part of the freedoms guaranteed by Part III of the Constitution.

- Both the right to be left alone as well as the right to be forgotten are components of the right to privacy.

- Broadly, under the Right to be forgotten, users can de-link, limit, delete or correct the disclosure of their personal information held by data fiduciaries.

  * A data fiduciary means any person, including the State, a company, any juristic entity or any individual who alone or in conjunction with others determines the purpose and means of processing of personal data.

- The right to privacy is also governed by the Personal Data Protection Bill that is yet to be passed by Parliament. The bill exclusively talks about the "Right to be Forgotten."

ECONOMY

1. Decoded- Bad Bank

» Prelims: Functioning of NARCL; Concept of Bad bank

» Mains: NPA stress in the Indian financial system; Significance and challenges associated with NARCL

Context:

• The Cabinet has cleared a Rs. 30,600 crore guarantee programme for securities to be issued by the National Asset Reconstruction Company Limited (NARCL).

 * The NARCL is envisaged as a 'bad bank' to help aggregate and consolidate banks non-performing assets (NPAs) or bad loans.

Background:

NPA stress in the Indian financial system:

• The Indian banking system has been reeling under the pressure of non-performing assets (NPAs) since 2015. The twin balance sheet problem which caused a lot of stress amounted to a huge challenge for the Indian economy.

 * Twin balance sheet problem is a scenario where the balance sheets of both public sector banks (PSBs) and some corporate houses are in bad shape. It is known as the twin balance sheet problem as the challenges faced by the banks are linked to that of the corporate sector. The corporates are unable to repay their loans to banks which in turn affect the capacity of the banks to lend.

• The enhanced stresses experienced by both lenders and borrowers had the potential to lead to financial instability and also undermine the growth potential of the Indian economy.

Attempts at resolution of NPAs:

• Various resolution measures like Insolvency and Bankruptcy Code (IBC), strengthening of Securitization and Reconstruction of Financial Assets and Enforcement of Securities Interest (SARFAESI Act) and Debt Recovery Tribunals, as well as setting up of dedicated Stressed Asset Management Verticals (SAMVs) in banks for large-value NPA accounts were undertaken to bring down NPAs.

• In spite of these efforts, substantial amount of NPAs continue on balance sheets of banks primarily because the stock of bad loans as revealed by the Asset Quality Review is not only large but fragmented across various lenders.

Concept of bad bank:

• A bad bank is a bank set up to buy the bad loans and other illiquid holdings of another financial institution. The entity holding significant nonperforming assets will sell these holdings to the bad bank at market price.

• It will then manage and dispose of the assets to potential investors for eventual value realization. In other words, it will hold problem loans for public sector banks which can then be sold on to investors at a reduced price. This will ultimately help clean up the balance sheets of banks.

• The Union Finance Minister in the budget speech had announced the setting up of an Asset Reconstruction Company Limited and Asset Management Company.

Details:

National Asset Reconstruction Company Limited (NARCL):

• NARCL has been incorporated under the Companies Act and has applied to Reserve Bank of India for license as an Asset Reconstruction Company (ARC). The Reserve Bank of India is in the process of granting a licence.

• NARCL has been set up by banks to aggregate and consolidate stressed assets for their subsequent resolution. PSBs will maintain51% ownership in NARCL.

• NARCL proposes to acquire stressed assets of about Rs. 2 Lakh crore in phases. It intends to acquire these through 15% Cash and 85% in Security Receipts (SRs).

 * A 15% cash payment would be made to the banks based on some valuation and the rest will be given as security receipts. Once the asset has been resolved the balance 85% held as security receipts would be given to the banks.

India Debt Resolution Company (IDRC):

• Public and private lenders would combine forces to set up an India Debt Resolution Company (IDRC) that would manage these assets and try to raise their value for final resolution.

 * Public Sector Banks (PSBs) and Public FIs will hold a maximum of 49% stake and the rest will be with private sector lenders.

• IDRCL would engage market professionals and turnaround experts. Thus IDRCL would function as an Asset Management Company (AMC) as envisaged in the budget speech.

Co-ordination between NARCL and IDRC:

- The NARCL will acquire assets by making an offer to the lead bank. Once NARCL's offer is accepted, then, IDRCL will be engaged for management and value addition.

Guarantee programme for securities issued by NARCL:

- The government's guarantee of up to Rs 30,600 crore will back Security Receipts (SRs) issued by NARCL. The guarantee will be valid for 5 years.
- The condition precedent for invocation of guarantee would be resolution or liquidation.
- The government back-stop will come in only as much as to pay the gap between the realised value and the face value of the security receipts.

Significance:

Backstop measure:

- Resolution mechanisms which deal with a backlog of NPAs typically require a backstop from Government. The guarantee programme for securities issued by NARCL is a step in this direction.
- This will impart credibility to the whole process of resolution of NPAs and will also provide for contingency buffers.
- Government's guarantee will also enhance liquidity of SRs as such SRs are tradable. This will provide an impetus to the whole process as envisaged under the NARCL and IDRC framework.

Incentivize faster resolutions:

- The five-year limit on the guarantee, with an increase in the fees charged for the guarantee every year, is an incentive for the resolution process to be completed at the earliest.
- The quicker action on resolving stressed assets will help in better value realization.

Complement existing ARCs work:

- There are 28 ARCs in the private sector. Existing ARCs have been helpful in resolution of stressed assets especially for smaller value loans. However, considering the large stock of legacy NPAs, additional options/alternatives are needed and the NARCL-IRDCL structure is a step in that direction.
- A government backed ARC in the form of NARCL would be essential for big ticket resolutions.
- Notably, Private sector asset reconstruction firms (ARCs) may also be allowed to outbid the NARCL. This will induce much needed competition in the resolution domain.

Improve the state of banks:

- The upfront cash payment by the NARCL will immediately be accretive for the profitability and capital of the banks
- In the long term the envisaged framework would pave the way for a complete clean-up of bad loans in the banking system. This will help unlock the value of the locked assets for the banks which can then use it as a growth capital for credit provisioning.
- Further, it will bring about improvement in bank's valuation and enhance their ability to raise market capital.

Challenges:

- While the initiative is a step in the right direction, the article expresses doubts on whether it would be effective in addressing the challenges being faced by the lending financial institution.
  * Notably, banks have already provided for the existing bad loans. The initiative may not help jump-start credit flows unless accompanied by the recapitalisation of banks which finds no mention under the new initiative.
  * Also, the fact that the Finance Ministry hopes that many of the stressed assets would realise more value than NARCL's acquisition cost seems unreasonable given the fact that the existing private ARCs with their expertise have failed to extract value from these bad loans.
  * There are also concerns that the sovereign guarantee might give rise to moral hazard among the lending institutions which might become lackadaisical about final realisation value.

Conclusion:

- The bad bank framework as envisaged by the NARCL and IDRC system with government guarantee for the Security receipts issued by NARCL is a step in the right direction to address the long pending issue of NPA stress in the Indian financial system.
- The success of this framework would depend on the implementation and management of the transferred NPAs and the resolution of these assets in a time-bound manner.

Indian Economy and issues relating to Mobilization of Resources

2. **Status quo on petrol**
   » Prelims: Items outside the GST regime
   » Mains: Arguments in favour of and against bringing petrol and diesel under the GST

- The Goods and Services Tax (GST) Council meeting held recently has decided to let petrol and diesel remain out of the ambit of the GST for the time being.

Arguments against bringing petrol and diesel under the GST:

Major source of revenue:

- Petrol and diesel bring in huge revenues to both the Central and State governments. Fuel taxes were projected to contribute almost Rs. 6 lakh crore to the Central and State exchequers combined in 2020-21.

- Bringing in petrol and diesel under GST which would tax at lower levels could invariably affect the financial position of the government. This could adversely impact the ability of the governments to fund social programmes.

Reluctance of the states:

- Bringing petrol and diesel under GST would mean that the states would have to give up their powers to impose a value added tax on petrol and diesel.

- The States are wary of losing even more of their already curtailed independent power to raise tax revenue by allowing petrol and diesel to be brought under the ambit of the GST since it would make them further dependent on the Centre to receive their share of the taxes.

Arguments in favour of bringing petrol and diesel under the GST:

In line with the principle of GST system:

- GST envisages one nation one tax system. The exclusion of items such as petrol and diesel from GST goes against this principle. The move to bring in Petrol and diesel within the ambit of the GST system is thus a step to further simplify the tax system in India and streamlining it.

Help rationalize prices of the fuels:

- The record increase in the cost of petrol and diesel has increased pressure on the government to reduce taxes on the fuels.

- High taxes on the fuels are seen as a major reason for the rise in fuel prices. It should be noted that more than half of the money paid by the consumer to purchase fuels goes towards some tax or the other.

  * The share of the final price of petrol that goes towards taxes has increased from approximately 30% in 2014 to about 60% now.

- Bringing Petrol and diesel under the GST would effectively mean reducing taxes on them. The highest tax slab under the GST is 28%, while the fuels such as petrol and diesel are taxed at more than 100% currently.

- Such a move would help ease the inflationary pressures on the economy given the fact that diesel is the main fuel used by road freight operators, and its high price pushes up transport costs.

- A major argument against the government's policy of imposing high fuel taxes is that these high taxes act as a drag on the economy. The reduction of the taxes on petrol and diesel will help increase the disposable income in the hands of the people which could likely be diverted to other parts of consumption spending, thus boosting economic growth. Also the lower prices of petrol and diesel might lead to a scenario where more petrol and diesel may be consumed. This could give rise to a scenario where the governments could end up actually collecting more revenue than under the current high fuel tax regime.

Additional information:

- India imports more than 80% of its oil supplies.

Governmental schemes /Programmes / initiatives

3. Incentive scheme for textile sector

  » Prelims: PLI scheme functioning and its relevance; Indian textile sector- characteristics

  » Mains: Significance of the new PLI scheme for the textile sector

Context:

- The Union Cabinet has cleared a production linked incentive scheme in the man-made fibre apparel, fabrics, and technical textiles sectors.

Background:

- The textile industry plays a significant role in Indian economy by providing direct employment to an estimated 35 million people, by contributing 4 per cent of GDP and accounting for 35 per cent of gross export earnings. The textile sector contributes 14 per cent of the value-addition in the manufacturing sector.

Details:

- The scheme is aimed at promoting industries that invest in the production of 64 select products.

  * The product lines include 40 in man-made fibre apparel, 14 in man-made fibre fabrics, and 10 technical textile segments/products.

  * The list of products eligible for the scheme is expected to be the top globally traded man-made fibre product lines in which India's share is less than 5%.

- The scheme is for two types of investments. The incentive is based on a combination of investment and turnover.

* Any person or company willing to invest minimum Rs. 300 Crore in Plant, Machinery, Equipment and Civil Works (excluding land and administrative building cost) to produce products of notified lines (MMF Fabrics, Garment) and products of Technical Textiles and register a minimum turnover of ₹600 crore once it commences operation, shall be eligible to apply under the scheme.

* Any person or company willing to invest minimum Rs. 100 Crore shall be eligible to apply.

• The incentive for the higher investment scheme is likely to start at 15% of the turnover for the first year, and 11% in the case of the lower turnover plan, decreasing gradually by 1% each subsequent year over the next four years for both schemes.

• Priority will be given to investment in aspirational districts, Tier-3, Tier-4 towns, and rural areas.

• The outlay of the scheme is Rs. 10,683 crore

Significance:

Aid in new investment:

• The new scheme could help draw new investment of more than Rs. 19,000 crore.

Increase exports:

• Annual textile and clothing exports have remained largely stagnant in the range of $30 billion-$35 billion over the last seven years.

• The new scheme is expected to provide an impetus to the trade prospects of India's textile sector.

• The policy support to the vital MMF sector will help ensure India remains competitive internationally in the textile sector.

Help lower imports:

• The scheme will help India lower its dependence on imports for man-made fibre apparel and fabrics, from countries such as China and Bangladesh.

* During 2018-19, the import of man-made fibre garments jumped 39% from the previous year, while the import of the man-made fibre yarn, fabrics, and made-ups rose 16%.

• The scheme will motivate industries to make fresh investments and scale up capacities. Global retail brands, which are present in India and sourcing man-made fibre-based apparel from other countries, are likely to start sourcing from India once the garments become available at internationally competitive prices.

Leverage multiplier effect of the textile sector to employment generation:

• The PLI scheme would provide a big boost to the textile sector.

• Textile sector is an employment intensive sector and the investment in the textile sector would have a multiplier effect on the Indian economy especially in job creation.

• The scheme could aid in the creation of 7.5 lakh direct jobs.

Align India's capacity with world textile market trends:

• The scheme will provide a big fillip to the man-made fibres and technical textiles segments of the textile industry and align India's textile sector with global trends.

* While 70% of the total global fibre manufacturing and consumption, is man-made fibre-related in India it is just about 35%. Currently, Indian production and export of textile and clothing products are largely cotton-based. Two-thirds of India's textile exports now are cotton based

• India's focus on the manufacture of textiles in the MMF sector is expected to help boost its ability to compete globally in the textiles market.

Targeting balanced development:

• Given that priority would be given for investment in aspirational districts, tier-three, tier-four towns and rural areas, the new scheme would promote balanced regional development.

Conclusion:

• The success of the scheme is likely to hinge on how new entrepreneurs and existing companies weigh the risk-reward equation, especially at a time when the pandemic-spurred uncertainty has already made private businesses weary of making fresh capital expenditure.

Economic Index

4. The end of the doing business rankings

» Prelims: EoDB Index- parameters

» Mains: The discontinuation of the EoDB index and arguments in support of this move

Context:

• The World Bank Group has decided to discontinue publication of its 'Doing Business' rankings of country business climates under its 'Doing Business' report after findings of data irregularities and ethical concerns in the 2018 and 2020 reports.

Background:

Use of the index:

- The index served varied purposes.
  - * The rankings helped the countries measure domestic policies against global "best practices". Many countries showcased improved ranking to signal market-friendly policies to attract foreign investments.
    - » The EDB index ranks countries by the simplicity of rules framed for setting up and conducting businesses.
  - * Many nations including India set EDB rank targets as a policy prerogative.

Details:

- The article welcomes the decision based on the fact that the index was plagued by major deficiencies and the reliance on this index was giving rise to some undesirable consequences.
- The article discusses some of these aspects.
  - * The index is vulnerable to doctoring as was reported by the study commissioned by the World Bank. Some countries seem to use their political heft to improve their rank. Instances of data manipulation brought to light by the independent investigating agency seems to vindicate such a view.
  - * The EDB index lays emphasis on aspects such as minimal state interventions are a precondition for a free market to flourish. This might not be true in all scenarios. The index appears motivated to support the free-market ideal which might not be suitable for all nations.
  - * The index is calculated from data from select cities and larger firms. This does not give the complete picture of the economy. Notably, there seems to be a wide disconnect between the stellar rise in EDB index rank and economic outcomes in some countries like India. This calls into question the efficacy of the index and gives rise to doubts on the theory underlying the EDB index and the errors in measurement and data.
  - * The index has been weaponized to weaken labour regulations and their enforcement. The dismantling of official labour inspection systems and handing over law enforcement to employers by self-reporting compliance seems to have increased industrial unrest and accidents.

Additional information:

- India was ranked around 130-140 in the EDB index, till 2014. However India has registered remarkable growth to reach to the 63rd position in 2019-20 EDB index.

- The 'Make in India' campaign, launched in 2014, seeks to raise the manufacturing sector's share in GDP to 25% and create 100 million additional jobs by 2022 (later revised to 2025).

Indian Economy-Agriculture

5. Centre hikes MSP for rabi crops

- » Prelims: Crops included under MSP system in India
- » Mains: Significance of the MSP system in Indian context and the unwarranted implications associated with it

Context:

- The government has increased the minimum support price (MSP) of rabi crops.

Minimum support price:

- Minimum support price (MSP) is the rate at which the government purchases crops from farmers.
- Currently, rates are fixed for 23 crops including some rabi crops.

Details:

- The government has increased the minimum support price (MSP) of rabi crops including wheat, mustard, safflower and masoor (lentil) dal, Rapeseed and Chana or gram.
- While the MSP for wheat has witnessed a 2% hike, oilseeds and pulses such as mustard, safflower and masoor dal saw higher MSP hikes of up to 8%

Significance:

- The higher MSP will ensure higher remunerative price for farmers and encourage them for sowing operations. It will also help enhance the farmers' income.
- The higher MSP hike for oilseeds and pulses will help encourage crop diversification. This will not only help close the gap between demand and supply for the oilseeds and pulses but also ensure sustainable usage of resources like soil and water.
- The government has also stated that the current increase in MSP is also proof of government's commitment to the MSP system which has been under question after the three agricultural reforms act.

Lacunae:

- Some farm unions have pointed out that the rate of inflation was higher than the MSP hike for most crops, arguing that in real terms, the MSP for wheat has dropped 4%.
- Also the farm unions have expressed concerns that most farmers would not get the benefits as they were still unable to sell their crops at the MSP due to lack of universal procurement.

6. New framework to share financial data

» Prelims: Account aggregator framework

» Mains: Significance and challenges associated with the new framework and measures needed to address these concerns

Context:

- The Reserve Bank of India has recently launched the account aggregator framework.

Details:

- The account aggregator framework will allow financial data to be exchanged between the holders of data and its users.

- Account aggregators will act as intermediaries who will collect data from one financial entity and exchange it with another.
  * Under the framework a number of fin-tech entities have been granted the licence to operate as account aggregators.

Significance:

- The account aggregator framework is aimed at making financial data more easily accessible.
  * Currently, the various financial data of an individual is scattered across the databases of several financial institutions.

- The easier availability of information will benefit the economy in the following ways.
  * framework will help financial institutions make better assessment of the creditworthiness of individuals, and thus make better loan decisions.
    » Although other mechanisms such as CIBIL and individual's PAN number do exist to assess the creditworthiness of the borrowers, their scope is limited.
  * Account aggregators can also make it easier for creditworthy customers to access loans.
  * The availability of wider financial data may also help financial institutions offer better products tailored to the needs of individual customers.

Challenges:

- The security of the financial data of individuals will be a major concern, given the risk of data theft.

Measures prescribed to uphold privacy of data:

- The account aggregators are supposed to receive and share financial data in an encrypted form to help protect the privacy of individuals.

- Notably, the data ownership will reside with individuals.

- The account aggregators will be able to share data only with the consent of the individual.

7. Reforms in the telecom sector

» Prelims: AGR

» Mains: Provisions of the measures announced; Significance and lacunae

Context:

- The Cabinet has approved several measures for the telecom companies.

Background:

Stress in the Indian telecom sector:

- The telecom sector in India has been struggling for many years.
  * The regime of penalty and interest on penalty on payment of licence fees, spectrum user charges had adversely impacted the financial viability of the telecom companies.
  * The Supreme Court judgment on the adjusted gross revenue (AGR) issue had made telcos liable to pay Rs.1.6 lakh crore to the government.
  * There is the growing concern over the telecom industry being reduced to a duopoly. This would bring with it the attendant consequences for customers, like reduced choices and likely higher costs.

Details:

- The new reforms include nine structural reforms and five procedural reforms for the sector. Some of the major provisions include the following.
  * The much-litigated concept of adjusted gross revenue (AGR) has been redefined to exclude non-telecom revenue and all remaining penalties have been scrapped.
  * The government has also offered a four-year moratorium on players' dues to the government.
  * The regime of penalty and interest on penalty have been rationalised. Interest on dues have been maintained at a 'reasonable' rate.
  * Foreign direct investment (FDI) in the sector has also been allowed up to 100% under the automatic route, from the existing limit of 49%.
  * There would be a fixed calendar for spectrum auctions with an extended tenure of 30 years for future spectrum allocations, and a mechanism to surrender and share spectrum.

* No Spectrum Usage Charge (SUC) for spectrum acquired in future spectrum auctions.

Significance:

- The new reforms will go a long way in addressing the telecom industries long-standing issues like spectrum auctioning and the AGR issue.
- The new reforms will help extend a much needed lifeline to the cash-strapped telecom sector.
    * The new measures will provide cash flow relief and help improve the cash liquidity scenario of the telecom companies.
    * The moratorium of four years would ease out the stress on the cash flows of the telcos to a great extent and give enough time for industry to carry out fundamental improvements.
- The easing of liquidity issues in telecom companies will also help various banks having substantial exposure to the Telecom sector.
- The new measures will also help attract largescale investments, including for 5G technology deployment.
- The measures announced will also help generate more jobs in the Indian economy.
- Telecom reforms will boost competition and consumer interests
- The telecom sector remains one of the prime movers of the economy and the measures announced by the government would enable the industry to achieve the goals of Digital India.

Lacunae:

- Some experts have expressed doubts on whether the package would be enough to revive the telecom sector as the moratorium on AGR dues, spectrum dues and interest payments would only provide temporary relief with these deferred dues to be payable eventually with interest.
- Other significant areas like the tariff regime have not been addressed in the new reform measures announced.

Governmental schemes/Programmes/Initiatives

8. Production Linked Incentive (PLI) Scheme for Auto Industry

- » Prelims: Hydrogen fuel cell
- » Mains: Significance of the new PLI scheme for auto industry

Context:

- Government has approved Production Linked Incentive (PLI) Scheme for Auto Industry.

About the PLI Scheme for Auto:

- This is part of the overall announcement of PLI Schemes for 13 sectors made earlier during the Union Budget 2021-22, with an outlay of Rs. 1.97 lakh crore.
- The PLI scheme for the auto sector will incentivize high value Advanced Automotive Technology vehicles and products.
- It envisages overcoming the cost disabilities to the industry for the manufacture of Advanced Automotive Technology products in India.
- The scheme is open to existing automotive companies as well as new investors who are currently not in automobile or auto component manufacturing business.

Two components of the scheme:

- Champion OEM Incentive Scheme: It is a 'sales value linked' scheme, applicable on Battery Electric Vehicles and Hydrogen Fuel Cell Vehicles of all segments.
- Component Champion Incentive Scheme: It is a 'sales value linked' scheme, applicable on Advanced Automotive Technology components of vehicles, Completely Knocked Down (CKD)/ Semi Knocked Down (SKD) kits, Vehicle aggregates of 2-Wheelers, 3-Wheelers, passenger vehicles, commercial vehicles and tractors, etc.

Significance:

- The scheme will provide a much needed boost to the auto sector railing under the impact of the pandemic.
- Incentivising local production through this scheme could translate into more investments in the auto segment. The government expects the scheme would lead to fresh investments of more than Rs. 42,500 crore, incremental production worth over Rs. 2.3 lakh crore and creation of an additional 7.5 lakh jobs.
- The incentive scheme could provide a much needed impetus to EV vehicles as well as those that use hydrogen fuel cells.
    * The emphasis on these alternate fuel vehicles will help lower fossil fuel emissions as part of the efforts to meet commitments under climate change agreements
    * This will also help India reduce dependence on oil imports and ensure some degree of energy security for India.
- The incentive structure will encourage industry to make fresh investments for indigenous global supply chain of Advanced Automotive Technology products.

9. Agricultural exports

» Prelims: Data related to India's agricultural exports- items, destination countries etc

» Mains: Trends in Indian agricultural exports; Challenges and measures being taken by the government

Background:

• India's agricultural export basket is changing from traditional commodities to non-traditional processed foods.

* Traditionally, Basmati rice is one of the top export commodities. However, now there is an unusual spike in the export of non-basmati rice.

* Indian buffalo meat is seeing strong demand in international markets due to its lean character and near organic nature. The export potential of buffalo meat is tremendous, especially in countries like Vietnam, Hong Kong and Indonesia.

• The export of processed food products has not been growing fast enough.

* India lacks a comparative advantage in many items.

* This may imply that the domestic prices of processed food products are much higher compared to the world reference prices.

Issues:

• The exporters of processed food confront difficulties and non-tariff measures imposed by other countries on Indian exports. Some of these include:

* Mandatory pre-shipment examination by the Export Inspection Agency being lengthy and costly.

* Compulsory Spice Board certification being needed even for ready-to-eat products which contain spices in small quantities.

* Lack of strategic planning of exports by most state governments.

* Lack of a predictable and consistent agricultural policy discouraging investments by the private sector.

* Prohibition of import of meat- and dairy based-products in most of the developed countries.

* Withdrawal of the Generalised System of Preference by the U.S. for import of processed food from India.

* Export shipments to the U.S. requiring an additional health certificate.

* Absence of an equivalency agreement with developed countries for organic produce.

Steps taken by the Government:

• The Indian government has been encouraging agricultural exports to meet an ambitious target of $60bn by 2022.

• As per the Ministry of Food Processing Industries data, the contribution of agricultural and processed food products in India's total exports is 11%.

* The major share is of primary processed agricultural commodities.

Potential of food processing industry:

• From 2015-16 to 2019-20, the value of agricultural and processed food increased significantly from $17.8bn to $20.65bn.

• The Indian agricultural economy is changing and the focus is more on developing various processed foods.

• The Indian food processing industry promises high economic growth and makes good profits.

• India's export earnings will increase by focusing more on value-added processed food products rather than primary processed agricultural commodities.

Way Forward:

• The Centre's policy should be in the direction of nurturing food processing companies.

• Developed countries have fixed higher standards for the import of food items. Low cost of production and global food quality standards must be ensured.

• A supportive environment is needed to promote the export of processed food.

• Reputed Indian brands should be encouraged to export processed foods globally as they can comply with the global standard of codex.

• Indian companies should focus on cost competitiveness, global food quality standards, technology, and tap the global processed food export market.

• India has competitive advantages in various agricultural commodities which can be passed onto processed foods. It has the potential to become a global leader in the food processing sector

Governmental schemes / Programmes / Initiatives-Inclusive Growth

10. E-Shram needs some hard work to get going

» Prelims: E-shram portal

» Mains: Reasons for large number of unorganized workers in the India economy; concerns

associated with it and measures being taken by the government in this direction.

Context:

- In August 2021, the Ministry of Labour and Employment launched the E-Shram. The portal seeks to register an estimated 398-400 million unorganised workers and to issue an E-Shram card.

E-Shram:

- It is a web portal for creating a National Database of Unorganized Workers (NDUW), which will be seeded with Aadhaar.

- Unorganised workers, Building and Other Construction Workers, SHG members, domestic workers, ASHA workers, Anganwadi workers, street vendors, rickshaw-pullers, brick-kiln workers, agricultural labourers, MGNREGA workers, fishermen, shopkeepers and small retailers can register on the website.

- The new portal will help in accessing social security schemes available for the unorganised workers.

- The workers who register on the portal will get an e-SHRAM card which will have a 12 digit unique number.

  * This card is aimed at the integration of the Centre's social security schemes.

  * The Universal Account Number on the e-Shram card will be acceptable across the country.

Issues:

- The portal has come into existence after more than a decade after the passage of the Unorganised Workers' Social Security Act in 2008.

- If inter-State migrant workers are considered, the portal is a little more than four decades late.

- It has come about after repeated nudging by the Supreme Court of India.

- Had the Central and the State governments begun the legally mandated processes on time, much of the distress of lakhs of vulnerable workers could have been avoided.

Significance:

- Workers stand to gain by registration in the medium to long run.

- The main point of attraction is the benefits the unorganised sector workers stand to gain during normal and crisis-ridden periods such as the novel coronavirus pandemic.

Challenges:

- Given the gigantic nature of registering each worker, it will be a long-drawn process.

- In addition, the novel coronavirus pandemic has pushed lakhs of workers into informality.

- The Government has not mentioned a gestation period to assess its strategy and efficiency.

- One of the vital concerns of e-portals is data security, including its potential abuse especially when it is a mega-sized database.

  * The central government would have to share data with State governments whose data security capacities vary.

  * Media reports point to the absence of a national architecture relating to data security.

- There are issues concerning the eligibility of persons to register as well as the definitional issues.

  * By excluding workers covered by EPF and ESI, lakhs of contract and fixed-term contract workers will be excluded from the tag of UW.

  * Under the Social Security Code (SSC), hazardous establishments employing even a single worker will have to be covered under the ESI, which means these workers also will be excluded.

- As such, SSC is exclusionary as ESC and EPF benefits will be applicable only to those employed in establishments employing 10 or 20 workers, respectively.

  * It excludes millions of workers aged over 59, which constitutes age discrimination. Given minimal or no social security for them, their exclusion will hurt their welfare.

- The nuances of the unorganised workers' identity are so complex. Apprehensions are raised on how mechanical and assumptions-based portal registration will be able to capture the complexities and dynamics involved regarding them.

- Many workers will not have an Aadhaar-seeded mobile or even a smartphone. Aadhaar-seeding is a controversial issue with political overtones, especially in the North-eastern regions.

- Even though the ministry has included gig workers in this process, it is legally unclear whether the gig/platform worker can be classified first as a worker at all (the other three Labour Codes do not include these workers), and second as organised or unorganised workers.

  * The definition of an unorganised worker in the Social Security Code does not specifically include them, unless they are declared 'self-employed' or 'wage workers'.

- However, there is an all-inclusive miscellaneous category that will have to be intelligently used to expand the occupational categories.

- The central government will have to depend on the state governments for this project to be successful.
  * In many states, the social dialogue with the stakeholders especially is rather weak or non-existent.
- There is the concern of corruption as middle-service agencies such as Internet providers might charge exorbitant charges to register and print the E-Shram cards.

Way Forward:

- The success of the project depends on:
  * The involvement of a variety of stakeholders apart from trade unions.
  * Massive and innovative dissemination exercises involving multiple media outlets of various languages.
  * The holding of camps on demand by the stakeholders and on their own by the Government, efficiency of the resolution of grievance redress mechanisms, micro-level operations, etc.
  * The involvement of surveillance agencies is crucial.
- The Government must publish statistics at the national and the regional levels of the registrations to assess the registration system's efficiency.

Organizations in news

11. MPEDA

» Prelims: MPEDA

» Mains: Sustainable fishing practices

- The Marine Products Export Development Authority (MPEDA) is a statutory body that was established in 1972 under the Ministry of Commerce & Industry for promotion of export of marine products from India.
- The main focus is on Market Promotion, Capture Fisheries, Culture Fisheries, Processing Infrastructure & Value addition, Quality Control, Research and Development.
- MPEDA seeks to regulate exports of marine products and take all measures required for ensuring sustained, quality seafood exports from the country.

Context:

- MPEDA as part of the Azadi Ka Amrit Mahotsav is conducting a nationwide event on Responsible Fishing for Sustainable Future in association with state Fisheries departments.

- This event aims to create awareness among fishers on the need to practice responsible fishing to protect the marine ecosystem for future generations.

Governmental schemes / Programmes / initiatives

12. National Single Window System (NSWS)

» Prelims: NSWS

» Mains: Measures being taken by the government to facilitate inward investment

- The National Single Window System (NSWS) portal will serve as a one-stop-shop for investors for approvals and clearances.
- NSWS will provide end-to-end facilitation and support to investors, facilitate clearances at the Centre and State levels, provide pre-investment advisory to new businesses, and share information related to land banks.
- The portal, as of today, hosts approvals across 18 Central Departments and nine States, and another 14 Central Departments and five States will be added by December 2021.
- By bringing transparency, accountability and responsiveness in the ecosystem, it will help promote the ease of doing business.

Context:

- Commerce and Industry Minister soft-launched the National Single Window System (NSWS) for investors and businesses.

Investment Models

13. DFC rejigs PPP model for 374-km freight corridor

» Prelims: Different investment models associated with PPP structure- features, strengths and lacunae

» Mains: Significance of PPP structure in the Indian context

Context:

- To attract bidders for a 374-km stretch between Sonnagar (Bihar) and Andal (West Bengal), the Dedicated Freight Corridor Corporation of India (DFCCIL) has reworked the proposal for the public private participation (PPP) project.

Background:

PPP model:

- Public-Private Partnership Model is an arrangement between government and private sector for the provision of public assets and/or public services. It involves collaboration between a government agency and a private-sector company that can be used to finance, build, and operate projects.

- The involvement of the private sector brings in the much needed private investments, technology and innovation and efficiency associated with the private sector.
- There is a well defined allocation of risk between the private sector and the public entity in such a model of infrastructure development.

Details:

- The project is now proposed to be developed via a design, finance, build, operate and maintain and transfer (DFBOT) model wherein the payment will not be based on traffic volumes but on the services of the rail system developed by the private entity. The payment will be based on the uptime offered by the private concessionaire.

    * BOT is the conventional PPP model in which private partner is responsible to design, build, operate (during the contracted period) and transfer back the facility to the public sector. Private sector partner has to bring in the required finance. The government will allow the private sector partner to collect revenue from the users. Ex- toll charges on the highways. The tenure of the contracted period will be based on the projected traffic volume on the highway.

- This new proposal would help de-risk the private concessionaire given that in the earlier proposed PPP model, stakeholders had expressed apprehension over risks related to finance and revenues.

Economic Terminology

14. Inverted duty structure issue

  » Prelims: Inverted duty structure; Input tax credit

- In Pre-GST Regime Inverted Duty Structure is applicable under cases where import duty on raw materials used in the production of finished goods is higher than the import duty of finished goods. This incentivizes imports and dis-incentivizes domestic production.

- But Under GST Regime the Inverted Duty Structure refers to the cases where the rate of tax on inputs/purchases received are higher than the rate of tax on paid on outward Supplies/sales.

- Taxpayers who face an inverted duty structure will always have Input Tax Credit (ITC) in their GST electronic credit ledger even after paying off the output tax liability. This creates working capital issues for the taxpayers, as crucial resources remain blocked in the form of ITC. The inverted duty structure has caused refund-related issues under the GST regime.

Context:

- The issue of the inverted duty structure has re-acquired prominence over time and the Goods and Services Tax (GST) Council is expected to take up the issue at its upcoming meeting.

Indian Economy and issues relating to growth and development

15. Economic statistics for the first quarter

  » Prelims: NSO, Base effect, fiscal slippage

  » Mains: India's economic revival in the post pandemic phase

Context:

- Economic statistics for the first quarter of the current fiscal (April to June period), released by the National Statistical Office (NSO).

Details:

- India's Gross Domestic Product (GDP) has grown by 20.1%, while the Gross Value Added (GVA) in the economy has risen by 18.8% in the first quarter of 2021-22.

    * Manufacturing and construction have been the key drivers in GVA growth and the higher private consumption and investment have helped in impressive GDP performance

- GVA from agriculture, forestry and fishing, the only sector to grow amid last year's national lockdown, has registered an impressive 4.5% growth in Q1 2021-22 too.

Concerns:

- Despite, government's claim of the impressive GDP and GVA numbers of the Q1 2021-22 being indicative of a V-shaped economic recovery, eminent economists have cautioned about reading too much into the record quarterly growth.

    * A V-shaped recovery is a term that describes a period of economic decline (recession) and recovery that resembles a V shape. In the case of a V-shaped recovery, an economy suffers a sharp decline for a short period and then a sharp rise to its previous status.

Below pre-pandemic levels:

- Though the GDP and GVA have registered notable rise, they are lower to their contraction observed during the corresponding quarter of the previous fiscal.

    * Electricity, gas, water supply and other utility services, which have registered impressive growth numbers are the only other sectors along with agriculture, forestry and fishing, to recover beyond the pre-pandemic levels of 2019-20.

- This implies that the economic activity has remained well below the pre-pandemic levels, owing to the second wave of COVID-19, indicating that the economy still has some way to go before it returns to activity levels prevalent prior to the pandemic.

Consumption pattern:

- The share of consumption expenditure in GDP has been low this time which indicates that the second wave and lockdowns impacted households more than the first wave. This does not augur well for the economic recovery process.

- Low incomes lead to low disposable income in the hands of the general populace. This in turn will lead to depressed demand in the economy which will invariably impact the economic recovery process.

Base effect:

- The growth rates in 2021-22 in some cases are unduly high due to the low base. This could be analytically misleading.

  * Construction and Manufacturing GVA recorded a 68.3% and 49.6% increase between April and June this year.

Understanding base effect:

- The base effect refers to the effect that the choice of a basis of comparison or reference can have on the result of the comparison between data points.

- Example- Using the 2020-21 fiscal year as base which had recorded a substantially low GDP, would invariably lead to very high growth rates for 2021-22 fiscal year even if the absolute GDP were to reach only 2020-21 levels.

- Eminent economists have pointed out that the low base of last year's stringent nationwide lockdown have ended up concealing the impact of the second wave of COVID-19 on the economy.

- Economic growth rates in the next three quarters would be progressively lower with the base effect wearing off.

Highly impacted sectors still struggling:

- Despite impressive growth numbers in employment- and contact-intensive services sector like Hotels, Transport their absolute contribution continues to be substantially below 2019-20 levels

Subdued government expenditure:

- The government final consumption expenditure (GFCE) has contracted by 4.8% in Q1 2021-22.

- Also there has been a substantial decline in public capital and revenue spending in July 2021.

- This is indicative of the government's fiscal prudence attitude in order to contain the fiscal deficit even during a time when major economies have relied on large fiscal stimulus to revive their economies.

Fiscal slippage:

- The high debt-to-GDP ratio of around 90 per cent has been flagged by various rating agencies.

- India's fiscal deficit in 2020-21 fiscal stood at 9.3 per cent of GDP while the target set was 3.5 per cent of GDP. The Budget has pegged fiscal deficit at 6.8 per cent for the current fiscal.

  * As per the glide path for fiscal consolidation announced in Budget 2021-22, the government plans to bring down the fiscal deficit to 4.5 per cent of gross domestic product (GDP) by 2025-26 fiscal.

Chief Economic Advisor's take on the state of Indian economy:

- As per the Chief Economic Advisor growth for the full year is likely to remain around 11% as projected by the Economic Survey.

- India is poised for stronger growth, driven by structural reforms, the government's push for capital expenditure to enable private investment and a rapid COVID-19 vaccination drive.

Indian Economy and issues relating to growth and development

16. Inflation trends

  » Prelims: RoSCTL scheme provisions

  » Mains: Concerns associated with high rate of inflation

Context:

- Inflation figures for the month of August released by the National Statistical Office (NSO).

Details:

- India's retail inflation has witnessed a downward trend with it falling to 5.3% in August from 5.6% in July.

- Core-CPI inflation has eased to 5.5% in August 2021 from 5.7% in July.

  * Core- CPI inflation is an inflation measure which excludes transitory or temporary price volatility as in the case of some commodities such as food items, energy products etc. Core inflation is calculated using the Consumer Price Index (CPI) by excluding such commodities.

- The fall in inflation rate is being attributed to the fall in food price and the effect of a high base last August.

* CPI inflation was at 6.7% in August 2020, with the Consumer Food Price Index rising 9.05%.

Significance:

- This marks the second month of marginal moderation in the Consumer Price Index (CPI), keeping retail inflation below the central bank's upper tolerance threshold of 6% after hitting 6.3% in May and June this year.

  * India has set an inflation target of 4 per cent (with the upper tolerance level of 6 per cent and the lower tolerance level of 2 per cent) for the 5-year period April 1, 2021 to March 31, 2026.
  * Inflation control is a legitimate objective of economic policy given the correlation between inflation and macro-economic stability.

- This drop in inflation is a welcome relief given the fact that the RBI has been maintaining an accommodative stance to bring about an economic revival in the post pandemic phase. The rising inflation rates had given rise to concerns of stagflation and the lack of further monetary tools to revive growth.

- Inflation for clothing and footwear has risen to 6.8% in August 2021, which may be a signal of a demand recovery in the Indian economy.

Concerns:

- Despite a marginal dip in inflation, economists have warned that the inflationary risks will continue to persist in the Indian economy. They point out that the comfort level from the lower CPI inflation is not commensurate with the level of decline.

- The inflationary pressure in transport and communication, fuel and light segments could dampen the fervour for festive spending which would be critical to economic revival in the post pandemic phase.

- The pace of inflation in protein sources (eggs, meat and fish and pulses) and oils remains a concern. This would dent the nutritional security of the poor and vulnerable.

Indian Economy and issues relating to growth and development

17. India's foreign trade data

» Prelims: India's foreign trade- characteristics, items, destination countries; RoDTEP scheme

» Mains: Potential of foreign trade to aid India's economic growth; Measures being taken by the government

Context:

- Preliminary estimates of India's foreign trade data for the month of August.

Details:

Exports:

- India's merchandise exports in August touched $33.14 billion. This marks a significant rise as compared to even the pre-pandemic phase as well.

- In the first five months of 2021-22, India's merchandise exports have now touched $163.67 billion, nearly 67% higher than that of the corresponding period last year and 22.9% higher than 2019. The steady recovery in global trade seems to be aiding the uptick in exports from India.

- Among the major commodity groups, excluding petroleum, and gems and jewellery, engineering goods, cotton yarn, fabrics and handloom products have recorded impressive export growths.

- Notably, the employment-intensive readymade garments sector has recorded relatively lower levels of growth.

Imports:

- Notably the imports too have risen aided by a sharp uptick in gold imports.

- Net oil imports have remained largely stable. The moderation in crude oil prices has helped in this regard.

Trade deficit:

- The larger uptick in imports has widened the trade deficit to a four-month high.

Recommendations:

- The government has set a target of merchandise exports worth $400 billion for the current fiscal year. Subsequently, the government also aims to reach a merchandise exports target of $500 billion for FY23 and $1 trillion in 2027-28.

- The government is aiming to target $2 trillion exports by 2030, with $1 from trillion merchandise exports and $1 trillion from services exports.

- In order to meet these stiff targets the following measures may be necessary.

  * The government should try and curtail the increasing freight rates and rampant container shortages as this could adversely impact the price competitiveness of Indian goods in the international markets.
  * The government should prioritize the release of pending benefits under earlier export incentive schemes. Also the timely and efficient implementation of the RoDTEP scheme should be a top priority to incentivize exports

18. Scheme for "Promotion of Medical Device Parks"

» Prelims: Promotion of medical parks- provisions

» Mains: Significance of the scheme

Context:

- Scheme for "Promotion of Medical Device Parks" notified.

About the scheme:

- The Department of Pharmaceuticals has notified the Scheme for "Promotion of Medical Device Parks" with the following objectives:

  * Easy access to standard testing and infrastructure facilities through creation of world class common infrastructure facilities for increased competitiveness which will result into significant reduction of the cost of production of medical devices leading to better availability and affordability of medical devices in the domestic market.

  * Reaping the benefits arising due to optimization of resources and economies of scale.

- The Medical Devices Parks to be developed under the scheme will provide common infrastructure facilities at one place thereby creating a robust ecosystem for medical device manufacturing in the country and also reducing the manufacturing cost significantly.

- The total financial outlay of the scheme is Rs. 400 crore and the tenure of the scheme is from FY 2020-2021 to FY 2024-2025.

  Financial assistance under the scheme:

  - The financial assistance to a selected Medical Device Park would be 70% of the project cost of common infrastructure facilities.

  - In case of North Eastern States and Hilly States, financial assistance would be 90% of the project cost.

  - Maximum assistance under the scheme for one Medical Device Park would be limited to Rs. 100 crores.

19. IndiaXports 2021 Portal

» Prelims: India Export Initiative and IndiaXports 2021 Portal

Context:

- The India Export Initiative and IndiaXports 2021 Portal of India SME Forum inaugurated.

Details:

- IndiaXports aims to orient MSMEs free of cost, with the objective of focussing on the untapped export potential in existing tariff lines and supporting MSMEs in order to grow the number of exporting MSMEs.

- It also aims to increase MSME exports by 50% in 2022.

- The Info Portal would serve as a knowledge base for exports by Indian MSMEs.

- It contains the required information related to export potential for all the 456 tariff lines along with the potential markets as well as trends in exports, export procedures and lots more.

- Apart from an export help desk, instructor led orientation will also be provided to MSMEs through a series of sessions for specific sectors highlighting the opportunities in specific products in international markets.

20. Digi Saksham

» Prelims: Digi Saksham initiative

» Mains: Significance of the initiative

Context:

- The Minister for Labour and Employment launched Digi Saksham.

About DigiSaksham:

- It is a digital skills programme to enhance the employability of youth by imparting digital skills that are required in an increasingly technology driven era.

- It is a joint initiative of the Labour Ministry with Microsoft India to enhance the employability of youth.

- It is an extension of the Government's ongoing programs to support the youth from rural and semi-urban areas.

- Through DigiSaksham initiative, free of cost training in digital skills including basic skills as well as advance computing, will be provided to more than 3 lakh youths in the first year.

- The Jobseekers can access the training through National Career Service (NCS) Portal (www.ncs.gov.in).

- The initiative gives priority to the job-seekers of semi urban areas belonging to disadvantaged communities, including those who have lost their jobs due to Covid-19 pandemic.

- Under the DigiSaksham initiative, there will be basically three types of training viz. Digital Skills – Self paced learning, VILT mode training (Virtual Instructor led) and ILT mode training (Instructor led).

* The ILT training which is in person training would be conducted at the Model Career Centres (MCCs) and National Career Service Centres (NCSC) for SCs/STs across the country.

- Through this initiative, nearly one crore active jobseekers registered on National Career Service (NCS) Portal will be able to access training in areas like Java Script, Data Visualisation, Advance Excel, Power Bi, HTML, Programming languages, software development fundamentals, Introduction to coding, etc, equipping them with the skills required in a digital economy.

- DigiSaksham will be implemented in the field by Aga Khan Rural Support Programme India (AKRSP-I).

Economic Index

21. Global Innovation Index (GII)

» Prelims: GII- Issuing organization; India's performance

» Mains: Significance of innovation in economic growth and development

- The GII is an index that provides detailed metrics about the innovation performance of 131 countries and economies all over the world.

- The index was first released in 2007 and is released annually.

- It is published by INSEAD, Cornell University, and the World Intellectual Property Organization (WIPO), along with other institutions.

- The index uses 80 indicators that take into account a wide idea of innovation including education, political environment, business sophistication, and infrastructure.

- The index is based on both objective and subjective data compiled from various sources including the World Bank, the International Telecommunication Union (ITU), and the International Monetary Fund.

- The GII has become an important reference for governments and businesses to measure a country's performance on innovation.

Context:

- India scores 46th rank in the Global Innovation Index 2021.

Details:

- India has been ranked 46th by the World Intellectual Property Organization in the Global Innovation Index 2021 rankings.

- India has improved by 2 spots from the last ranking. India has consistently been on a rising trajectory in the GII rankings. (India was ranked 81 in 2015).

- The consistent improvement in the GII ranking is owing to the immense knowledge capital, the vibrant start-up ecosystem, and the amazing work done by the public and the private research organizations.

- The GII is the fulcrum for governments across the world to assess the social and the economic changes in their respective countries. Over the years, the GII has established itself as a policy tool for various governments and helped them to reflect upon the existing status quo.

Governmental schemes / Programmes / Initiatives

22. White Goods in India - PLI Scheme

» Prelims: White goods

Context:

- The Production Linked Incentive (PLI) Scheme for White Goods in India is approved by the Government taking a step forward towards the vision of 'Atmanirbhar Bharat'.

What are White Goods?

- White goods refer to heavy consumer durables or large home appliances, which were traditionally available only in white.

- The white goods industry consists of air conditioners, refrigerators, washing machines and dryers, dishwashers, and LED Lights.

- The term may also refer to white fabrics, especially linen or cotton articles such as curtains, towels, or sheets that historically used to be made of white cloth.

PLI Scheme for White Goods in India

- The Union Cabinet, chaired by the Prime Minister, approved the Production Linked Incentive (PLI) Scheme for White Goods (Air Conditioners and LED Lights) with a budgetary outlay of Rs. 6,238 crore in April 2021.

- The PLI Scheme will be implemented over a period of 5 years during Financial Year 2022 to 2029, while 2019-20 will be treated as the base year.

- The Department for Promotion of Industry and Internal Trade- DPIIT notified the guidelines for Production Linked Incentive (PLI) Scheme for White Goods such as air conditioners and LED lights manufacturers in India.

- The prime objective of the White Goods PLI scheme is to make manufacturing in India globally competitive by removing sectoral disabilities, creating economies of scale and ensuring efficiencies.

- The PLI Scheme for White Goods is designed to create a complete component ecosystem in India and make India an integral part of the global supply chains.

- The Scheme will be implemented as a pan India scheme and is not specific to any location, area or segment of population.

Significance of White Goods PLI Scheme

- The scheme is expected to attract global investments, generate large scale employment opportunities and enhance exports substantially.

- The PLI Scheme for White Goods shall extend an incentive of 4% to 6% on incremental sales of goods manufactured in India for a period of five years to companies engaged in manufacturing of Air Conditioners and LED Lights.

Eligibility under the PLI Scheme of White Goods

- Companies meeting the pre-qualification criteria for different target segments will be eligible to participate in the Scheme.

- An entity availing benefits under any other PLI Scheme of government of India will not be eligible under this scheme for the same products but the entity may take benefits under other applicable schemes of Government of India or schemes of State governments.

- Incentives shall be open to companies making brown field or green field Investments.

- The applicant will have to declare an annual plan for domestic value addition, employment generation and exports during the tenure of the scheme

INTERNATIONAL RELATIONS

1. AUKUS-Tripartite Security Partnership

» Prelims: AUKUS- Objectives of the partnership; Fiver eyes; Significance of nuclear submarines

» Mains: Strategic implications for the Indo-Pacific and India; Concerns associated with the new partnership; India's perspective of AUKUS

Context:

• The U.S. has announced a new trilateral security partnership for the Indo-Pacific between Australia, the U.K. and the U.S. (AUKUS).

Background:

Recent developments:

• Australia has felt increasing pressure from an assertive China. In order to balance this threat, Australia has been trying to strengthen its partnerships with India, the U.S. and the U.K to strategically balance out China.

• The U.S. too has been shifting its focus to the Indo-Pacific region given the potential of the region and also the increasing assertiveness of the Chinese whom it considers a challenger to its global dominance. In this regard it has been focussing on strengthening bilateral partnerships with its traditional partners in Asia like Japan, South Korea, Thailand, the Philippines, and new partners like India and Vietnam. It has also been promoting new formations like the Quad.

• The U.K. has expressed its vision to engage more deeply with the Indo-Pacific.

Details:

• An important aspect of this partnership would involve a trilateral 18-month effort to help Australia acquire nuclear-powered submarines.

  * Nuclear powered submarines can be deployed for longer periods and need to surface less frequently. They have longer ranges and are more capable compared to the conventional diesel electric submarines.

• The partnership would also involve a new architecture of meetings and engagements between the three countries and also cooperation across emerging technologies like AI, quantum technologies and undersea capabilities.

• This trilateral grouping would be security focused, implying that it would be different from — but complementary to — arrangements such as the Quad.

• It complements several pre-existing similar arrangements for the region such as the Five Eyes intelligence cooperation initiative, ASEAN and the Quad.

  * The Five Eyes (FVEY) is an intelligence alliance comprising Australia, Canada, New Zealand, the United Kingdom, and the United States.

  * ASEAN is an economic union comprising 10 member states in Southeast Asia.

  * QUAD is an informal strategic dialogue comprising India, Japan, Australia and the US.

• The U.S. has announced that the new partnership is aimed at advancing strategic interests and upholding the international rules-based order, and promoting peace and stability in the Indo-Pacific.

Geopolitical Implications:

• The AUKUS alliance will have a profound impact on the various stakeholders in the region and will also result in reshaping of relations in the Indo-Pacific region and beyond.

United States of America:

• This development seems an extension of the U.S. policy of pivot to Asia which emphasizes on the need to focus more attention on the Indo-Pacific region while pivoting away from conflicts in West Asia.

• This is also an extension of the U.S.'s Asia Reassurance Initiative Act (ARIA) announced in 2018 authorises US$1.5 billion in spending for a range of US programmes in East Asia and Southeast Asia to "develop a long-term strategic vision and a comprehensive, multifaceted, and principled US policy for the Indo-Pacific region."

• The Indo-Pacific region has assumed great significance in the United States' foreign policy calculus as its tensions with China have only grown.

United Kingdom:

• Leaving the EU under Brexit has left Britain seeking to reassert its global position. As part of this effort it has increased focus towards the Indo-Pacific.

Australia:

- Australia has under increasing pressure
- from an assertive China. In order to balance this threat, Australia has been trying to strengthen its partnerships with India, the U.S. and the U.K to strategically balance out China.

  * Balancing encompasses the actions that a particular state takes in order to equalise the odds against more powerful states; that is to make it more difficult and hence less likely for powerful states to exert their military advantage over the weaker ones.

  * Unlike hard balancing which encompasses traditional balancing of power using military capabilities and formal military alliances like NATO, limited hard balancing relies on informal alliances or strategic partnerships, where there is some military coordination.

- Under the arrangement, Australia will build at least eight nuclear-powered submarines using U.S. expertise. The nuclear submarines will increase Australia's maritime security capacity and also give the alliance a stronger military presence in the region.

China:

- Though none of the countries mentioned China while announcing the deal and also clarified that the alliance was not targeted against any one country, the Counter China policy is very evident in the new trilateral security partnership with emphasis on aspects such as upholding the international rules-based order, and promoting peace and stability in the Indo-Pacific in the light of China's assertiveness in the region.

- The transfer of nuclear propulsion technology to an ally was intended to send a message of reassurance to countries in Asia.

- China has cautioned that the new pact would undermine regional peace and stability and "intensify" an arms race and undermine international non-proliferation efforts

India and Japan:

- Notably, Australian Prime Minister said he had called the leaders of Japan and India to explain the new alliance. This is crucial given that Japan, India, Australia and the U.S. already have a strategic dialogue known as 'the Quad' which too seeks increased co-operation among the member nations in the Indo-Pacific region.

- Notably India and Japan share an uneasy relationship with the increasingly assertive neighbour China.

- The trilateral grouping would be complementary to arrangements such as the Quad.

France:

- Notably, Australia had a contract with France for diesel-electric submarines. With the formal announcement of the AUKUS, Australia has end its contract with France's state majority-owned DCNS.

- France has criticized this move.

New Zealand:

- New Zealand wasn't asked to be part of the alliance despite sharing strategic relations with the U.S.

- New Zealand has a long-standing nuclear-free policy that includes a ban on nuclear-powered ships entering its ports. This stance has sometimes been a sticking point in otherwise close relations with the U.S.

- The omission of New Zealand would prevent it from sharing a range of information, including artificial intelligence, cyber and underwater defence capabilities.

Concerns/Challenges:

- There are doubts over the actual effectiveness of the AUKUS. The newly announced trilateral security arrangement is unlikely to be a game changer in the Indo-Pacific region as envisaged by the member countries.

  * Given the formidable military presence of U.S. the Indo-Pacific region and its collaboration with like-minded countries via platforms such as the Quadrilateral Security Dialogue (Quad), Five Eyes- an intelligence-sharing alliance, it is unclear what AUKUS will help achieve for the U.S.

  * There are doubts over whether the AUKUS will be effective in deterring China's strategic calculus across the region, particularly relating to its maritime ambitions and territorial expansionism. In fact AUKUS has the potential to cause a recalibration of China's plans with respect to nuclear-powered submarines. It could heighten Beijing's anxiety over its nuclear-powered submarine fleet and push it towards building more such platforms giving rise to an arms race in the region.

  * It is very likely that it would be well over a decade before the submarine construction plans come to fruition and Australia operationalises a nuclear-powered fleet. This large time frame could as well witness drastic changes in the balance of power in the Indo-Pacific.

India's perspective:

- India has distanced itself from the AUKUS grouping. The Foreign Secretary of India has stated that the new partnership is neither relevant to the Quad, nor will it have any impact on its functioning.

- Despite the professed indifference towards AUKUS, India may derive secondary benefits from the AUKUS arrangement having three advanced nations with arguably the most sophisticated military know-how in the world coming together to support a free and open Indo-Pacific in the light of the increasingly assertive attitude of China in the region. This could provide some degree of deterrence to China.

- Also India's concerns regarding 'encirclement' by China may be partially mitigated by AUKUS.

    * China has made massive inroads in India's neighbourhood in terms of infrastructure development projects and presence.

- There is apprehension that the deal could eventually lead to crowding of nuclear attack submarines (SSNs/submersible ship nuclear) in the Eastern Indian Ocean, eroding India's regional pre-eminence.

- There is now speculation that India might consider seeking French help with nuclear submarines.

- However, India must be careful in its official response to AUKUS. France, the U.S., the U.K. and Australia are some of India's closest partners. The bottom line for India is that it cannot be seen to be taking sides in a feud among friends.

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

2. Quad Leaders Summit

» Prelims: Blue dot network; new critical and emerging technologies working group; Supply Chain Resilience Initiative

» Mains: Strengths, weaknesses and significance of the grouping; Possible impact of AUKUS on its functioning

Context:

- The Quad Leaders Summit met in person for the first time in Washington.

Details:

- The grouping has announced a wide range of deliverables and announced new avenues for co-operation and collaboration.

COVID-19 co-operation:

- Quad plans to produce at least 1 billion India manufactured vaccines by the end of 2022 in addition to pledging more than 1.2 billion vaccines globally.

- The group will also prepare for future pandemics and conduct at least one preparedness tabletop or exercise in 2022.

Climate action:

- The Quad countries intend to update or announce ambitious NDCs (Nationally Defined Contributions). The joint statement stated that the member countries would work with the "intent" to get to net zero emissions "preferably" by 2050 "taking into account national circumstances".

    * Notably, India has not yet made any formal commitments for achieving net zero by 2050.

Infrastructure partnership:

- The grouping launched a new infrastructure partnership which would involve mapping the region's infrastructure needs and providing technical assistance and evaluation tools for projects.

- This initiative would work with the Blue Dot Network.

    * The Blue Dot Network is an initiative formed by the United States, Japan and Australia to provide assessment and certification of infrastructure development projects worldwide on measures of financial transparency, environmental sustainability, and impact on economic development, with the goal of mobilizing private capital to invest abroad.

Afghanistan issue:

- The Quad would coordinate diplomatically on the Afghanistan issue. The major aspects of this co-ordination would be based on counter-terrorism and humanitarian aid in accordance with United Nations Security Council 2593 (a resolution passed under the Indian presidency of the UNSC).

- The resolution issued at the end of the Quad summit called for a negotiated settlement in Afghanistan.

Tech partnership:

- The member countries have expressed their intentions to work more closely together in developing common standards for critical technologies.

    * Notably, the Quad had earlier set up a new critical and emerging technologies working group, focusing on technical standards, 5G diversification and deployment and technology supply chains.

- Quad will establish contact groups on Advanced Communications and Artificial Intelligence. The grouping is also planning to launch a semiconductor supply chain initiative to map capacity, identify vulnerabilities and bolster supply-chain security for semiconductors and their vital components.

- The member countries have come out with the first Quad "Principles on Technology Design, Development, Governance, and Use" document. This envisages the ethical use of technology shaped by shared democratic values and respect for universal human rights and emphasizes that the technology should not be misused or abused for malicious activities such as authoritarian surveillance and oppression, for terrorist purposes, or to disseminate disinformation.

Impact of the AUKUS trilateral partnership on Quad:

India's take on the issue:

- In the first such comments indicating that India is distancing itself from the recently announced Australia-U.K.-U.S. (AUKUS) alliance, Foreign Secretary of India has stated that the new partnership is neither relevant to the Quad, nor will it have any impact on its functioning.

- He further elaborated that while the Quad meeting would deal with issues such as the pandemic, new and emerging technologies, climate change, infrastructure, maritime security, education, humanitarian assistance and disaster relief, AUKUS was predominantly a "security alliance".

- In a separate development, the Indian Prime Minister had a telephonic call with French President in a show of solidarity with France that has protested against the U.S.-U.K.-Australia tripartite security alliance (AUKUS) that effectively killed France-Australia cooperation on submarines.

Concerns:

- AUKUS will go on to form a key security arrangement of the Indo-Pacific region. This might potentially push the Quad to the background in a struggle for attention, political will, and resources.

- Experts have warned that with the announcement of the new Australia-U.K.-U.S. (AUKUS) trilateral security partnership, Quad faces the danger of becoming irrelevant if it does not shape up.

- AUKUS may not replace the Quad and yet it appears that AUKUS has ventured where the Quad has been reluctant to make forays into — the military domain.

- AUKUS also exposes the inherent, also self-imposed, limits of the Quad, i.e., its inability and lack of desire to give itself any military role.

- AUKUS may have further shrunk the potential space available for the Quad, and India, to play a serious role in the region's security architecture.

- Quad seems to offer no clear purpose which, as a result, leads to too many items crowding the agenda.

- It neither has a secretariat or a charter, like the Shanghai Cooperation Organisation (SCO), nor a clear set of activities such as AUKUS.

- The ever-growing list of focal areas of the Quad will eventually make it a less than useful deliberative forum.

- While the Quad members have security/military considerations in mind vis-à-vis China while engaging the Quad platform, no one seems to be keen on framing it in such a manner.

- Given this context, if AUKUS potentially overshadows the enthusiasm around the Quad, it would be disadvantageous to India's interests in the Indo-Pacific region.

Way Forward:

Deepening economic partnership:

- The agenda for the Quad should be widened. So far, its goal was focused largely on strengthening strategic and defence pillars. There is the need to deepen economic engagement within the QUAD grouping.

- The QUAD nations are vibrant democracies and open economies. Three are developed countries and one is an emerging market (India).

- For India, each of the other three countries is a strategic partner, and bilateral and multilateral initiatives have been taken across multiple areas in different fora.

  * The Supply Chain Resilience Initiative (SCRI) with India, Australia and Japan aims to address vulnerabilities in existing supply chains that were exposed during the COVID-19 pandemic.

  * India's total trade with the three Quad partners was over $108 billion in 2020-21, accounting for almost 16% of its total merchandise exports and imports

  * On the investment side, the U.S. is India's second-largest source of foreign direct investments, while Japan has a significant footprint in India's major infrastructure projects.

  * While inflows from Australia amount to less than a billion dollars, it has outlined a long-term strategy for economic engagement with India.

- Economic partnership will help add more depth to the relationship.

3. BRICS summit

» Prelims: BRICS; BRICS Counter Terrorism Action Plan

» Mains: Significance, progress made and challenges facing the BRICS grouping

Context:

• The 13th BRICS summit was held virtually under the chairmanship of India.

Background:

• BRICS is the acronym coined to associate five major emerging economies: Brazil, Russia, India, China, and South Africa.

• In 2006, leaders of the BRIC countries met in St. Petersburg, Russia, and the grouping was formalized. In 2009 the first BRIC summit was held in Yekaterinburg.

Details:

Afghanistan issue:

• The summit was dominated by the developments in Afghanistan.

• The BRICS leaders called for an inclusive intra-Afghan dialogue for stability, civil peace, law and order in Afghanistan.

• The countries stressed the need to prevent attempts by terrorist organisations to use Afghan territory as terrorist sanctuary and to carry out attacks against other countries.

• The document issued at the end of the summit, titled the New Delhi Declaration, also called for addressing the humanitarian situation in Afghanistan, and urged the need to uphold rights of women, children and minorities.

• This consensus is all the more significant given that the BRICS countries are evidently divided on engagement with the Taliban with Russia and China adopting a proactive policy on the issue.

BRICS Counter Terrorism Action Plan:

• The member nations also adopted the BRICS Counter Terrorism Action Plan during the summit.

* The BRICS Counter Terrorism Action Plan is aimed at strengthening cooperation between BRICS countries in areas such as preventing and combating terrorism, radicalisation, financing of terrorism, misuse of internet by terrorists, curbing travel of terrorists, border control, protection of soft targets, information sharing, capacity building, international and regional cooperation.

Counter pandemic co-operation:

• The summit also discussed the COVID-19 pandemic and the strategy to strengthen counter-pandemic cooperation.

Space sector co-operation:

• The agreement on Remote Sensing Satellite Constellation between the member country space agencies will deepen the co-operation in the space sector.

Other issues:

• The summit also declared the need for urgent reforms in multilateral institutions to make them more representative and equitable.

* The first and foremost priority for BRICS is to pursue reform of multilateral institutions like the United Nations, World Bank, International Monetary Fund, World Trade Organization and the World Health Organization. It seeks to reduce the dominance of few developed countries and make these institutions more representative and accommodative of their views and thus strengthen multilateralism

• The BRICS leaders also took up the conflicts in Myanmar, Syria, the tension in the Korean peninsula, Israel-Palestine violence and other territorial disputes. The New Delhi Declaration emphasized on the inadmissibility of the threat or use of force against the territorial integrity or political independence of any State or in any other manner inconsistent with the purposes and principles of the United Nations.

• As the current chair India has had set the following four priorities for the upcoming BRICS summit.

Significance of the grouping:

• BRICS represents 42% of the world's population, 30% of the land area, 24% of global GDP and 16% of international trade.

• Given its representative membership, the grouping can serve as a bridge between the Global North and Global South.

Progress made by BRICS:

• BRICS has been able to hold regular summits since 2009 which has given rise to some degree of political synergy. This has helped develop a common perspective on a wide range of global and regional issues in an era of complex geopolitics

• Establishment of the New Development Bank and Contingency Reserve Arrangement is a welcome move given that they can supplement existing institutions like the World bank and IMF if not replace them. The BRICS payment system provides an alternative to the SWIFT payment system.

- BRICS is also on the verge of setting up a Vaccine Research and Development Virtual Center. BRICS grouping was able to co-ordinate and collaborate during the COVID-19 pandemic.
- BRICS has been trying to deepen trade and investment ties among its member states.

Challenges to the BRICS grouping:

- Though the grouping has made some notable progress, it still faces multiple challenges.

Dominance of China:

- China's economic rise has created a serious imbalance within BRICS. China's centrality and dominance of intra-BRICS trade flows has countries like India, Brazil and South Africa reluctant on agreeing to establish a free trade agreement in the BRICS grouping. Thus the intra-BRICS trade continues to remain low despite immense potential and opportunities.
- While China is on track to global dominance, Brazil and South Africa continue to face serious internal challenges. The increasing difference in economic power of the member states does not augur well for the grouping.

Intra-group differences:

- China's aggressive policy, especially against India has put BRICS solidarity under exceptional strain. China's support to Pakistan despite India's reservations on Pakistan's reliance on using terrorism as a state policy against India has only further deepened the difference between India and China.
- Given the strained relations of China and Russia with the West and India's increasing strategic alignment with countries like the U.S. and France in a bid to counter China's increasing assertiveness has cast doubts on the future of the BRICS grouping.

Conclusion:

- The idea of BRICS – a common pursuit of shared interests by the five emerging economies from four continents – remains fundamentally relevant.
- The member nations should focus on the priorities as discussed earlier, and also consider pushing for intra-BRICS cooperation in diverse areas like agriculture, disaster resilience, digital health, traditional medicine and customs cooperation.

International Relations: India's bilateral relations

4. India-U.S. relations

» Prelims: Comprehensive Global Strategic Partnership of India and U.S.; Defense Technology and Trade Initiative; four foundational defence agreements

» Mains: Potential for the India-U.S. relationship and challenges

Context:

- The joint statement titled, 'A Partnership for Global Good', issued by India and the U.S. following the bilateral discussions between Indian Prime Minister and U.S. President.

Details:

- The two countries have expressed their intentions to further deepen their 'Comprehensive Global Strategic Partnership' in domains such as regional groupings, defence manufacturing, and climate action.
- The two countries would work with regional groups like ASEAN and with Quad members to promote shared interests in the Indo-Pacific region and beyond.
- The U.S. reaffirmed the strength of the defense relationship between the United States and India and the unwavering commitment to India as a Major Defense Partner through close defense engagements in information sharing, sharing of logistics and military-to-military interactions, strengthening cooperation in advanced military technologies, and expanding engagements in a multilateral framework including with regional partners. The Leaders welcomed the deepening of advanced industrial cooperation under the Defense Technology and Trade Initiative, and encouraged more such joint efforts. In the domain of defence and security collaborations the focus, in particular, would be on how to operationalize the four foundational defence agreements that India and the U.S. have signed in the recent past.
  * These include the General Security of Military Information Agreement (GSOMIA), Logistics Exchange Memorandum of Agreement (LEMOA), the Communications Compatibility and Security Agreement (COMCASA) and Basic Exchange and Cooperation Agreement (BECA).
- The two countries would work towards galvanizing global efforts to scale up climate action.
  * The U.S. expressed support for India's target to achieve a domestic goal of installing 450 GW of renewable power by 2030 and acknowledged the importance of mobilizing finance for investments in renewables, storage, and grid infrastructure that will guarantee clean, reliable power for millions of Indian households.
  * Through the two main tracks of the Strategic Clean Energy Partnership (SCEP) and the Climate Action and Finance Mobilization Dialogue (CAFMD) under the U.S.-India

Climate and Clean Energy Agenda 2030 Partnership, the United States and India will accelerate clean energy development and deployment of critical technologies to advance a clean energy transition.

- The two countries reaffirmed their commitment to fight terror and also denounced the use of "terrorist proxies" in a veiled reference to the use of terrorism as a state policy by Pakistan.

- The two countries would develop a trade and investment partnership that would help increase prosperity for working families in both countries. Notably, the joint statement did not announce any major deliverables on trade.

International Relations: India's bilateral relations

5. India- Saudi Arabia relations

» Mains: Major aspects of the bilateral relationship- potential, significance and challenges

Context:

- Saudi Foreign Minister's visit to India.

Details:

- In the light of the official visit, the article analyzes some aspects of the India-Saudi Arabia bilateral relationship.

Co-operation and collaboration on the Afghanistan issue:

- A major aspect of the visit is based on the Afghanistan issue. India and Saudi Arabia have discussed the way forward in Afghanistan.

- Peace, security and stability in Afghanistan would be critical to the region including the countries of Saudi Arabia and India. The increasing probability of Afghanistan becoming a source of transnational terrorism poses grave threats to the internal security of both India and Saudi Arabia.

- Unlike in the earlier regime of Taliban, Saudi Arabia has not maintained a diplomatic engagement with the Taliban regime this time, while its strategic rivals Qatar, Turkey and Iran have established contacts and ties with the new Taliban regime. Saudi Arabia fears that this development could place it in a strategically disadvantageous position in the region and beyond. In this light it is trying to co-operate on the Afghanistan issue with like-minded countries like India.

  * Neither Saudi Arabia nor India actually has a diplomatic presence or any formal engagement with the Taliban government in Afghanistan.

- India faces the threat of infiltration attempts by armed militants along India's borders in Jammu and Kashmir. The anti-India terror organizations could find a base for their operations in Afghanistan under the new Taliban regime and renew their attacks against India. Drug trafficking emanating from Afghanistan also poses another major challenge for India's national security.

- India and Saudi Arabia can play a decisive role to make sure that that the commitments made by the new Taliban regime are adhered to in areas of ensuring adequate rights for minorities and woman, curbing the use of Afghan soil for terrorism etc.

Economic co-operation:

- Bilateral trade and investment between the two countries have witnessed a significant growth in recent years.

  * India remains one of the largest procurers of Saudi's oil outputs. India is the third largest trade partner for Saudi Arabia.

  * Saudi Arabia had made an announcement of $100 billion investment plan by the Saudi government and Aramco for India in 2019.

    » ARAMCO, Saudi Arabia's state run oil firm is planning a joint venture for an oil refinery in Ratnagiri, Maharashtra and the two countries are also cooperating in setting up strategic oil reserves in India.

Pakistan factor:

- Given that Saudi Arabia enjoys good relations with both India and Pakistan and enjoys some degree of influence over Pakistan, it can play a decisive role in helping the two countries engage to resolve the outstanding issues between themselves which can help bring in much needed peace and security in the South Asian region.

Security aspects:

- India and Saudi Arabia have signed a MoU on cooperation in the exchange of intelligence related to money laundering and terrorism financing.

Indian Diaspora in Saudi Arabia:

- The 2.7 million strong Indian Community is the largest expatriate group in Saudi Arabia. They send remittances of over US $11 billion annually to India.

Irritants in the relationship:

- Saudi Arabia led OPEC has overlooked India's repeated calls for rationalizing of the oil prices. This has not gone down well with India.

- Also India has strongly condemned the repeated statements by the Saudi Arabia headquartered Organisation of Islamic Cooperation (OIC) on Jammu and Kashmir, the status of Indian Muslims and incidents of communal violence in India as a gross interference in India's domestic affairs.

Conclusion:

- The Riyadh Declaration of 2010 had forged a Strategic Partnership between India and Saudi Arabia. Since then the two countries have deepened their relationship in diverse sectors like investment, energy, trade, climate action and security cooperation.
- Given the mutually beneficial partnership, the relationship is bound to only grow in the coming years.

International Relations: India's bilateral relations

6. India, Australia 2+2 meeting

- » Prelims: 2+2 meetings by India; Exercise Talisman Sabre
- » Mains: Defence and economic partnership between India and Australia

Context:

- The defence and foreign ministers of India and Australia met as part of the Inaugural "2+2" Minister-level meeting.

Details:

Afghan issue:

- Afghanistan among key issues discussed in first India-Australia '2+2' ministerial dialogue
- India and Australia displayed a common approach to the Afghan crisis, with both sides emphasizing that Afghanistan should never again become a safe haven for terrorism. The two countries also raised concerns over the unfolding humanitarian crisis in Afghanistan and called for urgent action in this direction.

Defence co-operation:

- India and Australia aim to develop the overall defence and strategic cooperation, including in the Indo-Pacific amid China's increasing military assertiveness in the region.
- The defence ministers highlighted the criticality of the maritime domain and reiterated the shared vision of the Indo-Pacific region as a free, open, inclusive and prosperous domain.
- The two countries discussed institutional frameworks for wide ranging collaboration including defence cooperation.
    - * Australia stated that it would increase its defence diplomatic representation in New Delhi.
    - * In the context of Defence Cooperation, both sides were glad to note continued participation of Australia in the Malabar Exercises.
    - * India has also invited Australia to engage India's growing defence industry and to collaborate in co-production and co-development of defence equipment.
    - * Both countries have also agreed to collaborate on logistical support.
- Australia formally announced that it will invite India to the "Exercise Talisman Sabre" in 2023.

Other aspects:

- The areas of discussion included economic issues including a bilateral free trade agreement between India and Australia, cyber security, climate change, critical technology and supply chains.
    - * Both countries are working to build a long-term sustainable economic relation. In a joint communique in August 2021, India's Commerce and Industry Minister and the Australian Trade Minister announced that an early harvest agreement shortly will pave the way for an early conclusion of a bilateral Comprehensive Economic Cooperation Agreement between both countries.

Conclusion:

- The 2+2 dialogue signifies the importance of the India Australia Comprehensive Strategic Partnership.
- India and Australia share an important partnership which is based on a shared vision of free, open, inclusive and prosperous Indo-Pacific region.

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

7. Collective Security Treaty Organisation (CSTO)

- » Prelims: CSTO
- The Collective Security Treaty Organization (CSTO) is an intergovernmental military alliance in Eurasia that consists of selected post-Soviet states.
- It's members include: Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia and Tajikistan.

Context:

- Collective Security Treaty Organization has announced its plan to hold large military drills in Tajikistan amid the deteriorating situation in neighbouring Afghanistan.
    - * Tajikistan is the only country out of the six-member bloc led by Russia that shares a border with Afghanistan.

8. UNSC resolution on Afghanistan

» Prelims: Functioning of UNSC

Context:

- India-led United Nations Security Council (UNSC) Resolution 2593 on Afghanistan issue.

Details:

- The resolution calls on the Taliban to keep their commitments on preventing terror groups in Afghanistan. The resolution demands that Afghan territory should not be used to threaten or attack any country or to shelter and train terrorists and plan or finance terrorist attacks.

- The resolution also urges the Taliban to assist the safe evacuations of all Afghan nationals wishing to leave the country.

- Other important clause regarding the freezing of Afghan financial assets was not included in the final resolution document.

  * Countries like France and the U.K. had proposed freezing of Afghan financial assets in a bid to gain some leverage over the Taliban to agree to the agreed terms of the Doha Peace agreement.

Divided P5:

- While the three permanent members of the UNSC- France, the U.K. and the U.S. supported the resolution, the other two members- Russia and China abstained from voting on the resolution.

  * Russia and China argued for the inclusion of all terrorist groups, especially the Islamic State and the Uighur East Turkestan Islamic Movement to be named in the resolution.

- With the P5 members divided, India played an 'active role' to ensure resolution went through

India's perspective:

- The Government of India has said it was satisfied with the resolution given that it addressed India's key concerns on Afghanistan which includes the short term aim of ensuring safe evacuation of Indian nationals and also those of Afghan nationals seeking refuge in India and the long term aim of ensuring that Afghanistan does not become a safe haven for anti-India terrorist organizations.

  * The resolution mentions individuals designated by Resolution 1267, (which includes the anti-India terror groups- Lashkar-e-Taiba and the Jaish-e-Mohammad)

Conclusion:

- Despite some differences over the adopted resolution, neither Russia nor China vetoed the resolution.

- The adoption of the resolution is a strong signal from the Security Council and the international community on its expectations in respect of Afghanistan.

Additional information:

- The upcoming SCO summit is scheduled to be held in Dushanbe, Tajikistan.

9. India keeping a watch on ties between Taliban and Pakistan

» Prelims: Durand line

» Mains: Pakistan-Taliban ties and its impact on India's interests

Background:

- Taliban after having taken over Afghanistan, has been reaching out to several countries for establishing ties, India being one of them. In this regard, the head of the Taliban's Political Office in Doha, met India's envoy to Qatar.

- The meeting gains significance in the context that this happens to be the first such formal communication between India and Afghanistan.

- Despite some hope of the normalization of ties between India and a Taliban controlled Afghanistan, the future of this relationship will depend upon the ties between Taliban and Pakistan.

Details:

Pakistan- Taliban ties:

- Pakistan had offered the Taliban support in terms of shelter and resources when it was ousted from power post the U.S. attack on Afghanistan. In this regard, Pakistan has long been asserting the special bond between Pakistan and Taliban. Pakistan's establishment has unparalleled leverage over the Taliban.

- Intelligence sources have pointed out the strong support offered by Pakistan to Taliban in its offensive against the elected civilian government and subsequent takeover of power in Afghanistan.

- The closeness between Pakistan and Afghanistan does not augur well for India, given that Pakistan might use its influence with the Taliban to undermine India's strategic depth in Afghanistan and also use Afghanistan as a base for launching anti-India terror operations.

Areas of differences between Pakistan and Taliban:

- The Durand line which remains contested between Pakistan and Afghanistan is a sensitive issue for the Pashtun community that resides in both Afghanistan and Pakistan. Taliban has several times stated that it will work towards protecting Afghanistan's interests in this regard.
    * The Durand Line is the international land border between Afghanistan and Pakistan.
    * It demarcates Khyber Pakhtunkhwa and Balochistan and Gilgit-Baltistan of northern and western Pakistan from the northeastern, eastern, and southern provinces of Afghanistan.
    * The Durand Line divides ethnic Pashtuns, who live on both sides of the border.
- Also the rise of Taliban in Afghanistan may influence the restive Pashtun population in Pakistani territory which could find some support from Taliban. This could become a sore point between Pakistan and the Taliban.

Kashmir issue:

- In what would be comforting for India, Taliban's spokesperson recently stated that Kashmir is an issue between India and Pakistan and it would not interfere in this regard. This gains all the more significance amidst fears that anti-India terror organizations might use Afghanistan as a base to launch attacks on India's Jammu and Kashmir.

Conclusion:

- The Taliban has adopted sophisticated messaging for independently reaching out to major countries, which constitutes a major departure from its earlier approach. This explains the Taliban's attempts to project itself as a free player and not be seen as completely dependent on countries like Pakistan. This development augurs well for India.

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

10. The fall of Afghanistan, the fallout in West Asia

» Mains: Implications of the fast paced developments in Afghanistan on the region

Context:

- The article analyzes the relation between Afghanistan and its West Asian neighbours in the light of the recent developments in Afghanistan.

Details:

- While Pakistan is playing the lead public role in Afghan affairs, Afghanistan's West Asian/Gulf neighbours will be a significant influence in shaping the future of the war torn country.

Saudi Arabia:

- Saudi Arabia has been a key supporter and source of funding for the Taliban even since 1990's.
- Besides Syria and Yemen, Iran and Saudi Arabia have also made Afghanistan an arena for their regional competitions. Saudi Arabia has been trying to prevent Iran's expanding influence among Taliban groups.

Iran:

- While Iran had been against the Taliban in its early days, after the 9/11 attacks, Iran became deeply involved with the Taliban. Iran has even provided funding, weapons, training and refuge, when required in a bid to maintain pressure on the U.S. forces.

Qatar:

- In 2012, Qatar allowed the Taliban to open an office in Doha resulting in close link with several Taliban leaders. This has made Qatar an influential player in Afghan affairs.

Regional security in the aftermath of the U.S. withdrawal:

- The West Asia region faces regional security challenges after the U.S. withdrawal. In this regard there seems to be two possible options for regional security architecture.
    * An Israel-centric security order in which the Arab Gulf states would link themselves with Israel to confront Iran.
    * A comprehensive regional security arrangement facilitated and guaranteed by China and Russia.
- The second option seems more realistic and possible given the recent events that have taken place.
    * Over the last few years, China and Russia both have built close relations with the major states of the region. i.e., Iran, Saudi Arabia, Turkey, Afghanistan and Pakistan.
    * Saudi Arabia has signed a military cooperation agreement with Russia. This marks a case of "strategic hedging" as the U.S. has placed restrictions on defence supplies to Saudi Arabia.
    * Major West Asian nations have recently embarked on unprecedented diplomatic engagements with erstwhile rivals in the region.
        » There have been three rounds of discussions between Iran and Saudi Arabia laying to rest the traditional rivalry that has shaped the West Asian region.
        » Turkey has initiated diplomatic overtures towards Egypt and Saudi Arabia.

» The diplomatic and economic blockade on Qatar that was imposed by Saudi Arabia, the United Arab Emirates, Bahrain and Egypt has been removed.

- These developments suggest that a new regional security order is taking place in West Asia.

11. India – United Arab Emirates Comprehensive Economic Partnership Agreement (CEPA)

» Prelims: CEPA

» Mains: India- UAE relations

Context:

- Negotiations launched for the India – United Arab Emirates Comprehensive Economic Partnership Agreement (CEPA).

Details:

- India and the UAE signed a Comprehensive Strategic Partnership in 2017.

- It is expected that the CEPA negotiations will be concluded by December 2021 and a formal agreement would be signed in March 2022 after the completion of internal legal procedures and ratification.

- The CEPA will create new jobs, raise living standards, and provide wider social and economic opportunities in both nations.

- A new strategic economic agreement is expected to increase bilateral trade in goods to USD 100 billion within five years of the signed agreement and increase trade in services to USD 15 billion.

Background of India – UAE Economic Relations:

- The UAE is currently India's third-largest trading partner with bilateral trade in 2019-20 valued at USD 59 billion.

- The UAE is also India's second-largest export destination after the US.

- India was the UAE's second-largest trading partner in 2019, with bilateral non-oil trade valued at USD 41 billion.

- The UAE is the eighth-largest investor in India, having invested USD 11 billion between April 2000 and March 2021, while investment by Indian companies in the UAE is estimated to be over USD 85 billion.

- India's major exports to the UAE include petroleum products, precious metals, stones, gems and jewellery, minerals, food items such as cereals, sugar, fruits and vegetables, tea, meat, and seafood, textiles, engineering and machinery products, and chemicals.

- India's top imports from the UAE include petroleum and petroleum products, precious metals, stones, gems and jewellery, minerals, chemicals and wood and wood products.

- India imported USD 10.9 billion of crude oil from the UAE in 2019-2020.

12. China opens first road-rail transport link to Indian Ocean

» Prelims: Map based questions on the region

- China has conducted a "test cargo" through what is being called the China-Myanmar New Passage.

  * The railway line extends from the Myanmar border to the key commercial hub of Chengdu in western China.

- This passage connects the logistics lines of Singapore, Myanmar and China, and is currently the most convenient land and sea channel linking the Indian Ocean with southwest China. Thus the new railway line provides China with a new road-rail transportation channel to the Indian Ocean.

- Chinese planners have also looked at the Gwadar port in Pakistan as another key outlet to the Indian Ocean that will bypass the Malacca Straits. Gwadar is being developed as part of the China Pakistan Economic Corridor (CPEC).

ART AND CULTURE

1. Cham dance form

» Prelims: Cham dance- Region and features; Vajrayana school of Buddhism

Context:

- The Cham dance is a masked and costumed dance associated with some sects of Tibetan Buddhism and Buddhist festivals.

- The Cham traces its origins to the Yogachara School of Buddhism founded in Kashmir in the 4th century by Asanga and Vasubandhu. Yogachara School developed into the Vajrayana form of Buddhism, which incorporated the Cham dance.

- Cham is a unique and important cultural tradition. The Lamas celebrate the victory of good over evil with two days of the monastic dance..

- The costumes and masks are an integral part of the dance.

- All sounds in the Cham are sacred mantras.

- Once a great tradition that was practised in Ladakh, Lahaul, Spiti, Kinnaur, Tibet, southern China, and Mongolia, today Cham has been kept alive at annual celebrations in parts of Ladakh and Spiti.

2. Therukoothu

» Prelims: Therukoothu- associated region and features

- Koothu or Therukoothu is an ancient folk art originated from the early Tamil country.

  * There is mention of therukoothu in Silappatikaram.

- It is an informal dance structure, in which performances generally depict scenes from ancient epics such as Ramayana, Mahabharata and Tamil classical epics. There is traditionally no spoken dialogue, only songs.

3. Safdarjung Tomb

» Prelims: Mughal architecture- salient features and monuments

» Mains: Architecture during the later Mughal period

Safdarjung Tomb:

- Safdarjung's Tomb is a sandstone and marble mausoleum in Delhi, India.

- It was built in 1754 in the Mughal style for Nawab Safdarjung.

  * Mirza Muqim Abul Mansur Khan, who was popularly known as Safadarjung, ruled over Awadh as an independent ruler under Mughal emperor Muhammad Shah.

  * With the death of Emperor Muhammad Shah, Safadarjung moved to Delhi and became the Prime Minister (Vazir) of the mughal empire, with the title of Vazir ul-Mamalk-i-Hindustan under Ahmed Shah Bahadur

Context:

- Well known historian S. Irfan Habib has noted the need for urgent care of the Safdarjung tomb from the Archaeological Survey of India (ASI)

4. Thamirabarani civilisation

» Prelims: Carbon dating analysis; Thamirabarani civilisation- excavation sites

Context:

- The carbon dating analysis of an excavated specimen found at Sivakalai in Thoothukudi district of southern Tamil Nadu has yielded the date of 1155 BCE.

  * Radiocarbon dating, also referred to as carbon dating is a method for determining the age of an object containing organic material by using the properties of radiocarbon, a radioactive isotope of carbon.

Details:

- The finding has established that the Porunai river [Thamirabarani] civilisation dates back to 3,200 years.

- Also the recent excavations in Keeladi, Kodumanal and other sites in Tamil Nadu, including Northern Black Polished ware and good number of potshreds with Brahmi inscriptions indicate that contacts between South India and North India might be as early as 600-700 BCE or even earlier.

- The Tamil Nadu government has announced that it will carry out archaeological excavations in other States and countries to establish the Tamil links.

* In the first phase, studies would be undertaken at the ancient port of Musiri, now known as Pattanam, in Kerala, Vengi in Andhra Pradesh, Thalaikadu in Karnataka and Palur in Odisha.
* Tamil Nadu Archaeology Department would also conduct research at Quseir al-Qadim and Pernica Anekke in Egypt, Khor Rori in Oman.
  » Notably Pot shreds with Tamil scripts have been found in these places.

Art and Culture - Festivals

5. Parkash Purab of Sri Guru Granth Sahib Ji

» Prelims: Sikh gurus

Context:

- PM greeted people on the occasion of ParkashPurab of Sri Guru Granth Sahib Ji.

Details:

- The occasion marks the completion of the holy book of the Sikhs, Sri Guru Granth Sahib Ji, under the supervision of the fifth Guru ArjanDevJi in 1604 at GurdwaraRamsar Sahib.

Art and Culture - Festivals

6. Samvatsari

» Prelims: Sects of Jainism; Samvatsari festival

Context:

- PM greeted people on the occasion of Samvatsari.

About Samvatsari:

- Samvatsari is a festival celebrated by the Jain community, especially the Shwetambara sect.
- It is the last day of an eight-day observance of prayers called Paryushana Parva or Paryushana.
- It falls on Shukla Panchami each year in the Jain calendar month of Bhadrapada.
- Samvatsari is also known as the Day of Forgiveness.
- On this day, people seek forgiveness from others for wrongs done knowingly or unknowingly. People say the words Michhami Dukkadam to seek forgiveness from others.

SCIENCE AND TECHNOLOGY

1. Artificial Intelligence

» Prelims: Applications of AI systems

» Mains: Challenges associated with AI systems; UNESCO's framework for ethical AI

What is Artificial Intelligence?

- Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems.

- The AI systems are taught through sharing of enormous data of past human actions to learn from. This large amount of data is subject to fast, iterative processing and intelligent algorithms, allowing the software to learn automatically from patterns or features in the data.

- Specific applications of AI include expert systems. This helps in reducing the human interference in repetitive decision-making processes.

Challenges in AI systems:

Threat of bias and discrimination:

- The approach used in AI systems is wrought with inherent challenges of bias and discrimination of the fed data which could give rise to biased AI platforms. This could lead to a number of forms of biases including gender bias.

- The identification, segregation, correction needed to ignore such bias or discrimination in the fed data is one of the biggest challenges to the application of AI systems.

Potential for misuse:

- AI systems find extensive use in the operation of search engines. The entire cycle of collecting, indexing and ranking content is automated with the help of AI systems.

- The AI system used in such vital applications is prone to misuse and unintentional bias. This is extremely worrisome as search engines have the power to shape user behaviour. This goes against the need for secular, neutral, unbiased and conflict-free search engines.

Privacy concerns:

- Personal data is used about individuals to build sharper algorithms to target them for offers, recommendations, treatments etc. The use of personal sensitive information without informed consent gives rise to ethical concerns on the use of AI systems.

Lower degree of understanding and insensitivity:

- There is still a great degree of ignorance about how AI can impact our lives among the general populace and even the governments.

- Technology developers seem to be insensitive to some critical issues in the domain of AI.

- This does not augur well for the future given the inevitable large scale implementation of AI systems in the coming years.

Recommendations:

- Data collection, curation and the methodology involved in processing the information in AI systems must ensure fairness and ethical outcome.

- Accountability and ownership of AI systems have to be well-defined.

- There is the need to develop a regulatory and compliance framework for AI systems through appropriate legal frameworks.

UNESCO's framework for ethical AI

- UNESCO's framework for ethical AI envisages a holistic and evolving framework of values, principles and actions that can guide societies in dealing responsibly with the known and unknown impact of AI on humans and society at large.

- The framework will impact areas such as sensitivity to privacy and inclusion; transparency, fairness and non-discrimination; accountability through participation; mindset change that supports a sustainable AI environment and a balance between business growth and promotion of values.

2. Hycean worlds

» Prelims: Hycean worlds; exoPlanets

- A study published in The Astrophysical Journal identifies a new class of exoplanets termed Hycean worlds.

  * Exoplanets are planets that orbit other stars. These exoplanets are a prime target for the search for life beyond Earth.

- The Hycean worlds have planet-wide oceans and have temperatures as high as 200 degrees Celsius. These planets have a hydrogen-rich atmosphere.

- These exoplanets could support microbial underwater life.

3. INSPIRESat-1

› Prelims: INSPIRE programme; Ionosphere

- INSPIRESat-1 CubeSat, developed under the International Satellite Program in Research and Education (INSPIRE), is ready for launch.

  * constellation of earth and space-weather observation satellites is envisaged under the INSPIRE programme.

- The small satellite will be launched aboard an upcoming Polar Satellite Launch Vehicle (PSLV) mission of the Indian Space Research Organisation.

- It is a collaborative effort by the Laboratory for Atmospheric and Space Physics at the University of Colorado Boulder in the US, National Central University, Taiwan, Nanyang Technological University in Singapore and the Indian Institute of Space Science and Technology (IIST).

- The satellite, which will be placed in a low earth orbit, is equipped with a Compact Ionosphere Probe for studying the earth's ionosphere.

Science and Technology- Developments and their Applications and Effects in Everyday Life

4. Soil microbes

› Prelims: Rhizomicrobiome; Rhizobacteria; Mycorrhiza

› Mains: Recommendations for sustainable agricultural practices

Context:

- Given the increasing calls for sustainable agriculture practices, the use of microbes in improving crop quality and quantity is gaining traction. In this regard, the article discusses some important associated terminologies.

Rhizomicrobiome:

- Diverse microbial communities are symbiotically associated with plants as endophytes and epiphytes and rhizospheric communities.

  * Rhizosphere is the area around plant roots influenced by root exudates.

  * The rhizospheric (root zone) communities are called the rhizomicrobiome.

Rhizobacteria:

- Rhizobacteria are root-associated bacteria that form symbiotic relationships with many plants. Though parasitic varieties of rhizobacteria exist, the term usually refers to bacteria that form a relationship beneficial for both parties.

- Beneficial rhizobacteria have been utilized to improve water and nutrient uptake and function as growth promoters and also helps improve abiotic and biotic stress tolerance of plants.

  * Some rhizobacteria are able to enhance the recycling of plant nutrients and decrease the use of chemical fertilization.

  * Some rhizobacteria help plants ward off pathogens that cause diseases of the root. They may even trigger systemic resistance to a pathogen throughout the plant.

Mycorrhiza:

- A mycorrhiza is a mutual symbiotic association (mutualism) between a fungus and a plant. The term mycorrhiza refers to the role of the fungus in the plant's rhizosphere, its root system. Mycorrhizae play important roles in plant nutrition, soil biology, and soil chemistry.

- The root-invading fungus gains nutrients made by the plant, and the plants get difficult-to-find minerals like phosphorus from the microbe.

Additional information:

Hybrid vigour:

- A vast majority of commercially grown crops are hybrids, where two inbred lines are crossed, with their first-generation hybrid offspring exhibiting a vigour that is lacking in either of its parents. This property of hybrid vigour is called heterosis.

Achievements of Indians in Science & Technology; Indigenization of Technology and Developing New Technology

5. IIT-MIT to develop portable sensors

› Prelims: Spectroscopy

› Mains: Technological tools to address challenges in agricultural sector

- Punjab's Ropar-based Indian Institute of Technology (IIT) and Massachusetts Institute of Technology (MIT), USA, have collaborated under the project "Accurate Optical Sensing for Efficient Fertilizer Use and Increased Yield in Small Farms."

- They plan to develop portable optical sensors based on spectroscopic 'fingerprinting' of the nitrogen uptake in plants.

- The optical sensors will help provide rapid, actionable data regarding scientific fertilizer management in agricultural practices.

Significance:

- This will help address the chemical pollution of the ecosystem by helping avoid excess usages of chemical fertilizers.

- The scientific use of fertilizers will ensure better efficiency of fertilizer usage and lead to lower input costs and higher productivity

6. Yukawa force

> » Prelims: Standard physics model; Yukawa force

- The standard model of physics considers four known fundamental forces – weak, strong, electromagnetic and gravitational.

- A novel experiment has now defined stringent bounds on what is called the fifth force or the Yukawa force – a component that plays a role in some extensions of the standard model beyond the four known fundamental forces.

7. ATL Space Challenge 2021

> » Prelims: Atal Innovation Mission

Context:

- ATL Space Challenge 2021 launched by the Atal Innovation Mission (AIM) in collaboration with ISRO and CBSE.

Details:

- The challenge has been designed for all school students, mentors and teachers across the country who not only are associated with schools having ATL labs but for all the non ATL schools as well.

- This is to ensure that students of classes 6 to 12 are given an open platform where they can innovate and enable themselves to solve digital age space technology problems.

- The ATL Space Challenge 2021 aligns with the World Space Week 2021 which is being observed from 4 to 10 October each year at the global level in order to celebrate the contributions of space science and technology.

- Students (from Atal Tinkering Labs (ATL) and Non-ATL schools) can submit their entries be it a solution or an innovation in teams of up to three members. Teams must be aligned to one of the Challenge Themes under which the problems can be identified.

- Students can create a solution that can be implemented and adopted leveraging technologies such as:

  * Explore space
  * Reach space
  * Inhabit space
  * Leverage space

- The application for the Space Challenge can be submitted on the AIM online portal. Each team based on their interest and understanding, must select one problem which falls under any one of the Space Challenge themes.

8. Large-scale reactor for cost-effective production of hydrogen

> » Prelims: India's renewable energy targets

> » Mains: Methods for preparing hydrogen; significance of hydrogen as a fuel

Context:

- Scientists have, for the first time, developed a large-scale reactor which produces a substantial amount of hydrogen using sustainable sources like sunlight and water, which is a cost-effective and sustainable process.

Background:

- India has set a target of 450 GW of renewable energy by 2030.

- For this to be achieved, it is imperative to develop renewable energy solutions that are sustainable with a limited carbon footprint.

- One of the most economical ways to achieve this is to produce hydrogen at a large scale through photocatalytic water splitting.

What's in the news?

- A team of scientists from INST Mohali has developed a prototype reactor which operates under natural sunlight to produce hydrogen at a larger scale (around 6.1 L in 8 hours). They have used an earth-abundant chemical called carbon nitrides as a catalyst for the purpose.

- This work is supported by the DST Nano Mission NATDP project.

How the reactor works?

- The INST team employed a low-cost organic semiconductor in carbon nitrides which can be prepared using cheaper precursors like urea and melamine at ease in a kilogram scale.

- When the sunlight falls on this semiconductor, electrons and holes are generated.

- The electrons reduced the protons to produce hydrogen, and holes are consumed by some chemical agents called sacrificial agents.

- If the holes are not consumed, then they will recombine with the electrons.

- The reactor is about 1 metre square, and the photocatalyst was coated in the form of panels where water flow is maintained. Upon natural sunlight irradiation, hydrogen production occurs and is quantified through gas chromatography.

Significance of the development:

- Hydrogen generated in this manner can be used in many forms like electricity generation through fuel cells in remote tribal areas, hydrogen stoves, and powering small gadgets, to mention a few.

- Eventually, they can power the transformers and e-vehicles, which are long-term research goals under progress.

9. Indian Astronomical Observatory (IAO)

» Prelims: IAO, Hanle; India's astronomical observatories

Context:

- A study has revealed that the IAO in Hanle is one of the promising observatory sites globally because of its clearer nights, minimal light pollution, background aerosol concentration, extremely dry atmospheric condition, and no interruption by the monsoons.

Who conducted the study?

- Scientists from the Indian Institute of Astrophysics (IIA), Bangalore and the Aryabhatta Research Institute of Observational Sciences (ARIES) in Nainital.

About the Indian Astronomical Observatory:

- The Indian Astronomical Observatory (IAO), located in Hanle near Leh in Ladakh, has one of the world's highest located sites for optical, infrared and gamma-ray telescopes.
- It is operated by the Indian Institute of Astrophysics, Bangalore.
- It is currently the ninth highest optical telescope in the world, situated at an elevation of 4,500 meters (14,764 ft).
- The IAO stands on Mt. Saraswati, Digpa-ratsaRi, Hanle in south-eastern Ladakh.
- It was established in 2001.
- The telescope installed at the observatory is a 2-m optical infrared telescope.
- It is remotely operated from CREST, Hosakote, using dedicated satellite links.
- IAO also hosts several site monitoring instruments such as seeing monitor, extinction monitor, all sky camera, Automated Weather Station, etc.

SECURITY AND DEFENCE

1. **Ceasefire along LoC expected to hold**

   » Prelims: FATF- grey list

   » Mains: Role of State actors in India's internal security scenario and measures to deal with it

   Context:

   • Security scenario along the Line of Control (LoC) in Kashmir.

   Details:

   • There has been no increase in ceasefire violations (CFVs) in 2021. The CFVs have gone down drastically after the ceasefire agreement between India and Pakistan came into effect in February. It would mean one of the quietest years along the LoC in many years.

      * Data from the Army show there were 4,645 CFVs in 2020, 3,168 in 2019 and 1,629 in 2018.

   • There were only two infiltration attempts and these too were not supported by Pakistan by providing firing cover.

   • The ground assessment is that the security situation would remain silent along the otherwise volatile and tense border between India and Pakistan.

   Contributive factors:

   • While the renewal of the ceasefire agreement between India and Pakistan is the main factor behind the de-escalation between the two countries, the situation is influenced by regional and global developments- the sudden U.S. pull-out from Afghanistan and the Taliban takeover, which has taken all the attention of Pakistan as also Pakistan's listing in the Financial Action Task Force.

   Challenges:

   • The local recruitment of militants remains a cause for the security scenario in Kashmir valley

2. **Agencies flag surge in number of foreign ultras in north Kashmir**

   » Mains: Security challenges posed by terrorism in Jammu and Kashmir and measures to be taken

   Context:

   • Security agencies have pointed out a sudden spike in the number of foreign militants operating in north Kashmir.

Concerns:

Spike in number of foreign militants:

• According to the latest official data of the police, there are 40 to 50 foreign militants active in north Kashmir compared with just 11 local militants.

• There has been a marked increase in the presence of foreign militants in the ranks of insurgent groups such as the Jaish-e-Muhammad, Al-Badr, Lashkar-e-Taiba and The Resistance Front (TRF).

• Also an increasing number of recent high profile terror attacks have been attributed to non-local recruits. There have also been reports of foreign terrorist fighters offering to fund terror activities in India and arrange supply of sophisticated weapons, explosives and so on.

• This marks a changing trend in militancy in Kashmir which should concern the security agencies.

• The increase in foreign militants build-up had been visible in the past two months. Official sources have noted that this uptick cannot be connected with the recent situation in Afghanistan.

Increased militant activities in North Kashmir:

• Also it is for the first time in a decade that north Kashmir is witnessing heightened militant activities compared with south Kashmir.

• The three districts of North Kashmir- Baramulla, Bandipora and Kupwara had been relatively free from militant activities as compared to south Kashmir which has remained a hotbed of militant activities.

Security agencies response:

• The rising numbers of militants in north Kashmir, which is already over 50, has forced the security agencies to re-strategise their response to counter terrorism.

   * Mainstream leaders and elected grassroots representatives have been asked to be vigilant given the threat of attacks against them.

   * Also the security agencies have launched an aggressive counter strategy against the militancy. A number of militants have been killed and a substantial number of over ground workers have also been arrested.

      » Over ground workers are people who help militants, or terrorists, with logistical support, cash, shelter, and other infrastructure with which armed groups and insurgency movements can operate.

3. Drug haul in Gujarat

» Prelims: DRI; UNODC

» Mains: Link between the advent of Taliban and drug trafficking; Security challenges

Context:

- 3,000 kilograms of heroin, was seized by the Department of Revenue Intelligence (DRI) at Gujarat's Mundra Port.

- The drugs were shipped from Afghanistan. The seized heroin was exported by a Kandahar-based Hassan Hussain Limited and imported by Vijayawada-based trading company via Bandar Abbas Port, Iran to Gujarat's Mundra Port.

- Such large-scale smuggling of expensive drugs via sea route in the country has stunned the Union government. The seizure is also said to be one of the largest seizures in the world.

Role of Afghanistan in drug trafficking:

- The seizure of this large haul of heroin raises serious question about Taliban's promise to stop drug production and its trade using the soil of Afghanistan given the fact that drug trafficking remains one of the biggest source of income and funding for the Taliban

- Notably, after the Taliban announced ban on production and supply of narcotics, the rate of heroin and opium almost doubled within few days in local and international market.

- Afghanistan controls 80 to 90 per cent of opium and heroin supply in world, according to the United Nations Office on Drugs and Crime (UNODC).

Security threat to India:

- The Indian investigators are still trying to find out the purpose of the import of such a huge quantity of heroin in India. Narcotics trade has been used for decades to fund terrorist activities inside India. On regular basis, consignments of drugs are seized at the Punjab and Jammu borders which are sent from Pakistan to fund terrorist organisations.

- A possible role of Pakistan-based elements is also being examined. The syndicate had roped in several local people to facilitate the smuggling.

  * The Central government may enlist the National Investigation Agency (NIA) for undertaking a comprehensive probe into the drug seizure.

4. Sleeper cells

» Mains:: OGWs and sleeper cells- Security challenges

Context:

- The arrest of several persons in Kerala by the National Investigation Agency (NIA) in connection with terror-related cases.

Details:

- NIA has filed chargesheet against the suspects for running Islamic State of Iraq and the Levant (IS) propaganda channels on social media platforms, propagating violent jihad and radicalising and recruiting gullible youth. The recruited are then made to communicate with online handlers based abroad. The handlers use the person for uploading online content, collection of arms and ammunition, preparation of IEDs, terror funding and even attacks.

- One of the accused was engaged in raising and distributing funds for propagating the activities of the IS in India.

Concerns:

- The NIA says its investigations have revealed that the IS is trying to spread its presence in India. The recent developments have also raised concerns about suspected sleeper cells of the Islamic State (IS) operating in the State of Kerala.

  * A sleeper cell refers to a cell, or isolated grouping of agents, that lies dormant until it receives orders or decides to act. Given the secrecy with which such a group works, it is more effective in resisting detection or penetration by law enforcement agencies.

5. Peace deal inked to end Karbi unrest

» Prelims: Karbi Anglong region

» Mains: Secessionist movements in the North east and addressing them through both military and non military measures.

Context:

- A tripartite agreement among five insurgent groups of Assam, the Centre and the State government was signed recently.

  * The insurgent groups which signed the peace agreement included the Karbi Longri North Cachar Hills Liberation Front, the People's Democratic Council of Karbi Longri, the United People's Liberation Army and the Karbi People's Liberation Tigers factions.

- As per the peace accord, more than 1,000 armed cadres who give up violence and join the mainstream would be suitably rehabilitated.

- The Centre will provide for a special development package of Rs. 1,000 crore over the next five years, to undertake development projects for the Karbi areas.

- The agreement proposes to give more legislative, executive, administrative and financial powers to the Karbi Anglong Autonomous Council (KAAC).

  * The Consolidated Fund of the State of Assam will be amended to meet the resources of the Karbi Anglong Autonomous Council

- The Government of Assam will set up a Karbi Welfare Council to focus on the development of the Karbi people living outside the Karbi Anglong Autonomous Council area.

Significance:

- The agreement while proposing for greater autonomy for the Karbi Anglong region which will help protect the identity, language and culture of the Karbi people also ensures the integrity of Assam.

- This balancing of interests of all the stakeholders will help end years of violence in the Karbi Anglong region.

- Also this peace agreement along with the earlier peace accords like the one with National Liberation Front of Tripura (NLFT), Bru accord, Bodo Peace accord will go a long way in ending the vicious cycle of insurgency and violence in North east India and enable the peaceful development of the region.

Security Challenges – Left Wing Extremism

6. Left Wing Extremism

  » Prelims: Security Related Expenditure (SRA) scheme; CAPFs

  » Mains: Challenges posed by LWE in India and measures to counter it

Context:

- Union Home Minister chaired the meeting to review the security and other developmental aspects in the Left-Wing Extremism (LWE)-hit States.

Left Wing Extremism:

- Left Wing Extremism (LWE) is the term used to describe Maoist insurgency in selected states in India.

- LWE movement has its roots in the Naxalbari area of West Bengal in the late 1960s.

- The Maoist insurgents started running a parallel system of administration in parts of central and eastern India.

- Left-wing extremism (LWE) is one of the biggest internal security threats facing the country today.

Details:

- According to data provided by the Ministry of Home Affairs (MHA), the geographical influence of Maoists has contracted to only 41 districts in the country. Earlier, in 2010, 96 such districts in 10 States accounted for Left Wing Extremism (LWE).

- The Chief Ministers of Jharkhand, Madhya Pradesh, Bihar, Telangana, Maharashtra and Odisha were present, while Chhattisgarh, West Bengal and Kerala were represented by Directors-General of Police and Chief Secretaries. Andhra Pradesh was represented by its Home Minister.

- The LWE-affected districts in the State can avail Rs. 33 crore under the Special Central Assistance (SCA) and Security Related Expenditure (SRA) scheme for infrastructure-related projects.

  * Security Related Expenditure Scheme is under implementation since 1996. The objective of the scheme is to supplement the efforts of the States to deal with the Naxalite problem effectively.

  * As per norms, State governments have to reimburse the amount incurred on the deployment of Central Armed Police Forces (CAPF) in a State.

Way Forward:

- The Maoist insurgency still has potency in South Bastar in Chhattisgarh, the Andhra-Odisha border and in some districts in Jharkhand. These States must focus on expansive welfare and infrastructure building even as security forces try to weaken the Maoists.

- The Maoists must be compelled to give up their armed struggle and this can only happen if the tribal people and civil society activists promoting peace are also empowered.

- The Indian government should not be satisfied with the mere weakening of the Maoist insurgency and reduce commitments made for the developmental needs of some districts of concern.

- The Union government and the States must continue to build on the successes such as the expansion of welfare and rights paradigms in limiting the movement and also learn from failures that have led to the continuing violence in some districts.

7. NATGRID

» Prelims: NATGRID- Involved agencies

» Mains: Use of technology to enhance internal security scenario

Context:

• The Prime Minister is expected to launch the National Intelligence Grid or NATGRID shortly.

Details:

• The National Intelligence Grid or NATGRID is the integrated intelligence grid connecting databases of core security agencies of the Government of India.

• It is a robust intelligence gathering mechanism related to immigration, banking, individual taxpayers, air and train travels.

• First conceptualised in 2009, NATGRID seeks to become the one-stop destination for security and intelligence agencies to access databases related to immigration entry and exit, banking and telephone details of a suspect on a "secured platform".

  * The ambitious electronic database was mooted after the 26/11 Mumbai terror attacks in 2008.

• The data will be procured by NATGRID from 21 organisations such as telecom, tax records, bank, immigration, etc.

• NATGRID will act as a link between intelligence and investigation agencies.

• NATGRID aims to provide cutting-edge technology to enhance India's counter-terror capabilities.

8. Logistics agreement with Russia

» Prelims: Reciprocal Exchange of Logistics Agreement (RELOS); India's logistics agreements

• India is all set to conclude the bilateral logistics agreement- the Reciprocal Exchange of Logistics Agreement (RELOS) with Russia.

  * The logistics agreement would facilitate access to military facilities for exchange of fuel and provisions on mutual agreement. This would help simplify logistical support and increase operational turnaround of the forces when operating away from India.

  * The Navy would be the biggest beneficiary of such logistics agreement.

India's logistics agreements:

• India has signed several logistics agreements with all Quad countries, France, Singapore and South Korea beginning with the Logistics Exchange Memorandum of Agreement (LEMOA) with the U.S. in 2016.

• The logistics agreement with the U.K. is in the final stages of conclusion. Negotiations with a few more countries including Vietnam are in the preliminary stages.

9. Agni-V missile

• Agni-V is an Indian nuclear-capable intercontinental ballistic missile (ICBM) developed by the Defence Research and Development Organisation.

• The exact range of the Agni-V missile is classified. The missile is believed to have a range of over 5,000 and expandable upto 8,000 km.

• It is a three-stage solid-fuelled missile.

• Agni-V incorporated advanced technologies involving ring laser gyroscope and accelerometer for navigation and guidance.

  * A ring laser gyroscope based inertial navigation system (RLG-INS) is primarily responsible for guiding the Agni-V to its target. However, Agni-V is equipped with another guidance system called micro inertial navigation system (MINGS) as a backup. These are capable of interacting with Indian and non-Indian satellite navigation systems.

• Agni-V is also expected to feature Multiple independently targetable re-entry vehicle (MIRVs) with each missile being capable of carrying 2–10 separate nuclear warheads.

  * While single-warhead missiles are generally launched against one target, the MIRVed missiles can dispense warheads against multiple targets even separated by hundreds of kilometres.

  * The technology will minimise the requirement of a number of missiles providing an edge in battle preparedness. MIRVs also help ensure a credible second strike capability even with few missiles.

• India is the eighth country to have intercontinental ballistic missiles after the US, UK, Russia, China, France, Israel and North Korea.

• Agni V is primarily for enhancing India's nuclear deterrence against China.

Context:

- China has cited a United Nations Security Council (UNSC) resolution issued after the 1998 nuclear tests to question India's first user trial of nuke capable intercontinental-range ballistic missile (ICBM) Agni-V signalling its induction in the armed forces.

10. Arjun Mk-1A tanks

- The Main Battle Tank Mk-1A is a new variant of Arjun tank designed to enhance fire power, mobility and survivability.
- It involves new features and more indigenous content from the Mk-1 variant.
- The MBT Arjun Mk-1A was designed and developed by the Combat Vehicles Research and Development Establishment (CVRDE), along with the other laboratories of the Defence Research and Development Organisation (DRDO).

Context:

- The Defence Ministry has placed an order with the Heavy Vehicles Factory (HVF), Avadi, Tamil Nadu for the supply of 118 indigenous Arjun Mk-1A main battle tanks for the Army.

11. C-295MW transport aircraft

- The C-295MW is a plane of 5-10 tonne capacity and has a rear ramp door for quick reaction and para dropping of troops and cargo. All 56 aircraft will be installed with indigenous Electronic Warfare Suite.
- It also has a proven capability of operating from short or unprepared airstrips.
- The C-295MW transport aircraft are meant to replace the Indian Air Force's ageing 56 Avro aircraft that were procured in the 1960s.

Context:

- The procurement of 56 C-295MW transport aircraft has been approved by the Cabinet Committee on Security.
- This is the first project of its kind in which a military aircraft will be manufactured in India under technology transfer by a private company. The project would give a boost to aerospace ecosystem in India wherein several Micro, Small and Medium Enterprises spread over the country would be involved in manufacturing of parts of the aircraft.

12. LCA-Mk2

Context:

- According to a senior scientist from the Aeronautical Development Agency (ADA), LCA-Mk2 would be rolled out in 2022. The detailed design has been completed.

The New Tejas Mk II (LCA Mk2):

- The aircraft features enhanced range and endurance including an onboard oxygen generation system, which is being integrated for the first time.
- Heavy weapons of the class of Scalp, Crystal Maze and Spice-2000 will also be integrated on the Mk2.
- The LCA-Mk2 will be a heavier and much more capable aircraft than the current LCA variants.
- The Mk2 is 1,350 mm longer featuring canards and can carry a payload of 6,500 kg compared to the 3,500 kg the LCA can carry.
- The Mk2 will be powered by a more powerful GE-414 engine.
- In February 2021, the Defence Ministry signed a ₹48,000-crore deal with Hindustan Aeronautics Ltd. (HAL) to supply 83 LCA-Mk1A to the Indian Air Force.

Advanced Medium Combat Aircraft (AMCA):

- The initial design of the AMCA was started in 2009.
- It would be a twin-engine stealth aircraft with an internal weapons bay and a diverterless supersonic intake, which has been developed for the first time.
- It will be a 25-tonne aircraft with an internal carriage of 1,500 kg of payload and a 5,500-kg external payload with 6,500 kg of internal fuel.
- The AMCA will have stealth and non-stealth configuration and will be developed in two phases, AMCA Mk1 with an existing GE414 engine and an AMCA Mk2 with an advanced, more powerful engine to be developed later along with a foreign partner.
- The manufacturing and production of the aircraft will be through a special purpose vehicle, which will also have the participation of private industry.

13. Helina- Anti-tank missile

- Helina is a third-generation fire-and-forget class Nag Anti-Tank Guided Missile (ATGM) mounted on an indigenous Advanced Light Helicopter

(ALH), and has a minimum range of 500 metres and a maximum range of 7 kilometres.

Context:

- The helicopter-launched Nag Anti-Tank Guided Missile (ATGM), Helina, being developed indigenously, has completed all trials.

14. Akash Prime missile

Context:

- The Defence Research and Development Organisation (DRDO) successfully tested a new version of the Akash surface-to-air missile Akash Prime from the Integrated Test Range at Chandipur, Odisha.

Background:

Akash Missile:

- It is a medium range multi-target engagement capable missile.
- It was developed as part of the Integrated Guided-Missile Development Programme (IGMDP) other than Nag, Agni, Trishul, and Prithvi missiles.
- The supersonic missile has a range of around 25 km and up to the altitude of 18,000 metres.
- The missile uses high-energy solid propellant for the booster and ramjet-rocket propulsion for the sustained phase.

Details:

- The missile intercepted and destroyed an unmanned aerial target mimicking an enemy aircraft in its maiden flight test.
- In comparison to the existing Akash System, Akash Prime is equipped with an indigenous active Radio Frequency (RF) seeker for improved accuracy.
- Other improvements also ensure more reliable performance under low-temperature environments at higher altitudes.

15. Hansa New Generation Aircraft

Context:

- Hansa New Generation (NG) aircraft completed its maiden flight.

About Hansa New Generation (NG) aircraft:

- Hansa NG aircraft has been designed and developed by CSIR-National Aerospace Laboratories (NAL)
  - * National Aerospace Laboratories (NAL), is India's first & largest aerospace firm.

  - * It was established by the Council of Scientific and Industrial Research (CSIR)
  - * The firm closely operates with HAL, DRDO and ISRO and has the prime responsibility of developing civilian aircraft in India.

- The unique features of Hansa-NG are glass cockpit with cabin comfort, high efficient digitally controlled engine, electrically operated flaps, Long endurance, low acquisition and Low operating cost.
- The defence sector can also use Hansa-NG for cadet training and coastal surveillance
- It will help create job training opportunities for ITI and diploma holders in various aircraft building and training disciplines

16. AUSINDEX

Context:

- Indian and Australian navies commenced the bilateral exercise AUSINDEX.

Details:

- From the Indian Navy, INS Shivalik and INS Kadmatt are participating in AUSINDEX 2021, the fourth edition of the bilateral naval exercise.
- They form part of the Indian Navy's Eastern Fleet based at Visakhapatnam under the Eastern Naval Command.
- Both are indigenously designed and built.

About AUSINDEX:

- AUSINDEX is a bilateral maritime exercise between India and Australia that commenced in 2015.
- AUSINDEX 21 provides both Navies with an opportunity to strengthen joint defence capabilities in support of a stable and secure Indo-Pacific region.
- It will further strengthen bilateral partnership and interoperability with the Royal Australian Navy in the Indo-Pacific region.
- AUSINDEX has increased in complexity each year the drills have been organized.

17. Exercise 'Samudra Shakti'

Context:

- Indian Navy and Indonesian Navy participate in exercise 'Samudra Shakti'.

About Exercise Samudra Shakti:

- Samudra Shakti is a bilateral exercise between the navies of India and Indonesia that was conceived in 2018.

- It involved complex maritime operations including Military Interdiction Operations (MIO), Cross Deck Landings, Air Defence serials, Practice Weapon Firings, Replenishment Approaches and Tactical Manoeuvres.

- The exercise aims to strengthen the bilateral relationship, enhance mutual understanding and interoperability in maritime operations between the two navies.

- The exercise will also provide an appropriate platform to share best practices and develop a common understanding of Maritime Security Operations.

Military Exercises

18. Kazind

- It is the annual bilateral joint exercise of the armies of India and Kazakhstan.

- This exercise will provide an impetus to the ever growing military and diplomatic ties between the two nations.

- The joint exercise also reflects the strong resolve of both nations to counter terrorism and will to stand shoulder to shoulder to combat the same.

Military Exercises

19. SCO Peaceful Mission 2021

Context:

- Indian Military Contingent participates in the 6th Edition of Exercise SCO Peaceful Mission 2021 at Orenburg, Russia.

Exercise SCO Peaceful Mission:

- Joint Counter Terrorism Exercise PEACEFUL MISSION is a Multilateral Exercise, which is conducted biennially as part of military diplomacy between Shanghai Cooperation Organisation (SCO) member states.

- The aim of the exercise is to foster close relations between SCO member states and to enhance abilities of the military leaders to command multi-national military contingents.

- The exercise will enable sharing of best practices between the Armed Forces of SCO nations.

- The exercise will also provide an opportunity to the Armed Forces of SCO Nations to train in Counter-Terrorism Operations in an urban scenario in a multinational and joint environment.

- The scope of the exercise includes professional interaction, mutual understanding of drills & procedures, establishment of joint command & control structures and elimination of terrorist threats.

Military Exercises

20. Zapad

- Zapad is a multi-nation military exercise which was held in Russia

- It was one of the theatre level exercises of the Russian Armed Forces and it focused primarily on operations against terrorists.

- Over a dozen countries from the Eurasian and South Asian regions participated in the event.

    * From India, the NAGA Battalion group participated in the exercise

    * The exercise aimed to enhance military and strategic ties amongst the participating nations

- China and Pakistan took part in the exercise as observers.

Military Exercises

21. India−Africa Defence Dialogue

Context:

- India–Africa Defence Dialogue to be held alongside every DefExpo.

Background:

- The first-ever India Africa Defence Ministers Conclave (IADMC) was held in Lucknow, Uttar Pradesh in conjunction with DefExpo in February 2020.

- This was the first in the series of pan Africa events at the ministerial level in the run-up to the India Africa Forum Summit IV.

- A Joint Declaration, 'Lucknow Declaration' was adopted after the conclusion of IADMC 2020 as an outcome document of the Conclave.

What's in news?

- In furtherance to the Declaration, India proposes to institutionalise the India Africa Defence Dialogue during successive DefExpos to be held once every two years.

- This will help build on the existing partnerships between African countries & India and to explore new areas of convergence for mutual engagements including areas like capacity building, training, cyber security, maritime security and counter terrorism.

- The ManoharParrikar Institute for Defence Studies and Analyses shall be the knowledge partner of India Africa Defence Dialogue and will assist in providing necessary support for enhanced defence cooperation between India and Africa.

- The next India Africa Defence Dialogue will be held on the sidelines of the DefExpo scheduled to be held in Gandhinagar in March 2022.

- The broad theme of this India Africa Defence Dialogue will be 'India – Africa: Adopting Strategy for Synergizing and Strengthening Defence and Security Cooperation'.

Miscellaneous

22. **Israeli firm unveils armed robot to patrol borders**

- State-owned Israel Aerospace Industries has unveiled a four-wheel-drive remote-controlled armed robot- "REX MKII" which is capable of patrolling battle zones, tracking infiltrators and opening fire.

- The unmanned vehicle is the latest addition to the world of drone technology, which is rapidly reshaping the modern battlefield.

- While proponents argue that such semi-autonomous machines would allow armies to protect their soldiers, critics fear this marks another dangerous step toward robots making life-or-death decisions. They fear that any radio frequency interference, resulting in loss of control could lead to unnecessary fatalities.

ENVIRONMENT AND ECOLOGY

1. Climate Action and Finance Mobilization Dialogue

» Prelims: CAFMD provisions; India-US climate and clean energy partnership;India's renewable energy targets

» Mains: Significance of CAFMD

Context:

• Official visit of the U.S. Special Presidential Envoy for Climate to India for the launch of the Climate Action and Finance Mobilization Dialogue (CAFMD).

* Climate Action and Finance Mobilization Dialogue (CAFMD) is one of the main tracks of the India-US Climate and Clean Energy Agenda 2030 Partnership. The U.S.-India Agenda 2030 Partnership was announced at the Leaders Summit on Climate in April 2021.

Details:

• Climate Action and Finance Mobilization Dialogue (CAFMD) would be based on the following three pillars.

* Climate action: It would consist of joint proposals looking at ways to reduce Green House gases emissions in the next decade.

* Renewable energy: It would set out a roadmap to achieving the 450GW renewable energy target in transportation, buildings and industry.

» India has committed to installing 450 GW of renewable energy capacity by 2030 as part of its climate action efforts and the U.S. has envisaged interest in facilitating and speeding India's clean energy transition.

* Finance: This would involve collaborating on attracting finance for renewable energy projects. It will focus of delivering climate finances primarily as grants and concessional finance as envisaged under the Paris Agreement.

Significance of CAFMD:

Speed up clean energy transition:

• The United States will collaborate with India to work towards installing 450 GW of renewable energy by 2030 by helping in bringing finance, technology and other elements needed to achieve the goal.

• This will help speed India's clean energy transition.

Help India in its climate action efforts:

• It will strengthen India-US bilateral cooperation on climate and environment.

• Engagement with the U.S. would help India expand mitigation, adaptation action.

Raise global climate action:

• The visit of the U.S. Special Presidential Envoy for Climate to India is aimed at helping raise global climate ambition with support from the developed countries to developing countries in the form of finance and technology transfer. The CAFMD is a step in this direction.

• A key mission for the U.S. Special Presidential Envoy for Climate is to build global support for 'Net Zero' or carbon neutrality by 2050.

* A major theme building ahead of the climate talks is Carbon Neutrality. The goal of carbon neutrality will be critical to ensuring that the earth does not heat up an additional half a degree by 2100 and will be in line with the temperature targets envisaged under the Paris climate agreement.

* As of now a little over 120 countries have committed, with varying degrees of firmness, to reaching carbon neutrality by 2050. India however has not committed to a 2050 plan for Carbon Neutrality.

India's stand on the net zero targets:

• The U.S. Special Presidential Envoy for Climate has stated that he had not received a firm pledge from New Delhi on the issue on carbon neutrality as yet.

• Indian government has stated that it does not consider the "net zero" goal its only priority at present and is focused on the "key issues" of climate justice and sustainable lifestyles.

* Climate justice is a term used to frame climate change as an ethical and political issue, rather than one that is purely environmental or physical in nature. Climate justice examines concepts such as equality, human rights, collective rights, and the historical responsibilities for climate change.

• India has argued that the emphasis on net zero leads to inequality between the demands of developed societies from developing countries on emissions cuts and has called upon the developed world to do more on the issue of climate action.

- While India is the third largest emitter of greenhouse gases, following China and the U.S., in absolute terms, India's per capita emissions continues to be below the global average and much lower compared to that of China and the U.S.

- India is well placed to meet targets set under its INDCs. At the end of 2020, the Environment Ministry declared that India had achieved 21% of its 33%-35% target to cut emissions intensity of GDP by 2030, and was generating 37.9% of the targeted 40% of power from renewables.

Initiatives in news

2. Why is it difficult for India to get to net zero?

» Prelims: Concept of net zero/carbon neutrality; India's INDCs

» Mains: Arguments in favour of and against adopting net zero goals

Context:

- The recent visit of the U.S. Special Presidential Envoy for Climate to India in a bid to raise global climate ambition ahead of the upcoming UN Climate Change conference in Glasgow failed to receive any assurance on carbon neutrality from India.

  * The Indian government has stated that it does not consider the "net zero" goal its only priority at present and is focused on the "key issues" of climate justice and sustainable lifestyles.

Carbon neutrality goals:

- Major GHG emitters- China, U.S. and the E.U. have committed to a net zero target.

  * China has pledged to peak CO2 emissions before 2030 and achieve carbon neutrality by 2060.

  * The U.S., as the second biggest emitter with large historical emissions has pledged a 2050 net zero plan.

  * The European Union (EU) member-states have committed themselves to reducing emissions by at least 55% by 2030 over 1990 levels and carbon neutrality by 2050.

- According to the United Nations, the net zero concept is being considered by about 130 countries that have either committed themselves to carbon neutrality by 2050, or are considering that target.

- India, as the third largest GHG emitter is under pressure to come up with a higher ambition on cutting CO2 emissions including a target for carbon neutrality.

India's commitments:

- India has pledged to cut the emissions intensity of GDP by 33%-35% by 2030 over the 2005 level.

- India has also set ambitious renewable energy targets of around 450 GW by 2030. It plans to increase the share of clean and renewable energy in total power production to 40% by 2030.

- By 2030, India also intends to increase our carbon sinks by creating an additional capacity equivalent to 2.5 to 3 billion tonnes of CO2 through aforestation efforts.

- India is working to reduce its emissions, aligned with the goal of less than 2°C global temperature rise. Notably, India's plan is not aligned with the goal of 1.5°C temperature rise.

- India is not in favour of a binding commitment towards carbon neutrality.

Arguments in favour of adopting net zero target:

- Given recent reports pointing towards the rapid global warming, there are questions over Paris climate commitments. This makes measures such as achieving carbon neutrality inevitable in the global climate action efforts.

- Given the global impact of climate change despite the low contribution of GHG from the developing world and the fact that India continues to remain extremely vulnerable to climate change risks, it would be in India's interests to adopt ambitious climate action targets like the carbon neutrality goal.

- India is among the most vulnerable countries to climate change. It faces harmful impacts related to sea-level rise, heat stress, drought, water stress and flooding, biodiversity and natural disasters.

- A net zero target can put India on a green development trajectory, attracting investment in innovative technologies. This could provide a new avenue for economic growth in India.

  * The transition of the global economy to net zero emissions is the biggest commercial opportunity in history. In just the energy sector alone, an estimated $1.6 to $3.8 trillion of investment is required every year until 2050.

  * Governments, as well as businesses, are increasing climate action, in order to take advantage of the massive opportunities arising as the global economy shifts to net zero emissions. In 2020, investors injected over $500 billion into climate transition.

- India is already the third-largest emitter in the world, and is set to be the largest as the United States, China, and the European Union are all now signed up to net zero.

Arguments against adopting net zero target:

- The UN Framework Convention on Climate Change (UNFCCC) provides for common, but differentiated, responsibilities of nations. The goal of carbon neutrality seems to be against this concept as it pushes developing countries to adopt steeper targets and forego cheaper developmental avenues which the developed world had access to.

- Carbon neutrality deflects important aspects such as emission reduction, improving energy efficiency and sustainable lifestyle practices and emphasis more on nascent technology to suck out CO2 from the atmosphere.

Hurdles for India:

- The heavy reliance on coal is a major hurdle for India in committing to a net zero target.

  * According to the International Energy Agency's India Energy Outlook 2021, coal accounts for close to 70% of electricity generation in India.

New developments

3. Substitute for single-use plastics

  » Prelims: Single use plastics

  » Mains: Issue of plastic pollution; Substitutes for single use plastics

Context:

- Researchers from Indian Institute of Science, Bengaluru (IISc) have developed a biodegradable substitute for single-use plastic.

Background:

Plastic pollution:

- There has been an exponential surge in the usage of single use plastics. According to a report by Central Pollution Control Board of India, for the year 2018-2019, 3.3 million metric tonnes of plastic waste are generated in India. Some experts point out the fact that this figure might as well be a gross under-estimation as well.

- More worryingly, only 9% of all plastic waste produced in the world is recycled and around 79% enters the environment.

- Landfills are choking with single use plastics. Accumulation of such large amounts of plastic waste is detrimental to the environment and ecology more so for aquatic ecosystems where a large amount of plastic waste ultimate makes its way to.

Details:

- The researchers have developed a polymer using non-edible oil and cellulose extracted from agricultural stubble.

  * The process makes use of non-edible Castor oil. However other non-edible oils such as jatropha oil and neem oil could also be experimented with.

- The proportion of cellulose to non-edible oil can be varied to tune the flexibility of the polymer.

  * Higher amount of cellulose makes the polymer stiffer while higher proportion of oil made the material more flexible

- The sheets of polymer have performed satisfactorily in the leaching and thermal stability tests.

Significance:

Environmental friendly:

- The newly developed material is biodegradable and non toxic.

- This would be a viable substitute for single-use plastic that can help mitigate the problem of accumulating plastic waste in the environment.

Multi-purpose material:

- Given the fact that the material's flexibility is tuneable makes its viable for multi-purpose uses. These polymers can be moulded into sheets having properties suitable for making bags, cutlery or containers.

- Given that they are leak proof and non-toxic this material could also be used for food packaging and healthcare applications.

Alternate use for agricultural stubble:

- Given that the process makes use of agricultural stubble as a raw material ensures that the agricultural stubble are not burnt which in turn helps in avoiding air pollution in several States.

Environmental pollution and degradation

4. WHO tightens global air quality norms

  » Prelims: WHO air pollution standards; NCAP-objectives, NAAQS- parameters

  » Mains: Air pollution scenario in India- Concerns and measures to be taken

Context:

- The World Health Organization (WHO) has updated the global air pollution standards and set stricter standards.

Background:

Air pollution:

- Air pollution is a severe health crisis.

- Every year, exposure to air pollution is estimated to cause 7 million premature deaths and result in the loss of millions more healthy years of life.

* Long-term exposure to outdoor and household air pollution leads to stroke, heart attack, diabetes, lung cancer, chronic lung diseases and neonatal diseases

Indian scenario:

- Major cities in India experience annual PM2.5 and PM10 trends much higher than the WHO's air quality guidelines.
    * In fact in 2020, the annual average level of PM2.5 in Delhi was 98 micrograms per cubic metre, against the national standard of 40.
- According to the State of Global Air 2020, air pollution is the largest risk factor for death among all health risks in India.

Efforts being taken in India:

- India has a dedicated National Clean Air Programme that aims for a 20% to 30% reduction in particulate matter concentrations by 2024 in 122 cities, keeping 2017 as the base year for the comparison of concentration.
    * The selected 122 cities do not meet the National Ambient Air Quality Standards (NAAQS) when calculated from 2011 to 2015.
        » NAAQS sets limits for SO_2, NO_2, particulate matter (PM2.5 and PM10), Ozone, Lead, Carbon Monoxide, Ammonia, Benzene, Benzo Pyrene, Arsenic, Nickel.

Details:

- The update by WHO is the first such update since 2005.
- Notably, the WHO's air quality norms are not legally binding on countries, but rather a general guide for what nations should set as goals.
- The WHO has tightened the upper limits for both PM2.5 and PM10 levels.

Better standards

The World Health Organization (WHO) has updated its global air pollution standards from the limits set in 2005. A look at how it compares with India's National Ambient Air Quality Standards (NAAQS) last revised in 2009

Figures in g/m3

	WHO (2005)	WHO (updated)	India (NAAQS)
PM2.5 annual mean	10	5	40
PM2.5 24-hour mean	25	15	60
PM10 annual mean	20	15	60
PM10 24-hour mean	50	45	100

- This update is in recognition of the emerging science that the impact of air pollution on health is much more serious than earlier envisaged.
- The move does not have an immediate effect in India as the National Ambient Air Quality Standards (NAAQS) do not meet the WHO's existing standards. However, the WHO update sets the stage for eventual shifts in policy towards evolving stricter national standards and it will put more pressure on the government to form policies to achieve stricter standards of air pollution.

Species in news-Fauna

5. Vultures

» Prelims: Vulture species in India- IUCN status and habitat range

» Mains: Significance of vulture in ecological balance; threats and conservation efforts

Drastic decline in vulture population in India:

- Once very common, vultures are on the verge of extinction in India.
    * The vulture population in India was estimated at 40 million once. Populations of Oriental white-backed vultures, Long-billed vultures and Slender-billed vultures have declined by over 97% since the 1990s, and that of the Oriental white-backed vultures by a drastic 99.9%.

Threat:

- Studies have shown that the vulture population was mainly affected by the veterinary usage of Diclofenac in India.
    * The Diclofenac drug is toxic to vultures if they feed on carcasses within 72 hours of the drugs' administration to such livestock.
    * Despite Diclofenac being banned, its usage continues illegally in India mainly because it's a very low-cost drug.
- Uncontrolled veterinary usage of non-steroidal anti-inflammatory drugs (NSAID), including Aceclofenac, Ketoprofen and Nimesulide is also adversely affecting the vulture population.
- Quarrying and blasting of stones where vultures nest have also adversely impacted the vulture populations.

Conservation efforts:

- As part of the efforts to conserve the dwindling population of vultures in India, eight captively bred Oriental white-backed vultures were released into the wild for the first time in India from the Jatayu Conservation and Breeding Centre, Pinjore.
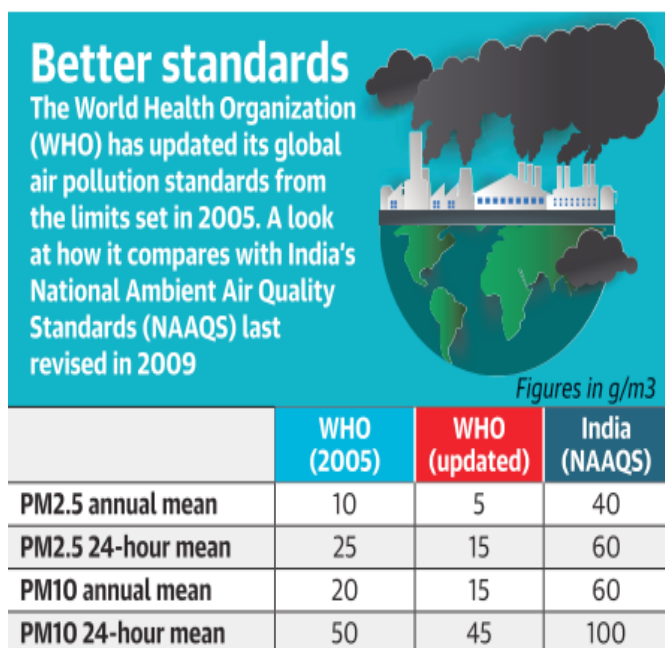
* Jatayu Conservation and Breeding Centre is situated at the Bir Shikargah Wildlife Sanctuary of Haryana.

* Oriental white-backed vultures are critically endangered.

• These captive bred vultures have blended well into the natural habitat outside the aviary, offering hope to conservationists.

6. Shape shifters

» Mains: Impact of climate change on animals

• In a major indication of climate change affecting not only humans but also animals, some warm-blooded animals are shape shifting and getting larger beaks, legs and ears to better regulate their body temperatures as an adaptation to a warming planet.

* Strong shape shifting has particularly been reported in birds with some species indicating larger bill sizes.

* There have also been reported changes in mammalian species. Researchers have reported tail length increases in wood mice and tail and leg size increases in masked shrews.

Environmental Pollution and Degradation

7. Climate migrants

» Prelims: Groundswell report; Global Climate Change risk index

» Mains: Climate crisis and its impact on migration; associated concerns

Context:

• The second part of the Groundswell report

Details:

• The report warns that the impact of slow-onset climate change, such as water scarcity, decreasing crop productivity and rising sea levels, could lead to millions of "climate migrants" by 2050.

* Under the most pessimistic scenario of climate change, with a high level of emissions and unequal development, the report forecasts up to 216 million people to leave their homes in the next three decades.

* In the most climate-friendly scenario, with a low level of emissions and inclusive, sustainable development, the world could still see 44 million people being forced to leave their homes.

• The report analysed six regions- Latin America; North Africa; Sub-Saharan Africa; Eastern Europe and Central Asia; South Asia; and East Asia and the Pacific.

* Sub-Saharan Africa remains the most vulnerable region due to desertification, fragile coastlines and the population's dependence on agriculture.

* North Africa is predicted to have the largest proportion of climate migrants, with 19 million people moving, equivalent to roughly 9% of its population.

* In South Asia, Bangladesh remains the most vulnerable.

• The findings of the report indicate the potency of climate to induce migration within countries.

• The report also calls for urgent action to reduce global emissions and bridge the development gap to reduce the vulnerability of the poor.

Additional information:

• Notably India is ranked at the 7th position in the Global Climate Risk Index 2021. India's score and position improvised in comparison to the 2020 report.

Species in news-Fauna

8. Humboldt penguins

» Prelims: Humboldt penguins- Habitat range and IUCN status

Humboldt penguins:

• The Humboldt penguin is a South American penguin living mainly in the Humboldt National Reserve in the North of Chile, although its habitat comprises most of coastal Peru.

• In South America the Humboldt penguin is found only along the Pacific coast.

• Humboldt penguins are medium-sized penguins.

Environmental Pollution and Degradation

9. Waste-to-energy plants

» Prelims: Waste to energy plants- associated terminologies

» Mains: Concerns associated with waste to energy plants and alternatives available

Context:

• Civil society groups, NGOs and individuals have opposed the proposal to set up a waste-to-energy plant at Bandhwari landfill off Gurugram-Faridabad road.

Objections to waste-to-energy plant:

• The waste-to-energy plant which involves burning of the waste material to derive heat energy results into the emission of particulate matter and gaseous pollutants including many carcinogens.

- Also unlike the land and water pollution induced by landfills which is limited to some specific areas, the air pollution created by WtE plant can spread across many kilometres, depending on the prevailing wind patterns.

Alternatives:

- There should be the emphasis on segregation of waste into wet and dry waste components at the source level itself. While the wet waste (organic) should be dealt with through processes such as composting and anaerobic digestion the dry waste should be recycled.

- Also rather than a centralized approach, a decentralized approach must be adopted wherein the garbage produced in each of the municipal wards should be treated within the ward itself.

Species in news-Fauna

10. Indian biologist wins global award for turtle conservation

- » Prelims: Red-crowned roofed turtle, Northern river terrapin and Black softshell turtle
- » Mains: significance of turtles to ecological balance

Context:

- Indian biologist Shailendra Singh has been awarded the Behler Turtle Conservation Award for his contribution in reviving the status of three critically endangered turtle species.

  - * The red-crowned roofed turtle (Batagur kachuga)

    - » The red-crowned roofed turtle or Bengal roof turtle is a species of freshwater turtle endemic to South Asia.

    - » The large Batagur turtles are probably the most threatened freshwater turtles in India. Their populations have now been drastically reduced due to poaching for their meat and shells, accidental drowning in fishing gear, water pollution, hydroelectric infrastructure projects, habitat destruction by sand mining, and egg predation by jackals.

  - * Northern river terrapin (Batagur baska)

    - » The northern river terrapin (Batagur baska) is a species of riverine turtle native to Southeast Asia. It is considered extinct in much of its former range.

    - » The northern river terrapin is one of Asia's largest freshwater and brackwater turtles.

  - * Black softshell turtle (Nilssonia nigricans)

    - » The black softshell turtle or Bostami turtle (Nilssonia nigricans), previously placed in genus Aspideretes, is a species of freshwater turtle found in India (Assam) and Bangladesh. It shares some degree of similarity with the Indian peacock softshell turtle. Believed to have developed through inbreeding in this species.

    - » Consumption of turtle meat and eggs, silt mining, encroachment of wetlands and change in flooding pattern are some of the major threats to this species.

New Developments

11. Green hydrogen

- » Prelims: Green hydrogen
- » Mains: Significance and challenges

Context:

- The article discusses the prospects of using green hydrogen as an alternative to existing fossil fuels.

Green Hydrogen:

- 'Green hydrogen' is hydrogen made by electrolysis of water using renewable power from wind and solar.

  - * Electrolysis splits water into hydrogen and oxygen.

Significance of green hydrogen:

Imperative for the target of 'net zero' emission:

- Green hydrogen can be a viable alternative to fossil fuels and can be utilised for the generation of power and will be a major step forward in achieving the target of 'net zero' emission.

- Fossil fuels are responsible for the production of over 830 million tons per annum of carbon dioxide, which is giving rise to global warming and climate change. Thus the use of green hydrogen in place of the carbon intensive fossil fuels will help mitigate greenhouse gas emissions and will be imperative to achieve the target of expert guidelines on global warming to remain under $1.5°$ C.

Pollution free energy source:

- Also given that green hydrogen only emits water as its emission product, the usage of green hydrogen will also help end the premature deaths due to air pollution.

  - * In 2018, 8.7 million people died prematurely as result of air pollution from fossil fuels

Alternative source of energy:

- The International Energy Agency (IEA) forecasts the additional power demand to be to the tune of 25%-30% by the year 2040 to meet the energy requirements of the growing population.

- Green hydrogen can be an important alternative fuel source given the circular nature of this fuel as compared to the fast depleting reserves of fossil fuels.
    * Hydrogen offers a circular sustainable fuel utilization cycle wherein water is electrolyzed to give hydrogen fuel which is burnt to give energy and water again.
- Also for a country like India which is the world's fourth largest energy consuming country (behind China, the United States and the European Union), increased usage of green hydrogen will help it reduce its dependence on imported fossil fuels and thus help usher in energy security while also helping save valuable foreign exchange.

Abundantly available:

- Hydrogen is the most abundant element on the planet making it easily available. However it should be noted that given its high reactivity it is rarely available naturally in its elemental form.
- Water which is a source of green hydrogen is easily available.

Energy-rich source:

- Hydrogen has an energy density almost three times that of diesel. This makes it a rich source of energy.

Challenges in its utilisation:

Storage:

- The major challenge in the usage of green hydrogen will be its storage.
- Given the very low density of hydrogen, it will require large volumes for its storage. Alternatively if one chooses to store it in the liquid form, to reduce the storage space requirement that requires the maintenance of temperatures as low as minus 253° C. This will entail huge costs.

Cost:

- The 'production cost' of 'Green hydrogen' has been considered to be a prime obstacle to the usage of green hydrogen.
    * According to studies by the International Renewable Energy Agency, the production cost of this 'green hydrogen is expected to be around $1.5 per kilogram by adopting various conservative measures.

Initiatives using green hydrogen:

- Saudi Arabia is working to establish a $5 billion 'Green hydrogen' manufacturing unit.
- The Indian Railways have announced the country's first experiment of a hydrogen-fuel cell technology-based train by retrofitting an existing diesel engine.

Conclusion:

- It is high time that India focus its attention towards going in for clean energy, decarbonising the economy and adopting 'Green hydrogen' as an environment-friendly and safe fuel for the next generations.

Additional Information:

- Black hydrogen is produced by use of fossil fuel
- Pink hydrogen is produced through electrolysis, but using energy from nuclear power sources.
- Blue hydrogen is when natural gas is split into hydrogen and CO2 either by Steam Methane Reforming (SMR) or Auto Thermal Reforming (ATR), but the CO2 is captured and then stored. As the greenhouse gasses are captured, this mitigates the environmental impacts on the planet.

Initiatives in news

12. **Global Methane Pledge**

   » Prelims: Global Methane Pledge; Major Economies Forum on Energy and Climate

Context:

- U.S. President Joe Biden has announced the Global Methane Pledge.

Details:

- Global Methane Pledge is a U.S.–European Union led effort to cut methane emissions by a third by the end of this decade.
    * Methane, a greenhouse gas, is 80 times more potent than carbon dioxide in terms of its global warming capacity.
    * Approximately 40% of methane emitted is from natural sources and about 60% comes from human-influenced sources, including livestock farming, rice agriculture, biomass burning and so forth.
- The announcement was made at the Major Economies Forum on Energy and Climate (MEF).
    * The Major Economies Forum on Energy and Climate was launched in 2009.
    * The MEF is intended to facilitate a candid dialogue among major developed and developing economies, help generate the political leadership necessary to achieve a successful outcome on climate change and advance the exploration of concrete initiatives and joint ventures that increase the supply of clean energy while cutting greenhouse gas emissions.

13. Western Ghats offer major additions to flora

» Mains: Ecological diversity of India

Context:

- The Botanical Survey of India, in its new publication Plant Discoveries 2020 has added 267 new taxa/species to the country's flora.

Botanical Survey of India:

- Botanical Survey of India (BSI) is the apex taxonomic research organization of India.

- It is under the Ministry of Environment, Forest & Climate Change.

- BSI was established on 13th February 1890 under the direction of Sir George King.

Details:

- The 267 new discoveries include 119 angiosperms; 3 pteridophytes; 5 bryophytes, 44 lichens; 57 fungi, 21 algae and 18 microbes.

- In 2020, 202 new plant species were discovered across the country and 65 new records were added.

- Among the new discoveries this year:

  * Nine new species of balsam (Impatiens) and one species of wild banana (Musa pradhanii) were discovered from Darjeeling.

  * One species of wild jamun (Syzygium anamalaianum) was recorded from Coimbatore in Tamil Nadu.

  * A species of fern (Selaginella odishana) was recorded from Kandhamal in Odisha.

- There are 14 new macro and 31 new micro fungi species recorded from various parts of India.

- An assessment of the geographical distribution of these newly discovered plants reveals that 22% of the discoveries were made from the Western Ghats followed by the Western Himalayas.

14. Sea level rise

» Mains: sea level rise- causes and India's vulnerability

Background:

- The Intergovernmental Panel on Climate Change (IPCC) Assessment Report from Working Group I — 'Climate Change 2021: The Physical Science Basis' provides one of the most expansive scientific reviews on the science and impacts of climate change.

- The report discusses five different shared socio-economic pathways for the future with varying levels of greenhouse gas (GHG) emissions. Even in the intermediate scenario, it is extremely likely that average warming will exceed 2°C near mid-century.

Sea Level Rise – A Major Concern:

- Sea level rise will continue even after emissions no longer increase, because oceans respond slowly to warming. Sea-level rise will occur even under the low emissions scenarios.

- Sea level rise occurs mainly due to the expansion of warm ocean waters, the melting of glaciers on land, and the melting of ice sheets in Greenland and Antarctica.

- The global mean sea level (GMSL) rose by 0.2m between 1901 and 2018.

- Projections indicate that sea-level rise as high as 2.3m by 2100. Close to 700 million people worldwide live along the coast.

Issues:

- According to the UN Environment Programme Emissions Gap Report, the world is heading for a temperature rise above 3°C this century (double the Paris Agreement aspiration). And there is deep uncertainty in sea-level projections for warming above 3°C.

- Scientists rely on ice sheet models to estimate future glacier melt.

  * While these models have improved over the years, there are shortcomings in the knowledge and representation of the physical processes.

  * Ice sheets can destabilise rapidly as the water gets warm. Such changes are difficult to model and marine ice cliff instability (MICI) events are not included in the sea-level projections.

- The models do not capture the abrupt and non-linear dynamics of changes that take place.

- Besides, changes in ice-ocean interactions can cause extensive and rapid sea-level rise.

- This happens from the mass loss of ice shelves (ice that flows into cold oceans while attached to the land), which may disintegrate suddenly.

- Therefore, using ice sheet models coupled with ocean models to create probabilistic scenarios for the future is tricky.

Vulnerability of India:

- Communities along the coast in India are vulnerable to sea-level rise and storms.

- With climate change, storms will become more intense and frequent. They will be accompanied by storm surges, heavy rain and flooding.

- Even the 0.1m to 0.2m rise expected along India in the next few decades can cause frequent coastal flooding.

Way Forward:

- The uncertainty regarding a metre or more of sea-level rise before 2100 is related to a lack of knowledge and inability to run models with the accuracy needed. Ignoring the unknowns can prove dangerous.
- Adaptation to sea-level rise must include a range of measures, along with coastal regulation, which should be stricter.
- Coastal communities should be alerted in advance and protected during severe weather events.
- Natural and other barriers should be considered in a limited manner to protect certain vulnerable areas.
- Retreat should be part of the adaptation strategies for some very low-lying areas.

Species in News

15. Ladakh adopts State animal and bird

   » Prelims: Snow leopard and black necked crane- habitat range and IUCN status

Context:

- Two years after it was carved out as a separate Union Territory (UT) from the erstwhile State of J&K, Ladakh has adopted its State animal and State bird.
- Two endangered species, snow leopard (Panther unica) and black-necked crane (Grus nicricollis) have been adopted as the State animal and State bird respectively.

Snow Leopard:

- The snow leopard is a felid in the genus Panthera native to the mountain ranges of Central and South Asia.
- Snow leopard, whose numbers are dwindling wordwide, has been categorised as "vulnerable" in the International Union for Conservation of Nature (IUCN) Red List.

Black-necked crane:

- Black-necked cranes, considered loyal couples, are only found in Ladakh's Changthang region.
- It was the State bird of J&K before August 5, 2019.
- They are classified as Near Threatened in the IUCN Red List.
- It is revered in Buddhist traditions and culturally protected across much of its range.

Initiatives In News

16. Global Ozone Day

   » Prelims: Montreal protocol and ICAP targets

Context:

- India observed the 27th Global Ozone Day on 16 September.

About World/Global Ozone Day:

- World Ozone Day is celebrated on 16th September each year to commemorate the signing of the Montreal Protocol.
- The Day is celebrated every year to spread awareness among people about the depletion of Ozone Layer and the measures taken/to be taken to preserve it.
- The Government of India (Ozone Cell, MoEF&CC) started observing this Day in 1995.
- The theme of World Ozone Day 2021 was "Montreal Protocol – Keeping us, our food and vaccines cool".

India Cooling Action Plan (ICAP):

- The India Cooling Action Plan (ICAP), the first of its kind in the world, was developed by the MoEF&CC, and addresses cooling requirements across sectors and lists out actions which can help reduce the cooling demand through synergies in actions for securing both environmental and socio-economic benefits.
- The ICAP aims to reduce both direct and indirect emissions.
- It was launched in March 2019 by the Environment Ministry.
- The ICAP provides a 20-year perspective and outlines actions needed to provide access to sustainable cooling.
- The Plan seeks to
  * reduce cooling demand across sectors by 20% to 25% by 2037-38,
  * reduce refrigerant demand by 25% to 30% by 2037-38,
  * reduce cooling energy requirements by 25% to 40% by 2037-38,
  * recognise "cooling and related areas" as a thrust area of research under national Science and Technology Programme,
  * training and certification of 100,000 servicing sector technicians by 2022-23, synergizing with Skill India Mission.
- The following benefits would accrue to the society over and above the environmental benefits:
  * Thermal comfort for all – provision for cooling for EWS and LIG housing
  * Sustainable cooling – low GHG emissions related to cooling
  * Doubling Farmers Income – better cold chain infrastructure – better value of produce to farmers, less wastage of produce

* Skilled workforce for better livelihoods and environmental protection
* Make in India – domestic manufacturing of air-conditioning and related cooling equipment
* Robust R&D on alternative cooling technologies – to provide push to innovation in cooling sector

Miscellaneous

17. Himalaya Diwas

Context:

• Himalaya Diwas/Day is observed on 9 September every year in Uttarakhand.

About Himalaya Diwas:

• The Day is celebrated with the aim to conserve the Himalayan ecosystem and region.

• 9 September was officially declared as Himalaya Day in 2015 by the then Chief Minister.

• Himalayan hill towns face several challenges because of poor building planning & designs, poor infrastructure (roads, sewage, water supply, etc.) and unprecedented cutting of trees. This causes serious ecological issues.

• There is an urgent need to develop eco-sensitive hill town plans and designs. There cannot be similar master plans for cities in the plains and the hills considering the ecological differences between these regions.

Initiatives In News

18. Shoonya Campaign

» Prelims: Shoonya campaign

» Mains: Electrification of the transport sector- potential, significance and challenges

Context:

• NITI Aayog, RMI, and RMI India Launch 'Shoonya' Campaign.

About 'Shoonya' Campaign:

• It is an initiative to promote zero-pollution delivery vehicles by working with consumers and industry.

• The campaign aims to accelerate the adoption of electric vehicles (EVs) in the urban deliveries segment and create consumer awareness about the benefits of zero-pollution delivery.

• Industry stakeholders such as e-commerce companies, fleet aggregators, original equipment manufacturers (OEMs) and logistics companies have been scaling up their efforts towards final-mile delivery electrification.

• As part of the campaign, a corporate branding and certification programme is being launched to recognise and promote industry's efforts towards transitioning to EVs for final-mile deliveries.

• An online tracking platform will share the campaign's impact through data such as vehicle kilometres electrified, carbon savings, criteria pollutant savings and other benefits from clean delivery vehicles.

Background:

• Urban freight vehicles account for 10 percent of freight transportation-related CO_2 emissions in India, and these emissions are expected to grow by 114 percent by 2030.

• EVs emit no tailpipe emissions, which can contribute immensely to an improved air quality.

• Even when accounting for their manufacture, they emit 15-40 percent less CO_2 compared to their internal combustion engine counterparts and have lower operational cost.

Environmental Pollution and Degradation

19. SC lashes out at firecracker firms

» Prelims: Pollution caused by fireworks- associated chemicals; Green crackers

Context:

• The Supreme Court lashed out at firecracker manufacturers for violating the spirit of its 2018 judgment banning toxic ingredients such as barium in fireworks.

Issue:

• Many firecracker manufacturers continued to use toxic ingredients fully knowing that the court had banned them.

• Children are employed in these factories and are exposed to the poison.

• The toxic ingredients end up poisoning the air and deteriorating the air quality.

Toxic nature
Conventional firecrackers contain chemicals which produce effects like bright lighting and colours. However, these chemicals can have adverse effects on human health and the environment

Initial ingredient	Use in crackers	Health hazards
Charcoal, potassium nitrate and sulphur	Black powder which is the primary fuel in the cracker	The dust released is hazardous when inhaled; different compounds formed can be carcinogenic
Strontium and lithium	Colouring agent (Red)	Strontium can replace calcium in the body which can be toxic; Lithium releases harmful fumes
Barium	Colouring agent (Orange)	Fumes can cause respiratory and other health issues
Nitrates, chlorates/ perchlorates	Oxidising agents	The compounds can hamper the growth of small children; they remain airborne for days and can be poisonous

- The manufacturers contended that thousands of employees earn their livelihood in the industry.
- The bench said that it had to balance between employment, unemployment and the right to life and health of citizens. And asserted that its prime focus is the "right to life of innocent people".
- The manufacture, sale and use of joined firecrackers [series crackers or laris] are banned as the same causes huge air, noise and solid waste problems – the Supreme Court had directed the Centre in 2018.
- However, the 2018 judgment had balanced employment concerns in the industry and the right to life of citizens by approving the government's suggestions for "green crackers" and those with reduced emissions.

Green Crackers:

- Firework is a device that contains gunpowder and other combustible chemicals which causes striking effects and when ignited they explode. They are mostly used in celebrations, festivals, etc.
- Green crackers are those crackers that do not contain harmful chemicals that would cause air pollution. They are environmentally friendly.
- Green crackers are less harmful as compared to conventional firecrackers and less pollution emission will result in reduced air pollution.
- In green crackers, the commonly used polluting chemicals like aluminium, barium, potassium nitrate and carbon have either been removed or sharply reduced to slow down the emissions by 15 to 30%.ss

Environmental Conservation Efforts

20. Blue Flag Certification

- » Prelims: Blue flag certification- Issuing authority, Indian beaches with this certification; BEAMS initiative
- » Mains: Sustainable tourism- Significance and measures to be taken

Context:

- Two more Indian beaches get the coveted International Blue Flag Certification, making the total tally of Indian beaches with this certification to ten.

What is Blue Flag Certification?

- The Blue Flag is an eco-label (certification) awarded to beaches, marinas and sustainable boat tourism operators that meet a comprehensive set of requirements.

Which two beaches received the certification?

- Kovalam Beach in Tamil Nadu

- Eden Beach in Puducherry
  1. Golden Beach – Odisha
  2. Shivrajpur Beach – Gujarat
  3. Kappad Beach – Kerala
  4. Ghoghla Beach – Diu
  5. Radhanagar Beach – Andaman and Nicobar
  6. Kasarkod Beach – Karnataka
  7. Padubidri Beach – Karnataka
  8. Rushikonda Beach – Andhra Pradesh

BEAMS:

- The Ministry of Environment, Forest and Climate Change in its pursuit of "Sustainable Development" of the coastal regions of India embarked upon the Beach Environment & Aesthetics Management Services (BEAMS) programme.
- It is one of the initiatives under the Integrated Coastal Zone Management (ICZM) approach that the MoEF&CC has undertaken for the sustainable development of the coastal regions of India.
- Its prime objective is to protect and conserve the pristine coastal and marine ecosystems through the holistic management of resources.

Miscellaneous

21. Blue Planet Prize for Sikkim power station

- » Prelims: Blue planet prize
- » Mains: Sustainable energy and its significance in current context

Context:

- The Teesta-V Power Station located in Sikkim has been conferred with the prestigious Blue Planet Prize by International Hydropower Association (IHA), a London based non-profit membership association operating in 120 countries.

Details:

- The IHA Blue Planet Prize is awarded to hydropower projects that demonstrate excellence in sustainable development.
- The Hydropower Sustainability Assessment Protocol (HSAP) is the leading international tool for measuring the sustainability of hydropower projects.
  * It offers a way to benchmark the performance of a hydropower project against a comprehensive range of environmental, social, technical and governance criteria. Assessments are based on objective evidence and the results are presented in a standardized report.
- The Teesta power station has been built, owned and being operated by NHPC (a government-owned hydropower company).

- The award had been conferred to Teesta-V Power Station based on its sustainability assessment undertaken by a team of accredited lead assessors of IHA in 2019 using the Operation Stage tool of the Hydropower Sustainability Assessment Protocol (HSAP) of IHA.

Environmental Conservation Efforts

22. **Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)**

    » Prelims: Weddel sea; Marine protected area; CCAMLR

    Context:

    - India extends support for protecting the Antarctic environment and for designating East Antarctica and the Weddell Sea as Marine Protected Areas (MPAs).

    Details:

    - This is the first time India is considering co-sponsoring an MPA proposal at the CCAMLR and getting aligned with countries such as Argentina, Brazil, Chile, Korea, New Zealand, South Africa and the USA, which are also proactively considering supporting the MPA proposals.

About CCAMLR:

- CCAMLR is an international treaty to manage Antarctic fisheries to preserve species diversity and stability of the entire Antarctic marine ecosystem.

- CCAMLR came into force in April 1982.

- India has been a permanent member of the CCAMLR since 1986. Work pertaining to the CCAMLR is coordinated in India by the Ministry of Earth Sciences through its attached office, the Centre for Marine Living Resources and Ecology (CMLRE) in Kochi, Kerala.

- Its members include 25 countries and the European Union.

What is an MPA?

- An MPA is a marine protected area that provides protection for all or part of its natural resources.

- Certain activities within an MPA are limited or prohibited to meet specific conservation, habitat protection, ecosystem monitoring, or fisheries management objectives.

- Since 2009, CCAMLR members have developed proposals for MPAs for various regions of the Southern Ocean. CCAMLR's scientific committee examines these proposals. After CCAMLR members agree upon them, elaborate conservation measures are set out by CCAMLR.

HEALTH ISSUES

1. Ayushman Bharat Digital Mission

» Prelims: ABDM- Provisions

» Mains: Significance and challenges

Context:

- Ayushman Bharat Digital Mission has been launched.

Details:

- The Ayushman Bharat Digital Mission (ABDM) aims to give every citizen a unique digital health ID and provisions for users to access and link personal records with their unique ID to create a longitudinal health history.

  * The unique health ID will be a randomly generated 14-digit identification number. The ID will give the user unique identification, authentication and will be a repository of all health records of a person.

  * The user will also set up a Personal Health Records (PHR) address.

- The project will enable access and exchange of longitudinal health records of citizens with their consent.

- It will create a seamless online platform through the provision of a wide range of data, information and infrastructure services by leveraging open, interoperable, standards-based digital systems, while ensuring the security, confidentiality and privacy of health-related personal information.

- The mission aims to create interoperability within the digital health ecosystem, similar to the role played by the Unified Payments Interface (UPI) in revolutionising payments.

- The key components of PM-DHM include:

  * A health ID for every citizen: this would work as their health account, to which personal health records can be linked and viewed with the help of a mobile application.

  * A Healthcare Professionals Registry (HPR) and Healthcare Facilities Registries (HFR): that will act as a repository of all healthcare providers across both modern and traditional systems of medicine. This will ensure ease of doing business for doctors/ hospitals and healthcare service providers.

Significance:

- The doctor who is examining the patient can give more well-informed advice because it is possible that patients may not consider aspects of their medical history relevant to share with a doctor, or sometimes may forget about them, but which may be valuable for a better diagnosis.

- The Digital Ecosystem will enable facilities like digital consultation and hence will facilitate easy, affordable and accessible treatment. The new system will not only simplify processes of hospitals but also increase ease of living for the patients.

- The introduction of a unique health identification card at the national level would be a game changer in monitoring, providing and managing healthcare for all citizens. The digital ecosystem provides a more holistic and inclusive model for healthcare in India. It is expected to bring about a revolutionary change in India's health facilities.

- The meta data could provide valuable insights not only for the government's evidence based policy making but also to insurance companies, international researchers, and pharma companies.

Challenges:

- Data security and privacy of an individual remains a concern with the new system. Despite provisions such as making citizen's consent mandatory for sharing their information, such provisions can be easily manipulated by interested entities. With the health ID storing personal data, concerns are being raised that it could be open to misuse. The absence of a privacy law and little public awareness and control over their data is a major point of concern

- The lack of access to technology, poverty and lack of understanding may hamper the mission.

- India's previous experience with respect to similar attempts like the One Nation One Ration card, PM-JAY card, Aadhaar card, etc., had brought to light many issues such as errors. The DHM is also likely to face similar issues.

- Also India faces structural issues like the acute shortage of healthcare professionals and healthcare facilities. The digital health mission will be rendered ineffective without such bare minimum resources.

- There is the danger that any large private insurance company could use sophisticated algorithms across the health and other databases to construct risk profiles for people and make access to affordable insurance difficult.

- Data mining can prioritise certain rich demographics for their services and direct public and private resources to people who can afford a high premium for their services rather than to the poor who need them.

Way Forward:

- There is a need for strong legal provisions to check the misuse of a large amount of personal data stored in the health IDs.
- A digital health mission needs to get all the fundamentals of the ecosystem right. For a digital health ecosystem to work, it is important for a strong foundation i.e, a strong public healthcare sector.

Terminologies in news

2. Breakthrough infections

- » Prelims: Breakthrough infection
- » Mains: Contributing factors; Associated concerns and measures needed

Context:

- In the light of the rise in daily COVID-19 infections in states such as Kerala and Maharashtra, which are among the States with a high rate of vaccination, there are growing concerns about the rise in 'breakthrough infections'.
- Internationally, too Israel and the U.S., despite high vaccination coverage, continue to report fresh cases.

Breakthrough infections:

- A case of Covid-19 that arises in someone who's been fully immunized—that is, 14 days after their final dose of the vaccine—is known as a breakthrough infection. The term implies that the virus "broke through a protective barrier provided by the vaccine."
- The two-week window is the time it takes for the body to produce necessary antibodies following a shot of the vaccine.

Role of variants:

- The new variants of the coronavirus- Delta variant, Delta-Plus and Kappa variant seem to be leading to the breakthrough infections. These mutations mostly help the virus escape detection by antibodies.

Concerns:

- Vaccines are being labelled as the ultimate tool against the COVID-19 pandemic. However, the breakthrough infections have lead to questions on the efficacy of the vaccines.

- The bigger concern, however, is that those with a 'breakthrough infection', under the belief that they are fully protected, may be less stringent with using masks and could be carriers of infection.

Need for continued emphasis on vaccination:

- Notably, the infection rate is much higher in the unvaccinated population rather than the vaccinated population. Hence increasing vaccination coverage will no doubt help arrest the spread of the pandemic.
- There is evidence that vaccination may make illness less severe for those who are vaccinated and still get sick. The risk of infection, hospitalization, and death are all much lower in vaccinated compared to unvaccinated people. Breakthrough infections are not translating into serious disease requiring hospitalisation.

Diseases in news-Nipah

3. Nipah's return in Kerala

- » Prelims: Nipah- features, vectors
- » Mains: Controlling future viral or bacterial outbreaks:

Context:

- Kerala has reported a fatality from a case of infection by the Nipah virus in the northern district of Kozhikode.

Nipah virus:

- The Nipah virus is classified as an 'emerging zoonotic disease', meaning that it is caused by germs that spread between animals and people.
- It is transmitted from animals to humans- such as bats or pigs and can also be transmitted through contaminated food or directly between people.
- The Nipah virus (NiV) is classified as a "highly pathogenic paramyxovirus".
- The natural reservoir for the virus is large fruit bats of the Pteropus genus.
- Unlike in the case of the coronavirus which is airborne and can spread across great distances, contact with body fluids and an infected person's respiratory droplets are the most common ways to catch an infection.

Concerns:

- Although Nipah virus has caused only a few known outbreaks in Asia, it infects a wide range of animals and causes severe disease and death in people, making it a public health concern.
  - * In infected people, it causes a range of illnesses from asymptomatic (subclinical) infection to acute respiratory illness and fatal encephalitis. The case fatality rate is estimated at 40% to 75%.

- There is no treatment or vaccine available for either people or animals. The primary treatment for humans is supportive care.

Controlling future viral or bacterial outbreaks:

- Now, there are established protocols at the national level for the three key aspects of a potential pandemic: infection control, treatment and vaccination.

- Also an anticipatory response, unlike the earlier and purely reactive approach must be prioritized. A well-functioning disease surveillance system with the application of principles of epidemiology is non-negotiable in the current circumstances.

Issues relating to health

4. Malnutrition issue in India

» Prelims: Malnutrition and undernutrition

» Mains: Impact of malnutrition and measures needed to address the issue

Context:

- UNICEF's head of nutrition's comments on high levels of maternal and child undernutrition In India.

Observation/Comments:

- COVID-19 has heightened the risk of increasing malnutrition.

- While India has made impressive gains in economic and human development in recent decades, high levels of maternal and child undernutrition continue to plague the country.

Data on Malnutrition:

- The Comprehensive National Nutrition Survey (CNNS) and National Family Health Survey-4 (NFHS), show that about:

  * One-third of children under five years of age in India are stunted.

  * One-third of them are underweight.

  * Almost two out of 10 children are nutritionally wasted.

- Many of the children suffer from multiple anthropometric deficits.

- The CNNS also highlights the emerging problems of overweight, obesity and micro-nutrient deficiencies.

Impact of COVID-19:

- Health and social services, such as anganwadi centres, nutrition rehabilitation centres, and village health sanitation and nutrition days (VHSND), were disrupted.

- The distribution of iron and folic acid tablets to children in schools was significantly reduced, and awareness campaigns in schools on nutrition were suspended.

- The launch of the Poshan Abhiyan in March 2018 refocused the national development agenda on nutrition. However, with the pandemic, there is a heightened risk of increasing malnutrition, and parts of progress made in the past may get undone.

- As the period of pandemic prolongs, food insecurities and nutritional challenges will intensify too.

- Food insecurity arising out of the pandemic may cause families to shift to cheap food with low nutritive value, causing long-term adverse impacts on the cognitive development of children.

- COVID-19 related priorities could threaten the delivery and financing of nutrition and nutrition security responses.

Way Forward:

- These are the areas that need immediate attention.

  * Strong leadership at all levels, from national to the district is essential to bring back focus to address food, income and nutritional security.

  * Uninterrupted, universal, timely and high-quality coverage of essential evidence-based nutritional services must be ensured, with a special focus on children below two years of age, pregnant women and adolescent girls, which are critical development periods.

  * Pandemic calls for strategies adapting to COVID-19 guidelines and innovations in the service delivery mechanism.

  * Adequate financing is needed to ensure the delivery of high-impact interventions, and additional financing will be required for ensuring food and nutritional security, especially for the vulnerable population groups.

  * Multisectoral interventions that directly or indirectly impact nutrition like health, nutrition and social protection schemes need to be delivered effectively. Migrant labourers and urban poor need special focus.

  * Nutrition needs to be retained as a key indicator for development.

Governmental schemes/Programmes/initiatives

5. National Action Plan for dog Mediated Rabies Elimination (NAPRE)

» Prelims: Rabies

- Union Health Minister unveiled the National Action Plan for dog Mediated Rabies Elimination by 2030.

About NAPRE:

- The NAPRE is based on recommendations of various international agencies such as WHO, OIE, and Global Alliance of Rabies Control (GARC).
- The plan provides a broad framework for combating rabies in India.
- The vision of the NAPRE is to reduce human deaths due to dog mediated rabies to zero by 2030.
- NAPRE Mission: To progressively reduce and ultimately eliminate human rabies in India through sustained mass dog vaccination and appropriate post-exposure treatment.
- The vital elements of the plan are prevention, promotion and partnership.
- The core ministries involved in the NAPRE are:
  * Ministry of Fisheries, Animal Husbandry & Dairying
  * Ministry of Health & Family Welfare
  * Ministry of Environment, Forest & Climate Change
  * Ministry of Agriculture and Farmers' Welfare
  * Municipal Cooperation

  Other ministries such as Finance, Panchayati Raj, Science & Technology, Housing & Urban Affairs, etc. are supporting ministries in the NAPRE.

  Private partners such as NGOs, veterinary and medical organisations are also involved.

  Components of NAPRE:

  - Human health component: To prevent human deaths due to rabies by ensuring timely access for post exposure prophylaxis for all animal bite victims.
  - Animal health component: To achieve at least 70 % of the vaccination coverage among dogs in a defined geographical area annually for 3 consecutive years.

Five Pillars of NAPRE:

| Political will | Sustained funding Uninterrupted supply of logistic requirement | Intersectoral coordination Joint planning and reviewing | Community participation | Operational Reseacrh |

What is Rabies?

- Rabies is an acute viral disease that causes fatal encephalomyelitis in virtually all warm blooded animals including human beings. Rabies is caused by lyssaviruses.
- The virus is found in wild and some domestic animals and is transmitted to other animals and to humans through their saliva (following bites, scratches, licks on broken skin and mucous membrane).
- In India, dogs are responsible for about 97% of human rabies, followed by cats (2%), jackals, mongoose and others (1%). The disease is mainly transmitted by the bite of a rabid dog.
  * The presence of unvaccinated free roaming dogs (FRD) or street dogs, amidst human settlements is a major contributor to the high incidence of rabies in India, as the disease is endemic.
- The rabies virus infects the central nervous system. If a person does not receive the appropriate medical care after a potential rabies exposure, the virus can cause disease in the brain, ultimately resulting in death.
- The development of rabies can be prevented to a large extent if animal bites are managed appropriately and in time.
- Early symptoms can include fever and tingling at the site of exposure.
  * These symptoms are followed by one or more of the following symptoms: nausea, vomiting, violent movements, uncontrolled excitement, fear of water, an inability to move parts of the body, confusion, and loss of consciousness.
  * Once a person begins showing signs and symptoms of rabies, the disease nearly always causes death.

6. Rice Fortification

» Prelims: Food fortification- types

» Mains: Fortification as a tool against malnutrition in India

Context:

• To mark the ongoing 4th Rashtriya PoshanMaah, the Department of Food and Public Distribution under the Ministry of Consumer Affairs, Food and Public Distribution and the Ministry of Women and Child Development jointly organised a webinar on rice fortification.

Rice fortification:

• Biofortification is the process by which the nutritional value of food crops is enhanced by various methods including plant breeding, agronomic practices and modern biotechnological techniques.

• The Food Safety and Standards Authority of India (FSSAI) defines fortification as "deliberately increasing the content of essential micronutrients in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health".

• In rice fortification, micronutrients are added to regular rice keeping in mind the dietary requirements.

• The cooking of fortified rice does not require any special procedure. After cooking, fortified rice retains the same physical properties and micronutrient levels as it had before cooking.

• Various technologies are available for rice fortification, such as coating and dusting. For rice fortification in India, 'extrusion' is considered to be the best technology.

  * This involves the production of fortified rice kernels (FRKs) from a mixture using an extruder machine.

  * The fortified rice kernels are then blended with regular rice to produce fortified rice.

  * FRK has a shelf life of at least 12 months.

  Why is rice fortification needed?

  * India has very high levels of malnutrition among women and children.

  * According to the Food Ministry, every second woman in the country is anaemic and every third child is stunted.

  * India ranks 94 out of 107 countries on the Global Hunger Index (GHI), which puts it in the 'serious hunger' category.

  * Fortification of food is considered to be one of the most suitable methods to combat malnutrition.

* Rice is one of India's staple foods, consumed by about two-thirds of the population.

* Per capita rice consumption in India is 6.8 kg per month. Therefore, fortifying rice with micronutrients is an option to supplement the diet of the poor.

* Milled rice generally is low in micronutrient content because its nutrient-rich superficial layer is removed during rice milling and polishing operations.

SOCIAL ISSUES

1. **Marital rape**

   » Mains: Arguments both in favour of and against the scrapping of exception provided to marital rape provided under the Section 375 of the Indian Penal Code

   Background:

   Marital rape:

   - Marital rape is not a punishable offence in India.

   - According to Exception 2 to Section 375 of the Indian Penal Code, sexual intercourse by a man with his own wife (provided she is over the age of 18) does not amount to the offence of rape.

   Recent judgments of the High Courts:

   - The Kerala High Court held that acts of sexual perversions of a husband against his wife amounted to (mental) cruelty and was therefore a good ground to claim divorce.

   - The Chhattisgarh High Court, while discharging an accused husband, held that the charge of rape framed under Section 376 of the IPC was erroneous and illegal as it was covered under Exception 2 to Section 375 and the wife was not under 18 years of age.

   Details:

   - The recent judgments of two High Courts on marital rape has once again raked up debate on whether Exception 2 to Section 375 of the Indian Penal Code is constitutional or not.

   - The article argues in favour of scrapping the exception to marital rape provided under the Section 375 of the Indian Penal Code based on the following arguments.

   Violation of fundamental rights:

   - Marriage in modern times is regarded as a partnership of equals. It is an association of two individuals, each of whom has separate integrity and dignity. The violation of bodily integrity of a woman is a clear violation of her autonomy and is a violation of Article 21 of the Constitution.

   International practice:

   - Marital rape is a criminal offence in South Africa, Australia, and Canada, among other countries.

   Committee recommendations:

   - The Justice Verma Committee report of 2013 too recommends that the exception for marital rape be removed.

   Address sexual violence against women:

   - The doing away with Exception 2 would show complete non-tolerance by the state with respect to rape and sexual violence against women.

   Counter arguments:

   - One line of argument has been that once marital rape is criminalised, it may lead to filing of false charges against husbands. Also it will be very difficult for the police to prove such cases beyond reasonable doubt.

   Conclusion:

   - A closer examination of the counter arguments shows that the first apprehension is unfounded given that there are legal provisions to deal with false cases and also that legal remedies may be revised suitably to deal with such false cases.

   - Also the difficulty of proof cannot be a criterion for not notifying deviant behaviour such as marital rape as an offence which amounts to a gross violation of the bodily integrity and autonomy of women.

2. **Jammu & Kashmir Tribes**

   » Prelims: Tribes of Jammu and Kashmir

   Gujjar-Bakerwals:

   - Gujjars and Bakerwals are listed as Scheduled Tribes in Jammu and Kashmir.

   - They inhabit high mountain ranges of Jammu and Kashmir. They are a nomadic tribe and seasonally migrate from one place to another with their sheep and goat herds. They travel higher up the mountains and lower down to plains according to seasonal variation.

   Gaddi-Sippis:

   - Gaddis and Sippis communities are semi-nomadic tribes having a special characteristic feature for living in dhoks (meadows) in the last inhabited areas of the five districts of Udhampur, Doda, Kathua, Reasi and Ramban of Jammu and Kashmir.

   Context:

   - The Jammu and Kashmir government has decided to implement the Forest Rights Act, 2006. This is expected to benefit the tribals and nomadic communities, including Gujjar-Bakerwals and Gaddi-Sippis in the Union Territory.

3. VAYO NAMAN Programme

» Prelims: YAYO NAMAN programme; SACRED portal

Context:

- VAYO NAMAN programme organised on the occasion of International Day of Older Persons (Oct 1).

About the VAYO NAMAN Programme:

- On the occasion the VayoshreshtraSamman awards are distributed.
- An Elderly Helpline number 14567 was launched by the Vice President.
- The VP also launched the Senior Able Citizens Reemployment in Dignity (SACRED) & Senior Care Ageing Growth Engine (SAGE) Portals on this occasion.

SACRED Portal:

- It is an IT portal to bring the employment seeker senior citizens and employment providers on one platform will be developed and maintained by an agency identified through a transparent process.
- An individual senior citizen will get oneself registered on the portal with his relevant education, past experience, skills and the areas of interest. The person will also select keywords regarding expected tasks, which will enable the job providers find them automatically. Details can also be updated by the senior citizens.
- Job providers (individuals/companies) will also register themselves on the portal.
- The web portal will be developed by the National Informatics Centre (NIC).

4. 'Senior care Ageing Growth Engine' (SAGE) project

» Prelims: YAYO NAMAN programme; SACRED portal

Context:

- Based on the recommendations of an Expert Group on Silver Economy, the government has decided to bring out a scheme to promote private enterprises that bring out innovation in products and processes for the benefit of the elders, named SAGE.

About SAGE:

- Objectives of SAGE: to focus on addressing the needs of India's fast rising elderly population, to select, support and create a "one-stop access" of elderly care products and services, to encourage the selected "startups" based on the innovative products and services address the services from health, housing, care centres, technology access linked to needs ranging from finances, food and wealth management to legal guidance.
- The portal will provide a transparent mechanism for selecting the start-ups.
- SAGE project aims to identify, evaluate, verify, aggregate, and deliver products, solutions, services which can be directly provided to the stakeholders, giving them wide choice to select the products, solutions and services that would suit their requirements and help in improving their quality of life.
- Selected start-ups will get equity support in the form of funding.

EDUCATION

1. Impact of school closure

> » Mains: Educational and non educational impact of school closures due to the pandemic; Disproportionate impact on the poor and vulnerable sections; Measures needed to address these concerns

Context:

- Findings from the 'Emergency Report on School Education' based on the School Children's Online and Offline Learning (SCHOOL) survey.

Details:

- The report notes the catastrophic consequences for school students from the prolonged closure of primary and upper primary schools since the onset of the pandemic.

- Only a small proportion of the school going population has been able to continue studies online. Thus, the learning process has been disrupted to a large extent and this could be detrimental to the learning outcomes of school education.

- The impact has been more severe on the students in rural India.

    * Only 8% of school students in rural India have been able to access online education, while at least 37% have stopped studying altogether. In Urban areas around 24% were found to be studying online education regularly.

    * The most important factor has been the limited reach of online education owing to lack of ownership of smartphones, which stands at less than 50% in rural areas. Also the ownership of smartphones does not guarantee access to online education given the fact that the smartphones are mainly used by the working adults who are not always able to share the gadgets with the children at home

- The survey also found that the Dalit and Adivasi children were at a greater disadvantage as a mere 5% of the children from these groups had access to online classes.

- In addition to education, the prolonged school closure has also affected the level of nutrition among the children in rural schools where the midday meals have been stopped.

2. Empathy through education

> » Mains: Significance of SEL and incorporating it in the educational curriculum to ensure holistic education

Social and Emotional Learning (SEL):

- SEL is the process of learning to recognise and manage emotions and navigate social situations effectively.

- SEL is foundational for human development, building healthy relationships, having self and social awareness, solving problems, making responsible decisions, and academic learning.

- SEL supports skills such as communication, collaboration, critical thinking and creativity.

Key Elements of SEL:

- Key elements of SEL include cultivating empathy and theory of mind.

    * 'Empathy' is the ability to understand another person's emotions and be aware of why they might be feeling those emotions from their perspective.

    * 'Theory of mind' is the ability to understand others' intentions, knowledge and beliefs and recognise that those might be different from your own.

Importance of SEL:

- According to research findings students with greater social skills and emotional regulation are more likely to have success.

- SEL is rooted in physiology. Neurobiologically, various brain regions such as the prefrontal and frontal cortices, amygdala, and superior temporal sulcus are involved in the cognitive mechanisms of SEL.

- Scientists have proposed that the physiological and psychological factors of SEL are inherently linked.

Challenges Posed by the Pandemic:

- The pandemic has brought unprecedented challenges for SEL.

- School closures have reduced opportunities for students to deepen social relationships and learn collaboratively in shared physical spaces.

- Even with parental involvement, the challenge of an inadequate support system for SEL remains.

Way Forward:

- SEL is an important part of education as mentioned in India's National Education Policy (2020).

- While according to NEP numeracy and literacy are listed as its central aims, SEL should be an equally important goal.

- Despite its importance to life, SEL is often added as a chapter in a larger curriculum rather than being integrated in it. It is vital to consider that the learning process is a social and emotional experience.

- SEL must be integrated into curricula through self-science classes, and must be placed centrally within the school culture.

- In the Indian context, application of SEL practices should be based on students' socioeconomic backgrounds.

- SEL strategies of caretakers and educators must align with one another.

- Long-term success requires SEL to be based on scientific evidence.

Initiatives in news

3. Vidyanjali 2.0

» Prelims: Vidyanjali scheme

» Mains: Measures being taken to improve the state of government schools

- The recently launched Vidyanjali 2.0 portal will help facilitate private donors, corporate social responsibility contributions and volunteering activities towards school education in India. Thus the portal would help coordinate private contributions for school development.

- The increased private sector participation will help increase the quality of education in government schools.

Miscellaneous

4. Kasturirangan panel for new National Curriculum Framework

» Prelims: Major recommendations of the NEP,2020; Kasturirangan panel

» Mains: Significance of periodic updating of school curriculum and recommendations in this direction

- The Centre has appointed former K. Kasturirangan as the head of a 12-member steering committee responsible for developing a new National Curriculum Framework (NCF).

* Notably, Dr. Kasturirangan also chaired the drafting committee for the National Education Policy, 2020 which recommended the development of a new NCF.

- The NCF is meant to be a guiding document for the development of textbooks, syllabi and teaching practices in schools across the country. The subsequent revision of textbooks by the National Council of Educational Research and Training will draw from the new NCF.

- The steering committee will develop four frameworks, one each to guide the curriculum of school education, teacher education, early childhood education and adult education.

HISTORY

1. Pt. Deendayal Upadhyaya

» Prelims: Principle of "integral humanism" and 'Swaraj of ideas' espoused by Pt. Deendayal Upadhyaya

- Pt. Deendayal Upadhyaya was an Indian politician and thinker.

- Deendayal Upadhyay is best remembered for his principle of "integral humanism" which is defined as "a classless, casteless and conflict-free social order". It talks about the integration of indigenous "Indian culture" with the social, political and economic idea of human welfare.

- Pandit Upadhyay is one of those thinkers in India who exercised on 'Swaraj of ideas' – means decolonisation of ideas, i.e. decolonisation of Indian minds.

Context:

- 105th birth anniversary of Pt. Deendayal Upadhyaya.

2. Subramania Bharati

» Prelims: Subramaniya Bharathi- literary works and contributions to the freedom struggle

- Subramaniya Bharathi was a poet, freedom fighter and social reformer from Tamil Nadu.

- He was born on 11th December 1882, in Ettayapuram village of Tirunelveli District in Tamil Nadu.

- He is popularly known as Mahakavi Bharathiyar.

- His songs on nationalism helped in rallying the masses to support the Indian Independence Movement in Tamil Nadu.

- He published the sensational "Sudesa Geethangal" in 1908.

- In mid-1908, Bharati began to serialise Gnanaratham in his political weekly, India.

- In 1949, he became the first poet whose works were nationalised by the state government.

Context:

- Vice-President M. Venkaiah Naidu paid floral tributes to Mahakavi Subramania Bharati to mark the death centenary of the poet and freedom fighter at his memorial home in Puducherry.

GOVERNANCE

1. **Facial Recognition Systems**

   » Mains: Facial Recognition systems- Significance, Lacunae and associated concerns

   Background:

   - India has seen a rapid deployment of Facial Recognition Systems (FRS) in recent years, both by the Centre and State governments

      * Currently, 18 FRSs are in active utilisation by the Centre and State governments for the purpose of surveillance, security and authentication of identity, and 49 more systems are in the process of being installed by different government agencies.

      * Delhi Police was the first law enforcement agency in the country to start using the technology in 2018.

   Facial Recognition Systems:

   - Facial recognition is a biometric technology that uses distinctive features on the face to identify and distinguish an individual.

   Significance of FRS:

   - FRS can play a huge role in surveillance, security and authentication of identity and aid the police in their investigative and policing functions. If not exactly pinpoint identity it can help the police filter down the number of suspects by a large margin.

   - It can also help cover-up the large gap in per capita police availability in India and the ideal levels by letting the police monitor larger number of people and enforce predictive policing.

   - The FRS system has been frequently used to trace missing children and identify unclaimed dead bodies.

   Lacunae/limitations:

   Only basic level of FRS available:

   - The police in India currently use a "basic" level of FRS, which does not function in real-time.

   Lack of access to metadata:

   - The police are hamstrung by a lack of access to metadata which is essential to effectively use the FRS. Important institutions like the Election Commission, UIDAI and other Ministries have been reluctant to share data with the police force.

Not fool-proof/limited accuracy:

   - The FRS has a limited accuracy. It is capable of giving only a 70-80% match against the photo put in the system. Also given that the FRS does not consider the age parameter, brings into questions the efficiency of the FRS.

Concerns:

Liable to misuse and concerns over privacy:

   - Experts have warned that the unabated use of Facial Recognition System without any legal framework to regulate their use could lead to its misuse and can also contribute to privacy concerns given the potentially invasive nature of this technology. Experts warn that the technology poses a huge threat to the fundamental rights to privacy and freedom of speech and expression of the citizens.

Use beyond its intended purpose:

   - There are rising concerns over the Police gradually using the technology beyond its intended purpose for wider security and surveillance and investigation purpose.

      * In the case of 'Sadhan Haldar vs NCT of Delhi', the Delhi High Court had authorised the Delhi police to obtain facial recognition technology for the purpose of tracking and reuniting missing children.

2. **Tackling hate speech**

   » Mains: Threat posed by hate speech; Indian legal position on hate speech and measures to tackle hate speech

   Context:

   - The Bishop of Syro-Malabar Church of Pala, a small city in Kerala used the term 'narcotic jihad' in one of his speechs. The speech aimed at a particular religion seemed to have a divisive tone.

   - This speech by the Bishop has revived questions about hate speech regulation.

   Threat posed by hate speech:

   - The impact of hate speech on society is fatal.

   - Given that hate speech by their very utterance goes against the dignity and equality of individuals and lowers their social standing and tend to incite an immediate breach of the peace by creating barriers of mistrust and hostility between individuals and groups, there is the need for hate speech prohibition.

- It goes against the Constitution's ideas of equality, liberty and fraternity.

The Indian legal position on hate speech:

- Section 153-A of the Indian Penal Code (IPC) prohibits "promoting enmity between different groups on grounds of religion, race, place of birth, residence, language, etc. and doing acts prejudicial to maintenance of harmony".
- The values of social tranquility and substantive equality justify this law.

Concerns:

- The Section 153-A of the IPC suffers from disuse and misuse. This is an issue at the operational level, i.e., how the law is implemented and enforced.
- Also the lack of a comprehensive law on hate speech is another major concern.
  * In India, hate speech is not defined under the Constitution or in the penal statutes. There is no specific legislation on it.

Recommendations:

- Given the lack of laws on hate speech there is the need to think about countering it with political and jurisprudential means.
  * Whenever hate speech thrives, the state should invoke the existing law judiciously in appropriate cases. It must also take a secular stand based on the rule of law and educate the masses.

Government Policies and Interventions

3. A questionable quota policy

» Prelims: Constitutional provisions for reservation

» Mains: Significance of reservation policy and also the concerns associated with the reservation policy; Its effectiveness in the Indian context

Context

- Odisha state government proposed a 15% reservation for government school students in medical and engineering colleges.

Background:

- About 62% of students attend government and government-aided schools in India. The other 38% go to private institutions.
- Considering the state of Odisha, a much higher percentage of students go to government schools.

Significance of the quota policy:

- The quota would help some sections of the society which have long been deprived of good education and decent jobs.

- The move will help reduce inequity arising from lack of physical and economic access to coaching institutions observed by poor students enrolled in government schools.
- The move will also help compensate for the poor condition of government schools which are plagued by issues such as poor quality of teachers and infrastructure.

Concerns:

Lack of political will in improving government schools:

- By reserving seats in higher technical institutions for government school students rather than focusing on improving the quality of education in the government schools, the government seems to be admitting the sorry state of affairs in government run schools.
- The proposal indicates a lack of political will in improving government schools
- The state seems to be running away from it's responsibility of improving education in government schools where an overwhelming majority of the children study. This does not augur well for the learning outcome of children studying in government schools

Benefits to few:

- It is very likely that the benefits of quota would be cornered by the creamy layer of students with better access to coaching and additional technology-enabled resources.
- There might also be an urban bias in the benefit-sharing.

Mere populism:

- The author argues that the current policy rather than being an attempt at social engineering, seems to be more of competitive populism as observed in recent instances of caste-based reservations.

May give rise to inferiority complex:

- If the current proposal is given effect, it is going to have a negative impact on the morale of teachers and students who are likely to grow up with an inferiority complex as compared to those in private schools.
- This will only deepen the mindset that government schools are typically backward and inferior to private schools.

Way forward:

- The government should focus its attention on improving the quality of education in government schools.
- This could involve taking some of the following measures.
  * Capacity building of teachers to implement new pedagogic practices

* Filling up vacant teaching posts
* Improving the availability of necessary infrastructure in government schools
* Use of technology to improve learning outcomes
* Outlay of sufficient funds to the public education system

Important Aspects of Governance

4. In pursuit of happiness

» Prelims: World happiness report- Parameters and agency involved

» Mains: Happiness of the Citizens as a parameter of good governance

Background:

- The United Nations World Happiness Report was first published in 2012. Until then, happiness was not considered an objective of governance.
- Happiness has now emerged as a new measure of the quality of governance.
- The connection between law, governance and happiness has been gaining considerable attention over the years. This is because the report has shown time and again that countries with a higher GDP and higher per capita income are not necessarily the happiest.

United Nations World Happiness Report of 2021:

- Happiness was measured by also taking into consideration the effects of COVID-19 on the people and their evaluation of the performance of governance systems.
- The report shows that COVID-19-induced social distancing had a severe impact on happiness as sharing and community life were hugely affected during the pandemic.

India's Performance:

- The United Nations World Happiness Report of 2021 ranks India 139 out of 149 countries.
- India's gloomy performance on happiness is crucial governance and the law are considered.
- Happiness has never been considered an explicit goal of public policy in India.
- The trust and confidence enjoyed by public institutions are quite pertinent in the happiness score sheet.

Role of Good Governance in Happiness of the Citizens:

- Guarantees of rights, participation, dignity, and social justice are crucial in the determination of happiness in a society like India.
- The great degree of unhappiness in Indian society has a lot to do with the way the law and its institutions operate.
- People live in pain and anguish as their grievances remain unaddressed by the legal system.
- Every case that is decided by the courts need not necessarily bring happiness to the people.
- According to the World Justice Report, as many as 40% of people live outside the protection of law in the world. More than 5 billion people fall into this 'justice gap'. India's share is very big in these figures.
- The estimated figure of 3.5 crore pending cases in various courts of the country is not merely a number as all those connected with these cases are in a state of anxiety. They are certainly not happy people.
- Typically, the criminal justice system for these people is a source of unhappiness.
- India's rule of law rank was 69 as per the World Justice report 2021.
  * It has a chilling effect on the right to life, liberty, economic justice, dignity and national integration.
- Justice in India hardly seems to take up the goal of happiness in society.
- Criminal justice drastically impacts the lives of people. It is capable of providing safety but it also leads to fear, stigma and repression. People are rarely satisfied with the police and courts in this country.

Ways to Improve India's Ranking:

- Law is capable of creating many positive obligations, which may lead to a collective conscience, care and cooperation.
- It is capable of making people feel that they have a role in resolving their problems through distributive justice.
- Additionally, data suggest that happy countries have lower crime rates.
  * Crime and its resultant suffering are a major source of unhappiness.
  * For instance, in Finland, Denmark, the Philippines, South Africa, India and Sri Lanka, at least one of the four crime variables share an inverse relation with the happiness score of the nation.
- Countries scoring high on the Rule of Law Index also score well on the index of happiness.
- In the report, happiness levels were significantly determined by various socio-demographic factors like health, education, crime rate, criminal victimisation and fear of crime. India should focus on improving these factors.

Conclusion:

- Nations are now responding to the happiness index. Happiness is getting much more importance as an objective of good governance.

    * The United Arab Emirates was the first country in the world to have set up a Ministry of Happiness. The Ministry monitors the impact of policies through a happiness meter and takes measures to ensure a better life.

    * Bhutan introduced Gross National Happiness as a measure of good governance.

- Honest and effective governments can create more socio-economic equality. This leads a greater number of people reposing trust in their government, which is an important condition for happiness.

Government schemes

5. Revitalising PM-KUSUM

- » Prelims: PM-KUSUM scheme- Objectives and provisions

- » Mains: Significance of the scheme

Context:

- The Union Minister of Power, New and Renewable Energy recently reviewed the progress of the PM-KUSUM scheme.

PM-KUSUM:

- The Central Government announced the Kisan Urja Suraksha evam Utthaan Mahabhiyan or KUSUM scheme in 2019.

- This scheme was launched by the Ministry of New and Renewable Energy (MNRE) for the installation of solar pumps and other renewable power plants across the nation.

- It aims at furthering the production of solar power in India and also gives the benefits of solar farming to farmers.

- It aims to help farmers access reliable day-time solar power for irrigation, reduce power subsidies, and decarbonise agriculture.

- PM-KUSUM provides farmers with incentives to install solar power pumps and plants in their fields. They can use one of three deployment models:

    * off-grid solar pumps

    * solarised agricultural feeders

    * grid-connected pumps

- The scheme, if implemented successfully, can generate thousands of jobs, reduce the carbon footprint of agriculture, and result in oil import savings.

Issue:

- Pandemic-induced disruptions, limited buy-in from States, and implementation challenges have all affected the scheme's roll-out.

- Off-grid pumps have been the most popular, but the nearly 2,80,000 systems deployed fall far short of the scheme's target of two million by 2022.

- Barriers to adoption include limited awareness about solar pumps and farmers' inability to pay their upfront contribution.

- Progress on the other two models i.e, solarised agricultural feeders and grid-connected pumps has been rather poor due to regulatory, financial, operational and technical challenges. Only a handful of States have initiated tenders or commissioned projects for solar feeders or grid-connected pumps.

How to Revitalise the PM KUSUM Scheme?

- The scheme's timeline must be extended.

    * Most Indian discoms have a surplus of contracted generation capacity and are cautious of procuring more power in the short term.

    * Extending PM-KUSUM's timelines beyond 2022 would allow discoms to align the scheme with their power purchase planning.

- A level playing field must be created for distributed solar plants.

    * Selling surplus power to discoms is one of the main attractions of grid-connected models. Yet, discoms often find utility-scale solar cheaper than distributed solar due to the latter's higher costs and the loss of locational advantage due to waived inter-State transmission system (ISTS) charges.

    * To tackle the bias against distributed solar, there is a need to:

        » address counter-party risks and grid-unavailability risks at distribution sub-stations

        » standardise tariff determination to reflect the higher costs of distributed power plants

        » do away with the waiver of ISTS charges for solar plants

- Land regulations must be streamlined through inter-departmental coordination.

    * Doing so will help reduce delays in leasing or converting agricultural lands for non-agricultural purposes such as solar power generation.

- There is a need to support innovative solutions for financing farmers' contributions.
  * Many farmers struggle to pay 30-40% of upfront costs in compliance with scheme requirements.
  * They cannot access bank loans without collateral.
  * Out-of-the-box solutions like Karnataka's pilot of a farmer-developer special-purpose vehicle to help farmers install solar power plants on their farms is needed.
- Extensively experiment grid-connected solar pumps.
  * Current obstacles to adoption of grid-connected solar pumps include concerns about their economic viability in the presence of high farm subsidies and farmers' unwillingness to feed in surplus power when selling water or irrigating extra land are much attractive prospects.
  * Also, the grid-connected model requires pumps to be metered and billed for accounting purposes but suffers from a lack of trust between farmers and discoms.
- Adopting solutions like smart meters and smart transformers and engaging with farmers can build trust.
- Testing the model under different agro-economic contexts will be critical to developing a strategy to scale it up.

6. PM POSHAN Scheme

» Prelims: Scheme- Objectives and provisions

» Mains: Significance of the scheme

Context:

- The Cabinet has approved a proposal to rename the 26-year-old national mid-day meal scheme as the PM POSHAN (Poshan Shakti Nirman) scheme.

Details:

- The scheme aims to give a hot cooked meal to 11.8 crore government school students from Classes I to VIII.
- From FY 2022-23 it will also cover the 24 lakh children studying in balvatikas, the pre-primary section of government schools.
  * The balvatikas offer one year of pre-school classes.
- The PM POSHAN scheme has been approved for the next five-year period until 2025-26, with a

collective outlay of Rs.1.31 lakh crore, including Rs. 31,733 crore as the share to be borne by the State governments.
- It has been rebranded to provide a new shape to the policy "to enhance the nutrition levels of school children".
- It is expected to improve nutritional status, encourage education and learning and increase enrolments in government schools.
- The extension of mid-day meals to pre-primary students, who are to be incorporated into the formal education system, was a key recommendation of the National Education Policy (NEP), 2020.

7. Pradhan Mantri Gramin Digital SakshartaAbhiyan (PMGDISHA)

» Prelims: Scheme- Objectives and provisions

- The Scheme would empower the citizens in rural areas by training them to operate computer or digital access devices (like tablets, smart phones etc.), send and receive e-mails, browse Internet, access Goverrnnent services, search for information, undertake digital payment etc. and hence enable them to use the Information Technology and related applications especially Digital Payments to actively participate in the process of nation building.
- The Scheme aims to bridge the digital divide, specifically targeting the rural population including the marginalised sections of society like Scheduled Castes (SC) I Scheduled Tribes (ST), Minorities, Below Poverty Line (BPL), women and differently-abled persons and minorities.

Eligibility:

- The Scheme is applicable only to rural areas of the country.
- Eligible Household: A household is defined as a unit comprising of Head of family, spouse, children and parents. All such households where none of the family member is digitally literate will be considered as eligible household under the Scheme.
- Entry criteria
  * The beneficiary should be Digitally Illiterate
  * Only one person per eligible household would be considered for training
  * Age Group: 14 - 60 years
- Priority would be given to

* Non-smartphone users
* The implementation of the Scheme would be carried out under the overall supervision of Ministry of Electronics and IT in active collaboration with States/UTs through their designated State Implementing Agencies, District e-Governance Society (DeGS), etc.

8. Rail Kaushal Vikas Yojana (RKVY)

» Prelims: Scheme- Objectives and provisions

» Mains: Significance of the scheme

Context:

* Minister of Railways launched the Rail KaushalVikasYojana (RKVY), a program under the aegis of Pradhan MantriKaushalVikasYojana (PMKVY).

About the Rail KaushalVikasYojana (RKVY):

* Rail KaushalVikasYojana is a skill development programme for the unemployed youths of India wherein technical training is imparted in various trades to enhance their employability and entrepreneurship.

* Rail KaushalVikasYojana is one of the skill enhancement training programs under the Ministry of Indian Railways and the Ministry of Skill Development and Entrepreneurship.

* Free of cost training is imparted in Railway Training Institutes for eligible youths across the country.

* Any Matric passed student between 18-35 years age limit can select and apply for training online as well as offline.

* A certificate will be provided after the successful completion of training.

9. People's Plan Campaign 2021 and Vibrant Gram Sabha Dashboard

» Prelims: People's Plan Campaign

» Mains: Participative governance- significance and challenges

Context:

* Union Minister launched People's Plan Campaign 2021 and Vibrant Gram Sabha Dashboard.

People's Plan Campaign:

* The Ministry of Panchayati Raj said that People's Plan Campaign is being rolled-out in all the States from 2nd October 2021.

* During the campaign, structured Gram Sabha meetings will be held for preparing Panchayat Development Plans for the next financial year 2022–2023.

GPDP Creation Process — Panchayati Raj

PPC is co-ordinated by Department of Panchayati Raj (DoPR) at State Level. DoPR shall process the implementation of following activities in time bound manner:

Commencement of People's Plan Campaign (2nd October) → Special Gram Sabha → Approved Facilitator Feedback Upload in GPDP Portal → Mission Antyodaya Survey Verification

* Environment creation
* Assessment of last year GPDP
* Suggestions/inputs
* Engagement by Line Departments

* Current plan presentation
* Panchayat's opinions
* Presentations by Line Dept.
* Panchayat Sign-off

Mandatory for plan upload.

Mandatory for plan upload.

Expenditure reporting of Activities ← Implementation of Activities ← Plan Approval in eGramSwaraj ← Creation of Activities in eGramSwaraj Applpication

- The campaign is being undertaken on a large scale, given the number of Gram Panchayats in the country.

- Special efforts have been made to ensure maximum participation of vulnerable sections of society like SC/ST/Women, etc.

- The Panchayat Development Plan aims to strengthen the role of elected representatives of Panchayats and SHG Women under DAY-NRLM in effective Gram Sabha.

- The Vibrant Gram Sabha Dashboard will also help in increasing maximum participation through the meeting of Gram Sabha, Standing Committee meeting of Gram Panchayat, meeting of elected Panchayat public representatives throughout the year.

Governmental schemes/Programmes/initiatives

10. Rashtriya Poshan Maah

» Prelims: DAY-NRLM scheme; Poshan Abhiyan

Context:

- Deendayal Antyodaya Yojana-National Rural Livelihoods Mission Commemorates 4th Rashtriya PoshanMaah, 2021.

About Rashtriya Poshan Maah:

- The entire month of September was observed as 'Poshan Maah' to take the message of nutrition to every nook and corner of the country and to focus on complimentary food, treatment and prevention from infections in children.

- The Poshan Maah was initiated to give momentum to the Poshan Abhiyaan.

- The Poshan Maah was be observed with four themes.

  * The first theme was Plantation Activity as "Poshan Vatika". It was observed from September 1-7.

  * The second theme was Yoga and AYUSH for nutrition. It was observed from September 8 to 15.

  * The third theme was decided as Distribution of 'Regional Nutrition Kit' to Anganwadi beneficiaries of High Burdened Districts. It was observed from 16-23 September.

  * Lastly, the fourth theme was 'Identification of SAM (Severely Acute Malnourished) children and distribution of nutritious food' and was observed from 24-30 September.

GEOGRAPHY

1. IMD forecast foiled by 24% rain shortfall

» Prelims: Long Period Average; Monsoon break

» Mains: Impact of climate change on Indian monsoons

Context

• Below forecast monsoon rainfall for August month.

Background:

Forecast of a normal monsoon:

• In June, the IMD, as part of its pre-monsoon forecast, said that rainfall in northwest, south, east and central India would be "normal".

 * IMD calls a monsoon season normal when the total amount of rainfall in the country between June and September is within 10 per cent (plus or minus) of the Long Period Average (LPA).

 * LPA is the average rainfall recorded over India between 1961 and 2010 and considered the normal rainfall. It's value is 88 cm of rainfall.

 * 'Deficit rainfall' is when it drops below the margin of 10 per cent of the average. 'Excess rainfall' is when it exceeds the average by more than 10 per cent.

• This forecast was based on the existence of "neutral conditions" in the central Pacific and the Indian Ocean.

• Even Skymet, a private weather forecasting company had forecasted normal monsoons.

Details:

• India has experienced a 24% shortfall in monsoon rains for the month of August, according to data from the India Meteorological Department (IMD).

 * August normally receives the second highest rainfall in the four monsoon months of June-September.

• The high deficit in the month of August has brought India's overall monsoon rainfall deficit to 9%, just a percentage-point shy of what would be considered "deficient" rainfall.

• The monsoon forecast of the IMD has been significantly off the mark.

Possible contributive factors for the low rainfall:

Large Monsoon break:

• The key reason for the August monsoon failure has been an extended break in rainfall for about 10 days.

 * During July and August, there are certain periods when the monsoons become weak. Rainfall practically ceases over the country outside the Himalayan belt and southeast peninsula. This is known as a break in the monsoon.

 * Middle of August is most prone to 'breaks' and that too longer breaks.

Lack of depressions:

• Wind-bearing depressions in the Bay of Bengal, coupled with moisture from the Arabian Sea, usually result in high rainfall over central India. But this did not happen in this year resulting in large deficit in Central Indian region.

 * A depression is an area of low pressure which helps pull in surrounding air.

Effect of global warming:

• Some meteorologists have argued that the large effects of global warming adversely impact monsoon rainfall.

• They have argued that global warming was leading to a decline in the number of rain-bearing depressions in the Bay of Bengal and was also contributing to erratic pre-monsoon cyclones which could possibly alter heat distribution patterns over the landmass, influencing moisture distribution and thereby cause erratic rainfall.

2. Rainy Septembers point to monsoon shifts

» Prelims: Temporal distribution on Indian monsoons

Background:

• Over the years, there has been the increasing trend of September monsoon rainfall in India exceeding the average rainfall for the month.

 * Usually, July and August are the rainiest months of Indian monsoon while September marks lower rainfall among the 4 monsoon months- June to September. September marks the beginning of the withdrawal of monsoons from the Indian subcontinent. The monsoon normally starts to withdraw by the 1st of September and completely exits by October.

Details:

• A study by scientists at the Central Water Commission on the changes in monsoon patterns noted that the monthly variability of the

summer rainfall was due to changing patterns of low pressure over the Indian landmass as well as fluctuations in moisture distribution.

- Though overall global warming is increasing moisture levels during the monsoon period, this is also affecting the distribution of the rain.

- The delay in withdrawal of the monsoons is contributing to more September rainfall.

- Experts say that this is a sign of a change in monsoon patterns but it is difficult to demonstrably prove this as a lasting consequence of global warming.

Geography - Climatology

3. Cyclone Gulab

  » Prelims: Cyclone Gulab

  » Mains: Cyclone vulnerability of India

Context

- Following the formation of the deep depression over northwest and adjoining west central Bay of Bengal and its westward movement, the Odisha state government had issued a warning for the cyclonic storm Gulab (pronounced as Gul-Aab).

- Cyclone Gulab crossed the north Andhra Pradesh and south Odisha coast triggering widespread rain in the region.

Details:

- This is the third cyclone of 2021 after Tauktae and Yaas.

- Cyclone Gulab was named by Pakistan.

The Naming of Cyclones:

- In 2018, a panel was set up to coordinate and decide names for future cyclones.

- The panel consists of 13 countries—India, Pakistan, Bangladesh, Myanmar, Oman, Maldives, Yemen, Sri Lanka, Thailand, Iran, United Arab Emirates, Qatar, Saudi Arabia.

- These countries choose the names of cyclones in the north Indian Ocean, the Arabian Sea and the Indian Ocean.

- India has proposed names such as Gati, Tej, Murasu, Aag, Neer, Prabhanjan, Ghurni, Ambud, Jaladhi and Vega.

Geography - Celestial bodies

4. Blue straggler

  » Prelims: Blue straggler

What's in the news?

- Carrying out the first-ever comprehensive analysis of blue stragglers, Indian researchers found that half of the blue stragglers in their sample are formed through mass transfer from a close binary companion star, one third are likely formed through collisions of 2 stars, and the remaining are formed through interactions of more than 2 stars.

What are blue stragglers?

- Blue stragglers are a class of star observed in old, dense stellar systems such as globular clusters.

- They stand out because old stellar populations are expected to be devoid of blue (high-mass) stars which possess very short lifespans. The blue stragglers in an old stellar population must therefore have formed long after the system as a whole.

How are they formed?

- A clue to their origin is that they are only found in dense stellar systems, where distances between stars are extremely small (a fraction of a light year).

- In these dense environments (for example the cores of globular clusters), collisions between stars are relatively common, and it has long been believed that blue stragglers are the result of the merger of two old, red stars.

- This merger produces a star with a greater mass (hence bluer in colour), and severely disrupts the two stars involved, mixing hydrogen into the stellar core and giving the star a new lease on life.

Places in news

5. Mt Kun

  » Prelims: Mt Kun

- Kun (7077M), the second highest peak of the Nun Kun massif is located in the upper Suru Valley.

- Being one of the highest peaks in the Zanskar Range and on the Indian side of the Line of Control, the twin peaks of Nun (7135M) and Kun are separated by a 4km long snow plateau.

Geography-Solar system

6. Coronal Mass Ejections (CMEs)

  » Prelims: Aditya-L1 mission; Coronal Mass ejections- Process and its impact on earth

Context:

- A recent study has shown how conditions and events in the solar atmosphere like coronal mass ejections influence the accuracy of space weather prediction, which is crucial for the health of our satellites. This understanding will aid the interpretation of data from the upcoming Aditya-L1, India's first solar mission.

Who conducted the Study?

- Astronomers led by Dr. Wageesh Mishra of the Indian Institute of Astrophysics (IIA), Bengaluru, an autonomous institute of the Department of Science & Technology, Govt. of India.

What is Space Weather?

- Space weather refers to the conditions in the solar wind and near-Earth space, which can adversely affect the performance of space-borne and ground-based technological systems.

- The space weather near the Earth is mainly due to Coronal Mass Ejections (CMEs).

- An example of a space weather event is the geomagnetic storm, a perturbation in the Earth's magnetic field, which can last for a few hours to a few days.

- Understanding of how events in the solar atmosphere influence space weather is necessary for monitoring and maintaining our satellites.

Coronal Mass Ejections:

- Coronal Mass Ejections (CMEs) are large expulsions of plasma and magnetic field from the Sun's corona.

- CMEs travel outward from the Sun at speeds ranging from slower than 250 kilometres per second (km/s) to as fast as near 3000 km/s.

- The fastest Earth-directed CMEs can reach our planet in as little as 15-18 hours. Slower CMEs can take several days to arrive.

- They expand in size as they propagate away from the Sun and larger CMEs can reach a size comprising nearly a quarter of the space between Earth and the Sun by the time it reaches our planet.

- CMEs most often originate from active regions on the Sun's surface, such as groupings of sunspots associated with frequent flares.

- The largest recorded geomagnetic perturbation, resulting presumably from a CME hitting the Earth's magnetosphere, was the solar storm of 1859, known as the Carrington Event.

Places in news

7. River Suvarnamukhi

- » Prelims: Rivers of south India
- Suvarnamukhi is a perennial river in Andhra Pradesh
- The Hindu temples of Tirumala and Srikalahasti are situated in the river's basin.

DISASTER MANAGEMENT

1. Flood management

» Prelims: Trans-boundary rivers between India and Nepal

» Mains: Vulnerability of Bihar to floods; Measures to be taken to mitigate the threat- short and long term measures

Context:

• Many of Bihar's districts have been facing serious challenges with recurrent and massive flooding.

Background:

• Some of Nepal's biggest river systems originate in the Himalayan glaciers which then flow into India through Bihar.

• During the monsoons, these river systems flood causing many problems for Bihar.

• The Government of Bihar has raised the matter at regular intervals.

Steps Taken to Address the Issue of Flooding:

• In 2004, the Joint Project Office (JPO), Biratnagar, was established in Nepal to prepare a detailed project report to construct a high dam on the Nepal side (on Kosi, Kamla and Bagmati rivers).

• In 2020, in India, the Central Water Commission (CWC), Ministry of Jal Shakti (MoJS), convened a special meeting of the joint team of experts to ascertain the status of the detailed project report.

Issue:

• The Water Resources Department, Bihar has repeatedly requested the MoJS to expedite the progress of the detailed project report.

• Despite the best efforts made by the Government of Bihar, the task remains unaccomplished even after 17 years.

• The crucial matter of water sharing with Nepal has been flagged by India officially as well. Nepal's lack of prompt reciprocation is a grave matter of concern.

  * It is essential that Nepal shows the required will to find a long-term solution with India in ending a perennial disaster.

Flood protection work:

• As in the existing India-Nepal Agreement on water resources, the State government is authorised to execute flood protection works up to critical stretches inside Nepal territory along the India-Nepal border.

* In recent years, all such works have had to be carried out amidst increasing local resistance.

• Even during the pandemic, the Government of Bihar was intensively engaged at two levels:

  * with local Nepalese authorities.

  * through appeals to the Central government for carrying out flood protection.

• After sustained coordination between the Centre and Bihar and expedited interventions by India with Nepal, Kathmandu gave its conditional permission for manpower and machinery operation in the Nepal area of the Kosi basin.

  * Accordingly, 21 out of the 22 works could be completed.

  * Some progress was made to facilitate the smooth movement of manpower, machinery and flood control materials across the Gandak and Kamla rivers situated on the Nepal side to carry out flood protection work.

Way Forward:

• By controlling the flooding and using the water resources for common developmental uses such as hydroelectricity, irrigation and waterways, India-Nepal relations can be strengthened even further.

• Some of the key aspects of India-Nepal flood management must be relooked into under the existing arrangements of India's federal system that offers a possibility of better coordination between the Centre and State governments.

• There is a need for process-driven coordination between the Centre and the Government of Bihar to handle the flooding in Nepal's Terai and North Bihar (largely the Mithilanchal region).

• Nepal's attitude towards mutual issues (water sharing, flood control, etc.) has been short of collaboration.

• Since bilateral cooperation remains the axis of water sharing and water management between the two countries, Nepal must play its part in ensuring a sustainable way forward.

• In the best spirit of friendship, Nepal and India should restart the water dialogue and come up with policies to safeguard the interests of all those who have been affected on both sides of the border. It is time the two countries come together and assess the factors that are causing losses through flooding every year. Water cooperation should drive the next big India-Nepal dialogue.

MISCELLANEOUS

1. Orca

- Orca is a direct-air carbon capture facility in Iceland. It will pull CO_2 from the air and trap it in the ground.
- It has a capacity of capturing 4,000 tonnes of carbon dioxide per year, which is the amount the world would release in four seconds.

2. Footprints of 3 dinosaur species found in Thar desert

- Footprints of three species of dinosaurs have been found in the Thar desert in Rajasthan's Jaisalmer district, proving the presence of the giant reptiles in the western part of the State, which formed the seashore to the Tethys Ocean during the Mesozoic era. The footprints, made in the sediment or silt of the seashore, later became permanently stone-like.
- They belong to three species of dinosaurs Eubrontes cf. giganteys, Eubrontes glenrosensis and Grallator tenuis.
- The giganteus and glenrosensis species have 35 cm footprints, the footprint of the third species was found to be 5.5 cm. The footprints were 200 million years old.
- The dinosaur species are considered to be of the theropod type, with the distinguishing features of hollow bones and feet with three digits.
- Eubrontes could have been 12 to 15 m long and weighed between 500 kg and 700 kg, while the height of the Grallator is estimated to have been 2 m, as much as a human, with a length of up to three meters.

3. El Salvador adopts bitcoin as legal tender

- El Salvador became the first country in the world to adopt bitcoin as legal tender.
- While the adoption of bitcoin as legal tender will help El Salvador lower commission costs for billions of dollars sent home from abroad, the adoption of bitcoin has also raised concerns over potential use of Bitcoins for money laundering given the anonymity that such digital tools provide for.

4. Zojila tunnel

- The 13.5-km tunnel will be Asia's longest bi-directional tunnel and will allow all-weather connectivity between Ladakh and Srinagar, which is disrupted during the winter months.
- It is located at 11,578 feet above sea level.
- This tunnel will not only provide all-weather connectivity for the first time, but will also be of strategic value to the armed forces.
- The main objective of the project is to provide all-weather connectivity to the strategically important Leh region in Jammu & Kashmir which at the moment is limited to at best 6 months because of snow on the passes and threat of avalanches.
- This project along with other ongoing projects like the 6.5 km long Z-Morh tunnel at Gagangir would ensure safe, fast and cheap connectivity between the two regions of Kashmir and Ladakh.

5. Engineers' Day

Context:

- September 15 is observed as Engineers' Day in India.

About Engineers' Day:

- India celebrates September 15 as Engineers' Day to mark the birth anniversary of M Visvesvaraya.
- Also called Sir MV after he was knighted by the British, he was a civil engineer and statesman.
- A Bharat Ratna awardee (1955), Visvesvaraya is best known for designing one of India's first flood protection systems, in Hyderabad, and setting up one of the first engineering institutes in the country, the Government Engineering College, now called University Visvesvaraya College of Engineering, Bengaluru.
- He was born in 1861 into a poor family in Muddenahalli village, Karnataka.
- One of his major contributions was the Krishnarajasagara (KRS) reservoir on the Kaveririver.
- Visvesvaraya's other inventions included designing the block system of irrigation, which ensured even distribution of water supply to parched agricultural lands across a number of villages, and the introduction of automatic sluice gates on dams, which enabled storage of water well above the crest of the weir of the dam.
- He was made the diwan of the Mysore state in 1912.

- He also played a major role in setting up Hindustan Aeronautics Limited.
- Engineers' Day is also observed in Sri Lanka and Tanzania in his honour.

6. Food Safety Index

Context:
- The 3rd State Food Safety Index (2020-21) released.

About the State Food Safety Index:
- Every year, FSSAI releases the State Food Safety Index based on the overall performance of the States/UTs in the previous financial year in the domain of food safety.
- The idea is to create a positive competitive environment across the States/UTs to meet the objectives of the Food Safety and Standards Act to provide safe food to the general public.
- The first State Food Safety Index for the year 2018-19 was announced on the first-ever World Food Safety Day on 7 June 2019.
- The Index measures the performance of States and UTs on five significant parameters of Food Safety:
  * Human Resources and Institutional Data (20% weightage)
  * Compliance (30% weightage)
  * Food Testing – Infrastructure and Surveillance (20% weightage)
  * Training and Capacity Building (10% weightage)
  * Consumer Empowerment (20% weightage)

Ranking:
- Among the larger states, Gujarat was the top ranking state, followed by Kerala and Tamil Nadu.
- Among the smaller states, Goa stood first followed by Meghalaya and Manipur.
- Among UTs, Jammu & Kashmir, Andaman & Nicobar Islands and New Delhi secured top ranks.

7. Hybodont Shark of the Jurassic Age

Context:
- Teeth of shark of the Jurassic Age unearthed in Rajasthan.

Details:
- In a rare discovery, teeth of new species of hybodont shark of the Jurassic age have been reported for the first time from Jaisalmer by a team of the Geological Survey of India (GSI).

- Hybodont sharks have been reported for the first time from the Jurassic rocks (approximately between 160 and 168 million-years-old) of the Jaisalmer region of Rajasthan.

Hybodonts:
- Hybodonts, an extinct group of sharks, was a dominant group of fishes in both marine and fluvial environments during the Triassic and early Jurassic time.
- However, hybodont sharks started to decline in marine environments from the Middle Jurassic onwards until they formed a relatively minor component of open-marine shark assemblages.
- Hybodonts finally became extinct at the end of the Cretaceous time 65 million years ago.

Significance of the discovery:
- The newly discovered crushing teeth from Jaisalmer represents a new species named by the research team as Strophodusjaisalmerensis.
- The genus Strophodus has been identified for the first time from the Indian subcontinent and is only the third such record from Asia, the other two being from Japan and Thailand.
- This discovery marks an important milestone in the study of Jurassic vertebrate fossils in the Jaisalmer region of Rajasthan, and it opens a new window for further research in the domain of vertebrate fossils.

8. 'Main Bhi Digital 3.0'

Context:
- 'Main Bhi Digital 3.0' – A special Campaign for Digital Onboarding and Training for street vendors launched.

About 'Main Bhi Digital 3.0':
- The campaign has been launched by the Ministry of Housing Affairs in collaboration with the Ministry of Electronics & Information Technology across 223 cities in the country.
- The drive is a part of the PM SVANidhi scheme.
- The BharatPe, Mswipe, PhonePe, Paytm, Aceware are participating in this drive to issue UPI IDs, QR code and provide digital training.
- Digital Payment Aggregators will handhold the street vendors to bring about enhanced adoption of digital transactions and behaviour change.
- To promote digital transactions, instruction has been issued to the Lending Institutions (LIs) to handover a durable QR Code and train the beneficiaries for conducting digital receipt and payment transactions within a week of disbursement.

- Benefits:
  - * Digital footprints including digital payment transactions and loan repayment data under the scheme would help in credit profiling of street vendors.
  - * This will enable the inclusion of street vendors in the formal credit ecosystem, and help in driving financial inclusion of the unorganized sector.

9. National Florence Nightingale Award

Context:

- President gives away the National Florence Nightingale Award 2020 to the Deputy Director General of Military Nursing Service.

About the National Florence Nightingale Award:

- National Florence Nightingale Award is the highest national distinction a nurse can achieve in India for selfless devotion and exceptional professionalism.
- The Government of India instituted these awards in 1973.
- They are named after Florence Nightingale, the founder of modern nursing.
- The award carries Rs 50000 cash, a certificate, a citation certificate and a medal.

10. Planetarium Innovation Challenge

Context:

- MyGov launched Planetarium Innovation Challenge for Indian start-ups and tech entrepreneurs.

What is the Planetarium Innovation Challenge?

- The challenge has been launched by MyGov.
- The challenge invites applications from start-ups and tech entrepreneurs to develop state-of-the-art technology for our Planetariums.
- This is an opportunity for Planetariums in India to deploy new technologies (Augmented Reality, Virtual Reality and Merged Reality), especially for smaller cities and rural areas, all Made in India.
- The Innovation Challenge is open to experts from all domains of Planetarium Technology.
- The applicants may include Start-ups, Indian Legal Entities, even Individuals (or Teams).
- The applications will be evaluated on different parameters including Approach towards problem-solving, Product Idea, Degree of Innovation, Novelty of Approach.
- The first winner, second winner and third winner under the contest will get cash prizes of Rs.5 lakh, Rs.3 lakh and Rs.2 lakh respectively.

- The participants will also get an opportunity to showcase their products/ideas in front of industry leaders.

11. World Coconut Day

Context:

- September 2 is observed as World Coconut Day.

About World Coconut Day:

- This day is celebrated to emphasize and raise awareness of the importance as well as benefits of coconuts.
- This day started in 2009, on the day when the Asian and Pacific Coconut Community (APCC) was founded.
  - * APCC is an intergovernmental organization that supervises and facilitates Asian-Pacific states that produce coconuts.
- The theme of World Coconut Day 2021 is "Building a Safe Inclusive Resilient and Sustainable Coconut Community Amid COVID-19 Pandemic & Beyond".
- In India, states such as Kerala, Tamil Nadu, Karnataka, Goa, West Bengal, Andhra Pradesh, Odisha, etc. are the major producers of coconut.

12. Youth Co:Lab India 2021

- It was co-created in 2017 by UNDP Asia and the Pacific and Citi Foundation.
- It is a multi-dimensional and multi-level response to tackle the challenges young people face by positioning youth front and center to find solutions to today's most pressing problems.
- Youth Co: Lab aims to establish a common agenda for Asia-Pacific countries to invest in and empower youth to accelerate the implementation of the SDGs through leadership, social innovation and entrepreneurship.
- Youth Co: Lab India is conducted by UNDP India and the Atal Innovation Mission, NITI Aayog.
- The fourth edition of Youth Co: Lab India (2021) will focus on identifying and supporting youth climate and green entrepreneurs.
  - * Youth Co: Lab 2021 seeks to invite youth-led early stage social enterprises or innovations working in the space of circular economy and waste management, sustainable transportation and e-mobility, sustainable tourism and sustainable food tech.

13. Amrit Grand Challenge Program

Context:

- Union Minister launched the "Amrit Grand Challenge Program" titled " CARE" to identify 75

innovations in Telemedicine, AI, Digital Health & BIG Data by Start-ups and Entrepreneurs.

About the Challenge:

- CARE 2.0"- a Grand Innovation Challenge by DBT/BIRAC, MEITY, NASSCOM in collaboration with GCI, IKP, and a network of several partners from industry, investors, hospitals, incubator network, is a nationwide program.

- The program shall identify and support up to 75 Health-tech Innovations for Telemedicine, Digital health, mHealth with Big Data, AI, ML, Blockchain, and other technologies from Startups and individuals for strengthening healthcare delivery in India.

14. Coir Board

- Coir Board was set up under the Coir Industry Act, 1953 by the Government of India for the overall sustainable development of coir industry in the country.

- The functions of the Board as laid down under the Act include undertaking, assisting and encouraging scientific, technological and economic research, modernization, quality improvement, human resource development, market promotion and welfare of all those who are engaged in this industry.

- It is headquartered in Kochi, Kerala.

- The coir industry was concentrated in the State of Kerala, which has now proliferated to other parts of the country also, with the efforts taken by the Board.

- The Board also runs various schemes/programs including R&D activities, training programs, extending financial support for setting up of coir units, domestic as well as export market development, welfare measures to the workers, etc.

15. NITI Aayog Frontier Technologies Cloud Innovation Center (CIC)

Context:

- NITI Aayog, Amazon Web Services (AWS), and Intel have come together to establish a new experience studio at the NITI Aayog Frontier Technologies Cloud Innovation Center (CIC).

Details:

- Located in NITI Aayog's New Delhi premises, the studio will be a hub for collaboration and experimentation to enable problem solving and innovation between government stakeholders, startups, enterprises, and industry domain experts.

- The studio will help showcase the potential of technologies such as artificial intelligence (AI), machine learning (ML), Internet of Things (IoT), augmented reality and virtual reality (AR/VR), blockchain, and robotics to accelerate their application in public sector use cases.

- The studio will encourage open innovation and serve as a hub for government, healthcare, education, and non-profit startups from India to showcase their solutions.

- It will also provide startups with an option to access necessary support to enhance and scale their solutions.

About NITI Aayog Frontier Technologies CIC:

- The CIC was established in October 2020 as part of the AWS Cloud Innovation Centers Global Program.

- It works on addressing societal challenges around areas like agriculture and healthcare through digital innovation.

- The NITI Aayog Frontier Technologies Cloud Innovation Center is the first AWS CIC in India, and the first such centre that has been set up at a national level.

- It has such centres across countries like Australia, Bahrain, Canada, France, Germany, South Korea, and the US, including one in partnership with the University of British Columbia.

- The AWS CIC Global Program provides an opportunity for government agencies, non-profit entities, and educational institutions, to collaborate on pressing challenges, apply design thinking methodology, test new ideas, and access technology expertise from AWS.

16. Sign Language Day

Context:

- 23 September is observed as Sign Language Day.

About Sign Language Day:

- The UN General Assembly has proclaimed 23 September as the International Day of Sign Languages in order to raise awareness of the importance of sign language in the full realization of the human rights of people who are deaf.

- The theme for 2021 is "We Sign For Human Rights", declared by the World Federation of the Deaf.

- The first International Day of Sign Language was observed across the world on September 23, 2018.

- The International Week of the Deaf was first celebrated in September 1958 and has since evolved into a global movement of deaf unity.

PRACTICE QUESTIONS

1. **What best describes the term 'low base effect', with regard to GDP estimates?**

   A. Extremely low GDP growth than anticipated due to abnormal market conditions

   B. A distortion in the GDP figures that results from abnormally low levels of growth in the corresponding period of the last year

   C. The base year taken for GDP calculation by accounting for inflationary trends

   D. None of the above

2. **Which of the following statements is/are incorrect?**

   1. The Supreme Court's collegium has consistently provided for gender diversity and representation in its appointments to the higher judiciary.

   2. Women's representation in the judiciary is much better at the Supreme Court and High Courts as compared to lower district courts.

   3. India has had a woman Chief Justice of India.

   Options:

   A. 1 only

   B. 2 only

   C. 3 only

   D. 1, 2 and 3

3. **What is the role of the European Council, one of the principal organs of the European Union (EU)?**

   A. Provides political direction to the European Union

   B. Acts as the legislature of the European Union

   C. Pass legislations and exercise control over the budget of the EU

   D. Settle legal disputes between EU member states

4. **India Meteorological Department (IMD) provides for which of the following early warning & forecasting services?**

   1. Monsoon forecast

   2. Tropical cyclones

   3. Dust storms

   4. Heavy rains and snow

   5. Cold and heat waves

   Select the correct answer from the code given below:

   A. 1 and 2 only

   B. 1, 2 and 5 only

   C. 1, 4 and 5 only

   D. 1, 2, 3, 4 and 5

5. **With reference to the Union Government consider the following statements. (UPSC-2015)**

   1. The Department of Revenue is responsible for the preparation of Union Budget that is presented to the parliament.

   2. No amount can be withdrawn from the Consolidated Fund of India without the authorization of Parliament of India.

   3. All the disbursements made from Public Account also need the authorization from the Parliament of India.

   Which of the following statements given above is/are correct?

   A. 1 and 2 only

   B. 2 and 3 only

   C. 2 only

   D. 1, 2 and 3

6. **Consider the following statements about the black-necked crane:**

   1. The black-necked crane (Grus nigricollis) is the state bird of Arunachal Pradesh.

   2. Its IUCN status is Endangered.

   Which of the above statements is/are correct?

   A. 1 only

   B. 2 only

   C. Both

   D. None

7. **With reference to Deputy Speaker of Lok Sabha, which of the following statements is/are correct?**

   1. The date of election of Deputy Speaker is fixed by the President.

   2. The Constitution sets a time limit for the process of these elections.

   Options:

   A. 1 only

   B. 2 only

   C. Both

   D. None

8. **Which of the following reports is/are published by International Labour Organization (ILO)?**

    1. Global Wage Report

    2. World Employment and Social Outlook

    3. World Social Protection Report

    Options:

    A. 1 only

    B. 1 and 2 only

    C. 3 only

    D. 1, 2 and 3

9. **Consider the following statements:**

    1. Coal-fired power accounts for more than 90% of India's electricity generation.

    2. China is the leading coal producer worldwide.

    Which of the above statements is/are incorrect?

    A. 1 only

    B. 2 only

    C. Both

    D. None

10. **Consider the following: (UPSC - 2014)**

    1. Bats

    2. Bears

    3. Rodents

    The phenomenon of hibernation can be observed in which of the above kinds of animals?

    A. 1 and 2 only

    B. 2 only

    C. 1, 2 and 3

    D. Hibernation cannot be observed in any of the above

11. **Which of the following statements with respect to Controller General of Accounts is/are correct?**

    1. CGA is an independent constitutional body that derives its mandate from the constitution of India.

    2. CGA is the Principal Advisor on accounting matters to the Union Government.

    3. CGA is responsible for the disbursement of Pension in respect of Central Civil Pensioners, Freedom Fighters, High Court Judges, Eg-M.P.s and Eg-Presidents.

    Options:

    A. 1 only

    B. 2 only

    C. 2 and 3 only

    D. 1, 2 and 3

12. **Which of the given statements is/are correct?**

    1. India accounts for over 50% of the global production of coconuts.

    2. The World Coconut Germplasm Centre is located in Andaman and Nicobar Islands.

    3. The secretariat of the International Coconut Community under the aegis of the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) is headquartered in Tamil Nadu in India.

    4. De-husked coconut and Copra are covered under the government's Minimum Support Price (MSP) scheme.

    Options:

    A. 2 and 4 only

    B. 1, 2 and 3 only

    C. 3 and 4 only

    D. 1, 2, 3 and 4

13. **Which of the following are correctly matched?**

Turtle	Conservation status
1. Red-crowned roofed turtle	Endangered
2. Northern River terrapin	Extinct in the Wild
3. Black softshell turtle	Critically Endangered

    Options:

    A. 1 and 3 only

    B. 3 only

    C. 1, 2 and 3

    D. None of the above

14. **Which of the given statements is/are INCORRECT?**

    1. Durand Line is an important international boundary line, running between Pakistan and Afghanistan.

    2. The Durand line was slightly modified by the Anglo-Afghan Treaty of 1919, meant to be for 100 years and was renewed in 1999.

    3. Afghanistan was the only country to vote against Pakistan joining the United Nations in 1947.

    Options:

A. 1 and 2 only

B. 1 and 3 only

C. 2 only

D. None of the above

15. With reference to two non-conventional energy sources called 'coal bed methane' and 'shale gas', consider the following 'statements:

1. Coal bed methane is the pure methane gas extracted from coal seams, while shale gas is a mixture of propane and butane only that can be extracted from fine-grained sedimentary rocks.

2. In India abundant coal bed methane sources exist, but so far no shale gas sources have been found.

Which of the statements given above is/are correct? [UPSC 2014]

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

16. Consider the following statements with respect to IUCN "Red List of Threatened Species":

1. It is a comprehensive inventory of the global conservation status of animal, fungus and plant species.

2. It defines the extinction risk of species assessed classified into seven categories.

3. Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species are considered to be threatened with global extinction.

Which of the given statements is/are INCORRECT?

A. 1 only

B. 2 and 3 only

C. 1 and 2 only

D. 2 only

17. Which of the following is/are the likely impacts of an increase in atmospheric aerosols?

1. Destruction of stratospheric ozone

2. Affect the rainfall patterns

3. Reduce solar energy generation from photovoltaic and rooftop solar installations

Options:

A. 1 and 3 only

B. 2 and 3 only

C. 2 only

D. 1, 2 and 3

18. Which of the following statements with respect to the SAMARTH Scheme is/are correct?

1. It intends to provide skill development and placement-oriented training across the entire textiles value chain including spinning and weaving in the organised sector.

2. The scheme is implemented by the Ministry of Skill Development and Entrepreneurship.

Options:

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

19. Which of the given statements with respect to the Financial Stability and Development Council (FSDC) is/are correct?

1. It is a statutory body set up for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development.

2. The Council is chaired by NITI Aayog Chairman.

3. RBI Governor and Securities and Exchange Board of India (SEBI) Chairman are among its members.

Options:

A. 1 only

B. 2 and 3 only

C. 3 only

D. 1, 2 and 3

20. If a particular plant species is placed under Schedule VI of the Wildlife Protection Act, 1972, what is the implication? [UPSC 2020]

A. A license is required to cultivate that plant.

B. Such a plant cannot be cultivated under any circumstances.

C. It is a Genetically Modified crop plant.

D. Such a plant is invasive and harmful to the ecosystem.

21. With reference to Bye-elections, which of the following statements is/are correct?

1. It should be held within a period of six months from the date of the occurrence of the vacancy

2. Elections need not be conducted if the

remainder of the term of a member in relation to a vacancy is less than one year

Options:

A. 1 only

B. 2 only

C. Both

D. None

22. Which one among the following statements best describes the Hycean planet?

A. It is a dwarf planet recently discovered by NASA's Transiting Exoplanet Survey Satellite (TESS)

B. It is a minor planet between the orbits of Mars and Jupiter

C. It is a habitable planet described as a hot, water-covered planet with a hydrogen-rich atmosphere

D. It is a new exotic planet outside our solar system in the constellation Cassiopeia

23. Which of the following is/are correctly matched?

1. Mutualism- Both species benefit

2. Amensalism- One species benefits, the other is unaffected

3. Commensalism- One species is harmed, the other is unaffected

Options:

A. 1 only

B. 1 and 3 only

C. 2 and 3 only

D. 1, 2 and 3

24. Consider the following statements with respect to Komodo dragon:

1. It is the largest living lizard species in the world

2. It is endemic to the Amazon forest

3. Komodo National Park was classified as a UNESCO World Heritage Site in 1991

Which of the above statements is/are incorrect?

A. 1 and 2 only

B. 2 only

C. 2 and 3 only

D. 3 only

25. The national motto of India, 'Satyameva Jayate'

inscribed below the Emblem of India is taken from

A. Katha Upanishad

B. Chandogya Upanishad

C. Aitareya Upanishad

D. Mundaka Upanishad

26. Consider the following statements:

1. The Khilafat movement was launched under the leadership of the Ali Brothers.

2. Treaty of Versailles was a treaty signed between the Allies of World War I and the Ottoman Empire.

Which of the above statements is/are correct?

A. 1 only

B. 2 only

C. Both

D. None

27. Which of the following is/are the applications of Doppler radar?

1. Radiology and healthcare

2. Weather Forecasting

3. Submarines

4. Aviation

Options:

A. 1, 2 and 3 only

B. 1, 2 and 4 only

C. 2, 3 and 4 only

D. 1, 2, 3 and 4

28. Consider the following statements:

1. He founded the Swadeshi Steam Navigation Company (SSNC) in 1906 to compete against the monopoly of the British India Steam Navigation Company.

2. He was a great believer in the Swadeshi movement.

3. He is sometimes called 'Kappalottiya Tamilan'.

The above statements best describe:

A. Subramanya Bharathi

B. Chidambaram Pillai

C. Rajagopalachari

D. E.V.Ramasamy

29. **Which of the following statements is/are incorrect?**

1. The University Education Commission was set up in 1948 under the Chairmanship of Dr. S Radhakrishnan.

2. It recommended the establishment of the University Grants Commission along similar lines to the University Grants Committee of the United Kingdom.

Options:

A. 1 only

B. 2 only

C. Both

D. None

30. **Which of the following is/are the function/ functions of the Cabinet Secretariat?**

1. Preparation of agenda for Cabinet Meetings

2. Secretarial assistance to Cabinet Committees

3. Allocation of financial resources to the Ministries

Select the correct answer using the code given below.

A. 1 only

B. 2 and 3 only

C. 1 and 2 only

D. 1, 2 and 3

31. **Which is the best description of NAMASYA Mobile App?**

A. It is an app developed exclusively for the benefit of NALCO's MSE Vendors

B. It is an electronic marketplace providing a platform to connect aqua farmers and the buyers.

C. It is an app to log in and track the grievances of the consular services offered by the Indian embassies in foreign locations.

D. It is an app where citizens can pay homage and contribute financially to the bereaved families of soldiers

32. **Consider the following pairs:**

Operation   Objective

1. Samudra Setu – national effort to repatriate Indian citizens from overseas during the COVID-19 pandemic

2. Pawan – military operation undertaken by the IPKF to take control of the Jaffna Peninsula

3. Maitri – rescue and relief mission in quake-hit Nepal

Which of the above pairs is/are correctly matched?

A. 1 and 2 only

B. 2 only

C. 2 and 3 only

D. 1, 2 and 3

33. **With reference to Manda buffalo, which of the following statements is/are correct?**

1. They are found in the Western Ghats.

2. The Manda are resistant to parasitic infections and are less prone to diseases.

Options:

A. 1 only

B. 2 only

C. Both

D. None

34. **Consider the following statements:**

1. It is a landlocked country.

2. It is bordered by Russia to the east and northeast, and by Ukraine to the south.

3. It is not a member of the European Union.

The above statements describe:

A. Poland

B. Slovenia

C. Belarus

D. Lithuania

35. **Consider the following pairs:**

Region	Well-known for the production of
1. Kinnaur:	Areca nut
2. Mewat:	Mango
3. Coromandel:	Soya bean

Which of the above pairs is/ are correctly matched? (UPSC 2014)

A. 1 and 2 only

B. 3 only

C. 1, 2 and 3

D. None

36. **Which of the following are the applications of Turmeric?**

1. Food colouring agent
2. Flavouring agent
3. Dyeing agent
4. Traditional medicine

Select the correct answer from the code given below:

A. 1 and 4 only
B. 1, 2 and 4 only
C. 2, 3 and 4 only
D. 1, 2, 3 and 4

37. **Which of the following statements are incorrect?**

1. The United Nations High Commissioner for Refugees (UNHCR) is a UN agency mandated to aid and protect refugees, forcibly displaced communities, and stateless people.

2. It was created in 1950 to address the refugee crisis that resulted from World War II.

3. The 1951 Refugee Convention established the scope and legal framework of the agency's work, which initially focused on Europeans uprooted by the war.

4. India is not a party to the 1951 Refugee Convention.

Options:

A. 2 only
B. 2 and 3 only
C. 4 only
D. None of the above

38. **Which constitutional provision provides for reservation of seats in Panchayats?**

A. Article 15
B. Article 239A
C. Article 243D
D. Article 280

39. **What does the 'Vidyanjali 2.0 portal' provide for?**

A. Online learning support and study resources to adults and illiterates

B. Scholarships for Indian students studying in elite universities abroad

C. Facilitates private donors, CSR contributions and volunteering activities for school development

D. Creates a platform for teachers to form a community and share best practices

40. **The term 'Base Erosion and Profit Shifting' is sometimes seen in the news in the context of (UPSC-2016)**

A. mining operation by multinational companies in resource-rich but backward areas

B. curbing of tax evasion by multinational companies

C. exploitation of genetic resources of a country by multinational companies

D. lack of consideration of environmental costs in the planning and implementation of developmental projects

41. **With reference to Minimum Support Price (MSP), which of the following statements is/are correct?**

1. Minimum Support Price was introduced by the Centre for the first time in the year 1991 to reduce the impact on farming because of LPG reforms.

2. The government announces the MSP at the start of each cropping season.

3. MSP doesn't have any legal stature.

Options:

A. 1 only
B. 2 and 3 only
C. 1 and 3 only
D. None

42. **Therukoothu, a street theatre form, is practised in the State of**

A. Andhra Pradesh
B. Karnataka
C. Kerala
D. Tamil Nadu

43. **Which of the following pollutants is/are emitted from cement industries?**

1. Particulate Matter
2. Carbon Monoxide
3. Sulphur Dioxide
4. Nitrogen Dioxide

Options:

A. 1, 2 and 3 only

B. 2, 3 and 4 only

C. 1, 3 and 4 only

D. 1, 2, 3 and 4

44. **Consider the following statements with respect to PMGDISHA Scheme:**

1. It is applicable only to rural areas of the country.

2. The implementation of the Scheme would be carried out under the overall supervision of the Ministry of Rural Development.

Which of the above statements is/are correct?

A. 1 only

B. 2 only

C. Both

D. None

45. **With reference to the cultural history of India, the term 'Panchayatan' refers to (2014)**

A. An assembly of village elders

B. A religious sect

C. A style of temple construction

D. An administrative functionary

46. **A parliamentary system of government is one in which [UPSC 2020]**

A. All political parties in the Parliament are represented in the Government

B. The Government is responsible to the Parliament and can be removed by it

C. The Government is elected by the people and can be removed by them

D. The Government is chosen by the Parliament but cannot be removed by it before completion of a fixed term

47. **With reference to the history of India, "Ulgulan" or the Great Tumult is the description of which of the following events? [UPSC 2020]**

A. The Revolt of 1857

B. The Mappila Rebellion of 1921

C. The Indigo Revolt of 1859-60

D. Birsa Munda's Revolt of 1899 – 1900

48. **Siachen Glacier is situated to the [UPSC 2020]**

A. East of Aksai Chin

B. East of Leh

C. North of Gilgit

D. North of Nubra Valley

49. **With reference to Foreign Direct Investment in India, which one of the following is considered its major characteristics? [UPSC 2020]**

A. It is the investment through capital instruments essentially in a listed company

B. It is a largely non-debt creating capital flow

C. It is the investment which involves debt-servicing

D. It is the investment made by foreign institutional investors in the Government securities

50. **Consider the following statements:**

1. Coal ash contains arsenic, lead and mercury.

2. Coal-fired power plants release sulphur dioxide and oxides of nitrogen into the environment.

3. High ash content is observed in Indian coal.

Which of the statements given above is/are correct? [UPSC 2020]

A. 1 only

B. 2 and 3 only

C. 3 only

D. 1, 2 and 3

51. **With reference to National Commission for Minorities (NCM), which of the following statements is/are correct?**

1. The Constitution of India defines the word 'Minority' on the basis of religion

2. Five religious communities are notified as minority communities

3. Each Member of the commission holds office for a period of three years from the date of assumption of office

Options:

A. 1 only

B. 1 and 2 only

C. 3 only

D. None

52. **Which of the following statements about Rice Fortification is/are correct?**

1. The cooking of fortified rice does not require any special procedure.

2. Rice Fortification process increases the cost

Options:

A. 1 only

B. 2 only

C. Both

D. None

53. **With respect to India's military exercises with the Central Asian Countries, which of the following is/are incorrectly matched?**

Military Exercise	Country
1. KAZIND	Kazakhstan
2. Prabal Dostyk	Kyrgyzstan
3. Khanjar	Turkmenistan

Options:

A. 1 only

B. 1 and 2 only

C. 2 and 3 only

D. 1, 2 and 3

54. **Consider the following statements with respect to ATL Space Challenge 2021:**

1. It is an initiative of Atal Innovation Mission (AIM), ISRO, NASA and ESA.

2. The challenge will allow private players to focus on building new technologies for the space sector

Which of the above statements is/are correct?

A. 1 only

B. 2 only

C. Both

D. None

55. **Which of the following are the discretionary powers given to the Governor of a State? (UPSC-2014)**

1. Sending a report to the President of India for imposing the President's rule

2. Appointing the Ministers

3. Reserving certain bills passed by the State Legislature for consideration of the President of India

4. Making the rules to conduct the business of the State Government

Select the correct answer using the code given below.

A. 1 and 2 only

B. 1 and 3 only

C. 2, 3 and 4 only

D. 1, 2, 3 and 4

56. **Consider the following statements about the National Council of Applied Economic Research (NCAER):**

1. It is one of India's oldest economic and social research institutes formed via a resolution of the Union Cabinet.

2. National Data Innovation Centre (NDIC) established under NCAER represents India in Global Economic Forums.

Which of the above statements is/are correct?

A. 1 only

B. 2 only

C. Both

D. None

57. **With reference to NATGRID, which of the following statements is/are correct?**

1. NATGRID as an idea was mooted after the 2008 Mumbai attacks.

2. Initially, State agencies won't have direct access to NATGRID.

Options:

A. 1 only

B. 2 only

C. Both

D. None

58. **Which of the following statements about National Commission for Women is/are correct?**

1. National Commission for Women was set up as a statutory body during the emergency period.

2. The Chairperson, Members and Member Secretary nominated by the Central Government should only be women.

Options:

A. 1 only

B. 2 only

C. Both

D. None

59. **Which of the following schemes will be implemented under PM Kisan SAMPADA Yojana?**

1. Mega Food Parks

2. Integrated Cold Chain and Value Addition Infrastructure

3. Creation/ Expansion of Food Processing/ Preservation Capacities (Unit Scheme)

4. Infrastructure for Agro-processing Clusters

5. Food Safety and Quality Assurance Infrastructure

Options:

A. 1 and 2 only

B. 2, 3 and 4 only

C. 1, 2, 3 and 4 only

D. 1, 2, 3, 4 and 5

60. **With reference to the Neem tree, consider the following statements: (UPSC 2014)**

1. Neem oil can be used as a pesticide to control the proliferation of some species of insects and mites.

2. Neem seeds are used in the manufacture of biofuels and hospital detergents.

3. Neem oil has applications in the pharmaceutical industry.

Which of the statements given above is/are correct?

A. 1 and 2 only

B. 3 only

C. 1 and 3 only

D. 1, 2 and 3

61. **With reference to Siachen Glacier, which of the following statements is/are incorrect?**

1. Siachen Glacier is located in the eastern Karakoram Range in the Himalayas.

2. It is the longest glacier in the world's non-polar areas.

3. Operation Vijay was the codename for the Indian Armed Forces' operation to seize control of the Siachen Glacier.

Options:

A. 1 and 2 only

B. 2 and 3 only

C. 1 and 3 only

D. 1, 2 and 3

62. **Consider the following statements:**

1. Office of Economic Advisor (OEA), Department of Industrial Policy and Promotion, Ministry of Commerce and Industry calculates the Consumer Price Index (CPI).

2. The Base Year of the CPI is 2012.

Which of the above statements is/are correct?

A. 1 only

B. 2 only

C. Both

D. None

63. **Which of the following statements about SVAMITVA Scheme is/are incorrect?**

1. It is an initiative of the Ministry of Panchayati Raj.

2. It is a Centrally Sponsored Scheme for creating accurate land records.

Options:

A. 1 only

B. 2 only

C. Both

D. None

64. **Climate Action and Finance Mobilization Dialogue (CAFMD) recently seen in news, was launched by India and**

A. UK

B. France

C. Germany

D. USA

65. **Who of the following founded a new city on the south bank of a tributary to river Krishna and undertook to rule his new kingdom as the agent of a deity to whom all the land south of the river Krishna was supposed to belong? (UPSC- 2015)**

A. Amoghavarsha I

B. Ballala II

C. Harihara I

D. Prataparudra II

66. **Aedes aegypti mosquito transmits which of the following viral disease/s?**

1. Malaria
2. Dengue
3. Zika
4. Lymphatic filariasis
5. Yellow Fever

Options:

A. 2, 3, 4 and 5 only
B. 1 and 2 only
C. 1, 2, 3 and 5 only
D. 2, 3 and 5 only

67. **Which of the given statements with respect to Microfinance Institutions Network (MFIN) is/are correct?**

1. It is an association of Micro Finance Institutions operating as non-banking financial companies (NBFCs).

2. It is recognized by the Reserve Bank of India (RBI).

3. It is the first association in the business of micro-lending to be given the self-regulatory organization (SRO) status by RBI.

Options:

A. 1 only
B. 2 and 3 only
C. 1 and 2 only
D. 1, 2 and 3

68. **He established a "Provisional Government of India" in Kabul in the middle of World War I in 1915, which served as the Indian Government in exile. He is popularly known as "Aryan Peshwa". He was nominated for the Nobel Peace Prize in 1932.**

The Indian freedom fighter being talked about is:

A. Maharaja Sayajirao Gaekwad III of Baroda
B. Raja Mahendra Pratap Singh
C. Shyamji Krishna Varma
D. Manabendra Nath Roy

69. **Which of the given statements is/are INCORRECT?**

1. India and United Kingdom have a Free Trade Agreement (FTA) with a zero-tariff regime.

2. The countries recently signed Mutual Recognition Agreements in selective services like nursing and architecture services.

Options:

A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

70. **The Vital-Vidhvansak, the first monthly journal to have the untouchable people as its target audience was published by: (UPSC-2014)**

A. Gopal Baba Walangkar
B. Jyotiba Phule
C. Mohandas Karamchand Gandhi
D. Bhimrao Ramji Ambedkar

71. **Which of the following statements about Start-up Village Entrepreneurship Programme (SVEP) is/are correct?**

1. It is a sub component of Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) of the Ministry of Panchayati Raj

2. Any Rural poor who is willing to be entrepreneurial and self-reliant is eligible to be part of this programme.

Options:

A. 1 only
B. 2 only
C. Both
D. None

72. **Consider the following statements about Geological Survey of India (GSI):**

1. It is headquartered in Mumbai.

2. It is an attached office to the Ministry of Mines.

3. Geological Survey of India has been the sole custodian for all meteorite "falls" or "finds" within Indian Territory.

Which of the above statements is/are correct?

A. 1 and 2 only
B. 2 and 3 only

C. 1 and 3 only

D. 1, 2 and 3

73. With reference to Gold Monetization Scheme, which of the following statements is/are correct?

1. All Scheduled Commercial Banks excluding RRBs will be eligible to implement the Scheme.

2. Earnings under the Gold Monetisation Scheme are exempt from capital gains tax and income tax.

Options:

A. 1 only

B. 2 only

C. Both

D. None

74. Exercise PEACEFUL MISSION is a joint military exercise conducted by

A. BIMSTEC

B. Commonwealth Countries

C. NATO

D. SCO

75. Who of the following organized a march on the Tanjore coast to break the Salt Law in April 1930? (UPSC-2015)

A. V. O. Chidambaram Pillai

B. C. Rajagopalachari

C. K. Kamaraj

D. Annie Besant

76. Why are nuclear-powered submarines preferred over conventional diesel-electric submarines?

1. They can operate for long periods underwater as they need not surface frequently

2. They are harder to detect

3. They do not contribute to emissions

4. They have higher chances of surviving a first-nuclear strike

Select the correct answer from the code given below:

A. 1 and 4 only

B. 2, 3 and 4 only

C. 3 and 4 only

D. 1, 2 and 4 only

77. The RS Virus primarily affects which function in humans?

A. Reproduction

B. RNA synthesis

C. Ribosomal activity

D. Respiration

78. What best describes the term 'bad bank', seen recently in news?

A. A bank used by those involved in money laundering and fraudulent activities

B. A bank which is unable to honour its depositors

C. A bank that takes over and resolves non-performing assets (NPAs) in the banking system

D. A bank which deliberately violates the regulations of the central bank

79. Which of the following statements are correct?

1. The 'Doing Business' report is brought out by the World Economic Forum.

2. Its publication has been recently discontinued due to data irregularities and ethical concerns.

Select the correct answer from the code given below:

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

80. Due to some reasons, if there is a huge fall in the population of species of butterflies, what could be its likely consequence/consequences? (UPSC-2017)

1. Pollination of some plants could be adversely affected.

2. There could be a drastic increase in the fungal infections of some cultivated plants.

3. It could lead to a fall in the population of some species of wasps, spiders and birds.

Select the correct answer using the code given below:

A. 1 only

B. 2 and 3 only

C. 1 and 3 only

D. 1, 2 and 3

81. **With reference to joint military exercises with India, which of the following is/are correctly matched?**

    1. Mitra Shakti – Nepal
    2. Surya Kiran – Sri Lanka
    3. Maitree – Thailand

    Options:

    A. 1 and 2 only
    B. 2 only
    C. 2 and 3 only
    D. 3 only

82. **Which of the following is/are the advantages of millet production?**

    1. Millets are termed as the 'crops of the future' as they can not only grow under harsh circumstances but are drought-resistant crops.
    2. Millets help in curbing obesity.
    3. Millets contribute to mitigating climate change as it helps reduce the atmospheric carbon.

    Options:

    A. 1 and 2 only
    B. 2 and 3 only
    C. 1 and 3 only
    D. 1, 2 and 3

83. **Regional Anti-Terrorist Structure (RATS) which serves to promote cooperation of member states against terrorism is an organ of**

    A. CSTO
    B. SCO
    C. African Union
    D. ASEAN

84. **Which of the following countries are part of the Collective Security Treaty Organisation (CSTO)?**

    1. Armenia
    2. Belarus
    3. Kazakhstan
    4. Russian Federation
    5. Tajikistan
    6. Uzbekistan

    Options:

    A. 1, 2, 3, 4 and 5 only
    B. 2, 3, 4, 5 and 6 only
    C. 1, 3, 4, 5 and 6 only
    D. 1, 2, 3, 4, 5 and 6

85. **With reference to Indian history, which of the following is/are the essential element/elements of the feudal system? (UPSC 2015)**

    1. A very strong centralized political authority and a very weak provincial or local political authority.
    2. Emergence of administrative structure based on control and possession of land.
    3. Creation of lord-vassal relationship between the feudal lord and his overlord.

    Select the correct answer using the code given below.

    A. 1 and 2 only
    B. 2 and 3 only
    C. 3 only
    D. 1, 2 and 3

86. **Which of the following is/are the components of National Mission for Sustained Agriculture?**

    1. Rainfed Area Development (RAD)
    2. Sub-Mission on Agroforestry (SMAF)
    3. National Bamboo Mission (NBM)
    4. Soil Health Management (SHM)
    5. Green India Mission (GIM)

    Options:

    A. 1, 2 and 4 only
    B. 2, 3, 4 and 5 only
    C. 1, 2, 3 and 4 only
    D. 1, 2, 3, 4 and 5

87. **Which of the given statements with respect to Lala Lajpat Rai is/are INCORRECT?**

    1. He founded the Indian Home Rule League of America in New York City
    2. He established the Dayanand Anglo-Vedic School in Lahore.
    3. He authored the book 'Young India'.

    Choose the correct option:

    A. 3 only
    B. 1 and 3 only
    C. 2 only
    D. None of the above

88. **Makemake, Eris and Haumea seen in News are:**

    A. Supermassive black holes

    B. Dwarf Planets

    C. Asteroids

    D. Lunar Craters

89. **Which of the given statements with respect to POSHAN Abhiyan is/are INCORRECT?**

    1. Ministry of Women and Child Development is the implementing agency.

    2. Vice Chairperson of NITI Aayog is the Chairperson of the National Council on Nutrition set up under the POSHAN Abhiyaan.

    3. The goals of the mission are to achieve improvement in nutritional status of Children under the age of 14 years, Pregnant Women and Lactating Mothers.

    Options:

    A. 1 and 2 only

    B. 2 and 3 only

    C. 3 only

    D. None of the above

90. **With reference to India's Desert National Park, which of the following statements are correct? (UPSC-2020)**

    1. It is spread over two districts.

    2. There is no human habitation inside the Park.

    3. It is one of the natural habitats of the Great Indian Bustard.

    Select the correct answer using the code given below:

    A. 1 and 2 only

    B. 2 and 3 only

    C. 1 and 3 only

    D. 1, 2 and 3

91. **Which is the only country to have withdrawn from the Non-Proliferation Treaty?**

    A. Iran

    B. North Korea

    C. Israel

    D. Pakistan

92. **What best describes the term 'stablecoin', seen frequently in news?**

    A. A new coin being minted by the RBI that uses a stable metal to prevent corrosion

    B. A debt instrument being introduced by the US Federal Reserve to help fund an economic stimulus package

    C. A type of cryptocurrency that is typically pegged to an existing government-backed currency

    D. None of the above

93. **Which of the following statements are correct?**

    1. In 2020, India established the world's first sea cucumber conservation area.

    2. In India, the commercial harvesting and transportation of sea cucumbers is banned.

    Options:

    A. 1 only

    B. 2 only

    C. Both 1 and 2

    D. Neither 1 nor 2

94. **This migrant species of penguin is endemic to the Pacific coasts of Chile and Peru. It is named after a popular cold water oceanic current in the region. It grows to an average height of just over 2 feet and is listed as 'Vulnerable' on the IUCN Red List. This description refers to which species of Penguin?**

    A. Magellanic Penguin

    B. Humboldt Penguin

    C. Emperor Penguin

    D. Galápagos Penguin

95. **If another global financial crisis happens in the near future, which of the following actions/ policies are most likely to give some immunity to India? (UPSC-2020)**

    1. Not depending on the short term foreign borrowing

    2. Opening up to more foreign banks

    3. Maintaining full capital account convertibility

    Select the correct answer using the given code below-

    A. 1 only

    B. 1 and 2 only

C. 3 only

D. 1, 2 and 3

96. Which of the following are the Arya Satyas in Buddhism?

1. Dukkha
2. Samudaya
3. Sangha
4. Nirodha
5. Magga

Options:

A. 1, 2, 3 and 4 only

B. 2, 3, 4 and 5 only

C. 1, 2, 4 and 5 only

D. 1, 2, 3, 4 and 5

97. SAMUDRA SHAKTI is a Naval Bilateral Maritime Exercise between India and

A. Thailand

B. Indonesia

C. South Africa

D. Maldives

98. With respect to Global Innovation Index, which of the following statements is/are correct?

1. It is published by World Economic Forum.

2. GII was published for the first time in 2007. The Index is published biennially ever since.

3. India has been on a rising trajectory, over the past several years in the Global Innovation Index (GII).

Options:

A. 1 and 2 only

B. 2 and 3 only

C. 3 only

D. None

99. Consider the following pairs:

Species	Recently discovered in
1. Musa pradhanii	Darjeeling
2. Sygygium anamalaianum	Coimbatore
3. Selaginella odishana	Kandhamal

Which of the above pairs is/are correctly matched?

A. 1 and 2 only

B. 2 and 3 only

C. 1 and 3 only

D. 1, 2 and 3

100. Consider the following pairs:

Place of Pilgrimage	Location
1. Srisailam	Nallamala Hills
2. Omkareshwar	Satmala Hills
3. Pushkar	Mahadeo Hills

Which of the above pairs is/are correctly matched?

A. 1 only

B. 2 and 3 only

C. 1 and 3 only

D. 1, 2 and 3

101. Consider the following statements:

1. E V Ramaswami was never part of the Indian National Congress as he felt it served the interests of a few elite sections of society.

2. E V Ramaswami came from Tamil Nadu to support the Vaikom Satyagraha.

Which of the above statements is/are correct?

A. 1 only

B. 2 only

C. Both

D. None

102. Which of the following items are included under the Concurrent List?

1. Public health and sanitation

2. Marriage and divorce

3. Criminal procedure

4. Charities and charitable institutions

Options:

A. 1, 2 and 3 only

B. 2, 3 and 4 only

C. 1, 3 and 4 only

D. 1, 2, 3 and 4

103. With reference to Asian Development Bank (ADB), which of the following statements is/are incorrect?

1. India is a founding member of the Asian Development Bank.

2. Japan holds the largest share in ADB, followed by China and India.

3. Only countries from Asia can be part of ADB.

Options:

A. 1 only

B. 2 and 3 only

C. 3 only

D. 1, 2 and 3

104. Which of the following is/are the Nerve agents?

1. Sarin (GB)

2. Soman (GD)

3. Tabun (GA)

4. VX

Options:

A. 1 only

B. 2 and 4 only

C. 1, 2 and 3 only

D. 1, 2, 3 and 4

105. In the context of modern scientific research, consider the following statements about 'IceCube', a particle detector located at South Pole, which was recently in the news:

1. It is the world's largest neutrino detector, encompassing a cubic kilometre of ice.

2. It is a powerful telescope to search for dark matter.

3. It is buried deep in the ice.

Which of the statements given above is/are correct?

A. 1 only

B. 2 and 3 only

C. 1 and 3 only

D. 1, 2 and 3

106. Which of the following committees are associated with preserving the ecology and conservation of Western Ghats?

1. Dr. K. Kasturirangan Committee

2. Pitamber Committee

3. Madhav Gadgil Committee

4. BP Jeevan Reddy Committee

Options:

A. 1, 2 and 3 only

B. 1 and 3 only

C. 2, 3 and 4 only

D. 3 only

107. Which of the following statements with respect to the Swadeshi Movement is/are INCORRECT?

1. It is also known as the Vande Mataram Movement.

2. The movement spread to Madras under Chidambaram Pillai.

3. It remained confined to the upper and middle classes and zamindars, and failed to reach masses especially the peasantry.

Options:

A. 2 and 3 only

B. 1 only

C. 3 only

D. None of the above

108. Which of the following pairs is/are correctly matched?

Strait	Joining Seas/Water Bodies
1. Hormuz Strait	The Gulf of Oman and the Persian Gulf
2. Bab-el-Mandeb	The Gulf of Aden and the Red Sea
3. Sunda Strait	The South China Sea and the East China Sea

Options:

A. 2 only

B. 1 and 2 only

C. 2 and 3 only

D. 1, 2 and 3

109. Consider the following statements with respect to Section 66A of the Information Technology Act, frequently in news:

1. It defines the punishment for sending offensive messages through a computer or any other communication device.

2. The Supreme Court struck down this section declaring it as violative of Article 21 of the Indian Constitution.

Which of the given statements is/are INCORRECT?

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

110. What was the main reason for the split in the Indian National Congress at Surat in 1907?

A. Introduction of communalism into Indian politics by Lord Minto

B. Extremists' lack of faith in the capacity of the moderates to negotiate with the British Government

C. Foundation of Muslim League

D. Aurobindo Ghosh's inability to be elected as the President of the Indian National Congress

111. Consider the following statements:

1. PM2.5 and PM10 are capable of penetrating deep into the lungs but PM2.5 can even enter the bloodstream, primarily resulting in cardiovascular and respiratory impacts.

2. As of now National Ambient Air Quality Standards (NAAQS) do not meet the WHO's existing standards.

Which of the above statements is/are correct?

A. 1 only

B. 2 only

C. Both

D. None

112. Fast and Secured Transmission of Electronic Records (FASTER) recently seen in news is

A. An electronic toll collection system operated by the National Highways Authority of India

B. A system conceived by Supreme Court to ensure bail orders reach jail authorities swiftly

C. An Investor Facilitation Portal for Ease of Doing Business

D. A secure cloud based platform for storage, sharing and verification of documents

113. Arab Spring, a series of anti-government protests, originally started from

A. Egypt

B. Lebanon

C. Syria

D. Tunisia

114. With respect to Arjun Mk-1A battle tanks, which of the following statements is/are correct?

1. It is a second-generation main battle tank manufactured in India in collaboration with Russia.

2. India has recently agreed to export the battle tanks to Vietnam to boost India's material exports.

Options:

A. 1 only

B. 2 only

C. Both

D. None

115. With reference to an organization known as 'Birdlife International', which of the following statements is/are correct? (UPSC-2015)

1. It is a Global Partnership of Conservation Organizations.

2. The concept of 'biodiversity hotspots' originated from this organization.

3. It identifies the sites known/referred to as 'Important Bird and Biodiversity Areas'.

Select the correct answer using the code given below.

A. 1 only

B. 2 and 3 only

C. 1 and 3 only

D. 1, 2 and 3

116. Consider the following statements:

1. This river rises near Sihawa in the Raipur district of Chhattisgarh.

2. It is one of the most active silt-depositing streams in the Indian subcontinent.

3. Hirakud Dam is built across this river.

The above statements best describe:

A. Bedti

B. Subarnarekha

C. Mahanadi

D. Shetrunji

117. With respect to the Co-operative Societies, which of the following statements is/are correct?

1. The 97th Constitutional Amendment act made the right to form co-operative societies a fundamental right.

2. The conduct of elections to a co-operative society is vested with the state election commission.

Options:

A. 1 only

B. 2 only

C. Both

D. None

118. Which amongst the following States in India shares the longest border with Myanmar?

A. Arunachal Pradesh

B. Nagaland

C. Mizoram

D. Manipur

119. Which of the following statements about Foot and Mouth Disease is/are correct?

1. Humans are not infected by the foot-and-mouth disease virus.

2. National Animal Disease Control Programme for FMD and Brucellosis (NADCP) is a Central Sector Scheme where 100% of funds shall be provided by the Central Government to the States/UTs.

Options:

A. 1 only

B. 2 only

C. Both

D. None

120. With reference to Congress Socialist Party, consider the following statements:

1. It advocated the boycott of British goods and evasion of taxes.

2. It wanted to establish the dictatorship of proletariat.

3. It advocated separate electorate for minorities ad oppressed classes.

Which of the statements given above is/are correct?

A. 1 and 2 only

B. 3 only

C. 1, 2 and 3

D. None

121. Which of the following correctly describes the mandate of the Justice A.K. Rajan committee that was recently constituted?

A. To recommend a policy to the MOEFCC for clearing illegal encroachments in wetlands

B. To study the impact of NEET on medical admissions in Tamil Nadu

C. To suggest changes to the farm laws

D. To investigate financing routes of Naxals in Dantewada and Bastar

122. Consider the following statements with regard to PM Digital Health Mission:

1. It was launched in 2016 to augment India's digital health infrastructure.

2. It includes a unique health ID for every citizen that will also work as their health account, to which personal health records can be linked.

3. It will enable access and exchange of longitudinal health records of citizens with their consent.

Which of the above statements is/are incorrect?

A. 1 only

B. 1 and 2 only

C. 1 and 3 only

D. None of the above

123. Which country recently became the first European country to elect a women majority Parliament?

A. France

B. Norway

C. Sweden

D. Iceland

124. 'Judima Rice Wine', a popular beverage in the North-East, is brewed by which indigenous tribe?

A. Bodos of Assam

B. Kukis of Mizoram

C. Dimasa tribe of Assam

D. Garo tribe of Meghalaya

125. Which one of the following suggested that the Governor should be an eminent person from outside the State and should be a detached figure without intense political links or should not have taken part in politics in the recent past?

A. First Administrative Reforms Commission (1966)

B. Rajamannar Committee (1969)

C. Sarkaria Commission (1983)

D. National Commission to Review the Working of the Constitution (2000)

126. Which of the following statements is/are correct?

1. Article 30 of the Constitution of India deals with the right of minorities to establish and administer educational institutions.

2. It applies to both religious and linguistic minorities.

3. The right of such educational institutions to receive government aid is a fundamental right.

Options:

A. 1 only

B. 1 and 2 only

C. 1 and 3 only

D. 1, 2 and 3

127.   Recently the term 'Akash Prime' was seen in the news. What does it refer to?

A. A collaboration between Amazon Prime and the Education Ministry to run online classes

B. A new version of the Akash surface-to-air missile developed by the DRDO

C. A weather monitoring system deployed by India Meteorological Department

D. An earth-observation satellite launched by ISRO for military applications

128.   Which of the following statements is/are correct?

1. The Cauvery river dispute is between Kerala, Karnataka, Tamil Nadu and Puducherry.

2. The sharing of the waters should be as per the Cauvery Water Disputes Tribunal's decision of 2007, which was modified by the Supreme Court in 2018.

3. The Central Government has notified the Cauvery Water Management Scheme which constitutes the 'Cauvery Water Management Authority' and the 'Cauvery Water Regulation Committee' to give effect to the court's decision.

Options:

A. 1 only

B. 1 and 2 only

C. 2 and 3 only

D. 1, 2 and 3

129.   The Taiwan Strait connects –

A. Strait of Malacca with Gulf of Thailand

B. South China Sea with East China Sea

C. Andaman Sea with Gulf of Thailand

D. Indian Ocean with Pacific Ocean

130.   Which of the following are the reasons/ factors for exposure to benzene pollution?

1. Automobile exhaust

2. Tobacco smoke

3. Wood burning

4. Using varnished wooden furniture

5. Using products made of polyurethane

Select the correct answer using the given code below – [UPSC 2020]

A. 1, 2 and 3 only

B. 2 and 4 only

C. 1, 3 and 4 only

D. 1, 2, 3, 4 and 5

131.   Consider the following statements with respect to Right to Information:

1. Only an individual who is above 18 years of age is eligible to seek information.

2. The right to information has been recognized as a fundamental right.

Which of the above statements is/are INCORRECT?

A. 1 only

B. 2 only

C. Both

D. None

132.   Under the Constitution, a person shall be disqualified as being a member of the State legislative assembly in which of the following cases?

1. if he is found guilty of certain election offences or corrupt practices in the elections.

2. if he is of unsound mind and stands so declared by a court.

3. If punished for preaching and practising social crimes such as untouchability, dowry and sati.

4. if he holds any office of profit under the Union or state government (except that of a minister or any other office exempted by state legislature).

Options:

A. 1 and 3 only

B. 1, 2 and 3 only

C. 2 and 4 only

D. 1, 2, 3 and 4

133. Which of the following chemicals are barred from usage in firecrackers?

1. Antimony
2. Lithium
3. Mercury
4. Arsenic
5. Lead

Options:

A. 1, 3 and 4 only
B. 2, 3, 4 and 5 only
C. 1 and 5 only
D. 1, 2, 3, 4 and 5

134. With respect to anti-defection Law, which of the following statements is/are correct?

1. Under the Anti-defection Law, the power to decide the disqualification of an MP or MLA rests with the presiding officer of the legislature in consultation with the Election Commission of India.

2. Supreme Court has observed that anti-defection cases should be decided by Speakers in six months' time in all circumstances.

Options:

A. 1 only
B. 2 only
C. Both
D. None

135. Which one of the following National Parks has a climate that varies from tropical to subtropical, temperate and arctic? (UPSC 2015)

A. Khangchendzonga National Park
B. Nandadevi National Park
C. Neora Valley National Park
D. Namdapha National Park

136. With reference to National Pharmaceutical Pricing Authority (NPPA), which of the following statements is/are correct?

1. NPPA is an independent body of experts under the Ministry of Health and Family Welfare.

2. NPPA is required to monitor the prices of drugs and take corrective measures where warranted and has the power to fix and regulate such prices.

Options:

A. 1 only
B. 2 only

C. Both
D. None

137. Consider the following statements with respect to Jahanpanah City:

1. It was the last medieval city of Delhi.

2. It was built by Sultan Firuz Shah Tughlaq.

Which of the above statements is/are incorrect?

A. 1 only
B. 2 only
C. Both
D. None

138. With respect to Rabindranath Tagore, which of the following statements is/are correct?

1. Tagore renounced his Knighthood in protest of the Bengal famine.

2. He became the first non-European to win the Nobel Prize for Literature.

3. The national anthem of Bangladesh was composed by Tagore.

Options:

A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2 and 3

139. Recently the term 'Prompt Corrective Action (PCA)' was seen in the news. What does it refer to?

A. PCA is a framework under which banks with weak financial metrics are put under watch by the RBI.

B. A weather monitoring system deployed by India Meteorological Department

C. A new strategy against Maoists

D. An initiative in the National Education Policy to revamp the elementary education

140. With reference to 'dugong', a mammal found in India, which of the following statements is/are correct? (2015)

1. It is a herbivorous marine animal.

2. It is found along the entire coast of India.

3. It is given legal protection under Schedule I of the Wildlife (Protection) Act, 1972.

Select the correct answer using the code given below.

A. 1 and 2

B. 2 only

C. 1 and 3

D. 3 only

141. **Consider the following statements with respect to COVAX:**

1. It is a global science initiative established in 2008 that provides open-access to genomic data of influenza viruses and the coronavirus responsible for the COVID-19 pandemic.

2. It is co-led by Gavi, the Coalition for Epidemic Preparedness Innovations (CEPI) and WHO.

3. COVAX is one of three pillars of the Access to COVID-19 Tools (ACT) Accelerator.

Which of the given statement/s is/are correct?

A. 2 and 3 only

B. 1 and 2 only

C. 2 only

D. 1, 2 and 3

142. **This region is an evergreen low-land forest located between the branches of River Periyar, It was the first bird sanctuary in Kerala. The sanctuary was notified in 1983 based on a recommendation made by Dr. Salim Ali.**

The Bird Sanctuary being talked about is:

A. Kumarakom Bird Sanctuary

B. Thattekad Bird Sanctuary

C. Pathiramanal Bird Sanctuary

D. Mangalavanam Bird Sanctuary

143. **Which of the given pairs is/are correctly matched?**

Helicopter	Procured from
1. Chinook	United States of America
2. AH 64 Apache	Russia
3. KA-226T Utility Helicopters	Israel

Options:

A. 1 only

B. 2 and 3 only

C. 1 and 2 only

D. 1 and 3 only

144. **Hamboting La, recently seen in News is located in:**

A. Sikkim

B. Arunachal Pradesh

C. Ladakh

D. Himachal Pradesh

145. **Which of the following statements best describes the term 'Scheme for Sustainable Structuring of Stressed Assets (S4A)', recently seen in the news? (UPSC-2017)**

A. It is a procedure for considering ecological costs of developmental schemes formulated by the Government.

B. It is a scheme of RBI for reworking the financial structure of big corporate entities facing genuine difficulties.

C. It is a disinvestment plan of the Government regarding Central Public Sector Undertakings.

D. It is an important provision in 'The Insolvency and Bankruptcy Code' recently implemented by the Government

Corrections - UPSC Monthly Current Affairs-June 2020 (Practice questions)

146. **Which of the following statement/s is/are correct?**

1. The Bosphorus strait connects the Black sea with the Sea of Marmara.

2. The Dardanelles connects the Aegean Sea and Mediterranean Sea.

Options:

A. 1 only

B. 2 only

C Both 1 and 2

D Neither 1 nor 2

147. **Which of the following statement/s is/are correct?**

1. The Finance Commission is a constitutionally mandated body under Article 280 of the Indian Constitution.

2. The 15th Finance commission recommendations are meant for the five year period 2021-2026.

Options:

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

ANSWER KEYS

1	B	21	C
2	D	22	C
3	A	23	A
4	D	24	B
5	C	25	D
6	D	26	A
7	D	27	B
8	D	28	B
9	A	29	D
10	C	30	C
11	C	31	A
12	A	32	D
13	B	33	B
14	C	34	C
15	D	35	D
16	D	36	D
17	D	37	D
18	D	38	C
19	C	39	C
20	A	40	B

41	B	61	B
42	D	62	B
43	D	63	B
44	A	64	D
45	C	65	C
46	B	66	D
47	D	67	D
48	D	68	B
49	B	69	C
50	D	70	A
51	C	71	B
52	C	72	B
53	C	73	C
54	D	74	D
55	B	75	B
56	D	76	D
57	C	77	D
58	D	78	C
59	D	79	B
60	D	80	C

81	D		101	B
82	D		102	B
83	B		103	B
84	A		104	D
85	B		105	D
86	C		106	B
87	D		107	D
88	B		108	B
89	C		109	B
90	C		110	B
91	B		111	C
92	C		112	B
93	C		113	D
94	B		114	D
95	A		115	C
96	C		116	C
97	B		117	A
98	C		118	A
99	D		119	B
100	A		120	D

121	B	141	A
122	A	142	B
123	D	143	A
124	C	144	C
125	C	145	B
126	B	146	A
127	B	147	C
128	D		
129	B		
130	D		
131	A		
132	C		
133	D		
134	D		
135	D		
136	B		
137	C		
138	B		
139	A		
140	C		

MAINS PRACTICE QUESTIONS

GS Paper 1

Geography

1. The rise in sea-level is bound to have long-term implications. In the light of the statement, is India ready to deal with the same? Discuss. (15 marks, 250 words)

GS Paper 2

Polity

1. A socio-economic caste-based census becomes a necessary precondition to initiate any meaningful reform and to revitalize India's reservation system. Analyse the statement. (15 marks, 250 words)

2. Rushed lawmaking in the Parliament has rendered the institution into a rubber stamp and sacrifices the core ideals of a constitutional democracy. Critically examine. (15 marks, 250 words)

3. Unilateral legislation without taking States into confidence will see more protests on the streets. Hence, the centre needs to remember that the spirit of federalism lies in consultation. Critically evaluate. (250 words; 15 marks)

4. Reservation is a tool for social engineering but is often wrongly applied as a result of competitive populism. Discuss with a relevant example. (250 words; 15 marks)

5. What do you understand by Asymmetric Federalism? How is it different from Symmetric federalism? Discuss the significance of Asymmetric Federalism in India. (15 Marks, 250 Words)

6. Essential Religious Practices doctrine allows the State to intervene in matters of religion without infringing the principle of state neutrality in religious affairs. Substantiate. (15 Marks, 250 Words)

7. Friction between Judiciary and Government on appointments to the Tribunals calls for establishing a national commission. Analyse. (10 Marks, 150 Words)

8. The National Register of Citizens (NRC) has seen plenty of twists and turns. Examine why bringing an early closure to this issue is necessary? (250 words; 15 marks)

9. Discuss the importance of Social Accountability in Democracy. (10 Marks, 150 Words)

10. Government officials should be held accountable when their actions violate constitutional and civil rights. Explain the statement with relevant examples. (10 Marks, 150 Words)

11. Should women be provided reservation in the Indian judiciary? Critically examine. (15 Marks, 250 Words)

12. PM CARES Fund should come under the Public Authority. Examine. (10 Marks, 150 Words)

13. Despite the claims of the National Digital Health Mission supporting universal health coverage digitally, the overall fundamentals of the health ecosystem have to be set right to achieve better outcomes. Analyze. (10 Marks, 150 Words)

International Relations

1. The BRICS grouping was seen as a success up to a point but now it confronts multiple challenges. Examine the statement and offer suggestions to make the grouping better. (15 marks, 250 words)

2. Examine the evolution of liberalism and nationalism from a historical and geopolitical perspective. How will they be reflected in a future Asia? (250 words; 15 marks)

3. How should India look at the dispute between Afghanistan and Pakistan in the context of Durand Line? (10 Marks, 150 Words)

4. Discuss the importance of Russia's Far East region to India on the strategic and the economic front. (15 Marks, 250 Words)

5. The recent developments suggest that a new regional security order is taking place in West Asia in the aftermath of the U.S. withdrawal from the region. Comment. (15 marks, 250 words)

6. The '2+2' dialogue between India and Australia will provide substance to an already meaningful partnership. Analyse. (15 marks, 250 words)

7. For the current Chinese leadership, the 21st century is destined to be China's alone. Where does this leave India? Evaluate. (15 marks, 250 words)

8. AUKUS security alliance will promote stability in the Indo-Pacific region and establish rules-based international order. In the light of the statement discuss the consequences on the existing alliances. (15 marks, 250 Words)

9. Of all the countries involved in Afghanistan, India possibly has the best credentials to enable Kabul's neutrality. Substantiate. (10 Marks, 150 Words)

10. Afghanistan is not the end of American power, it's the beginning of the new U.S. China cold war. Analyse. (10 Marks, 150 Words)

11. Is it possible to end China's control of the global supply chain? Critically Analyse. (10 Marks, 150 Words)

12. The QUAD has too many items on its agenda, and with the announcement of AUKUS, faces the danger of becoming a talk shop. Critically examine. (250 words; 15 marks)

Governance

1. Is there a connection between State failure and vigilantism? Critically Examine. (15 marks, 250 Words)

2. Anticompetitive business practices are likely to cause an appreciable adverse effect on competition. Explain the statement with relevant examples. (10 Marks, 150 Words)

3. Census data in India are losing their relevance in the development agenda. Substantiate. (10 Marks, 150 Words)

4. Smart cities emerge, not from the top down approach, but from organic collaboration between departments, employees, and citizens. Analyse. (10 Marks, 150 Words)

5. Should Civil servants shed the principle of Anonymity and engage actively on social media? Critically Examine. (10 Marks, 150 Words)

Health

1. What do you understand by 'breakthrough infections'? Evaluate the protection offered by the existing vaccines and suggest measures to reduce further COVID- 19 spread. (10 Marks, 150 Words)

2. Diseases and outbreaks are realities and a well functioning system can help reduce their impact. Discuss the measures to be taken by the Government in this regard. (10 Marks, 150 Words)

GS Paper 3

Economy

1. Unfair markets and anti-competitive practices stifle innovation and adversely impact market outcomes. Explain the statement in reference to South Korea 'anti-Google law'. (10 Marks, 150 Words)

2. Write a note on the 'National Monetisation Pipeline' and examine the consequences of asset monetisation on ordinary citizens. (250 words; 15 marks)

3. A law to regulate app store operators is key to check Big Tech's monopolising nature. Discuss.

4. Analyze the significance of the recently unveiled production linked incentive scheme in the man-made fibre apparel, fabrics, and technical textiles sectors. (10 marks, 150 words)

5. In light of the extension of the PLI scheme to the Textile Sector, discuss how this scheme will benefit the man-made fibers and technical textiles segments of the industry? (10 marks, 150 words)

6. "Financial Data aggregation is the need of the hour" Critically analyze the statement with regards to the recent developments in licensing of Account Aggregators by the RBI. (10 marks, 150 words)

7. Bilateral Investment Treaties (BITs) should be made compatible with international human rights obligations. Discuss. (15 Marks, 250 Words)

8. The Ease of Doing Business index was plagued with problems and deserved to be scrapped. Critically analyse the statement. (250 words; 15 marks)

9. Examine the problems hindering India's Agricultural Exports and discuss how India has the potential to become a global leader in the food processing sector. (10 Marks, 150 Words)

10. The current official inflation rate measurement is plagued with loopholes. Critically analyse. (10 Marks, 150 Words)

11. Examine how the exit of high-profile global firms affect employment generation in India. (10 Marks, 150 Words)

12. Examine the possible reasons for rise of fuel prices in India and discuss why it is not under the ambit of GST. (10 Marks, 150 Words)

Environment and Ecology

1. How can traditional practices and community involvement promote sustainable use of natural resources? Illustrate with an example. (15 marks, 250 words)

2. Critically discuss the international pressure on India to commit to net zero emissions. (250 words; 15 marks)

3. Diversion of fresh water from the Brahmani River could pose a grave threat to the famous mangrove vegetation. Examine.

4. Illustrate with examples some innovative methods to reduce the impact of pollution due to Stubble burning. (10 Marks, 150 Words)

5. Illustrate how 'Green hydrogen' can lead us towards a zero carbon future? (250 words; 15 marks)

6. Economic growth is important for improving the lives and livelihoods of citizens, but unsustainable development will spell disaster. Explain the statement with reference to Aravallis. (10 Marks, 150 Words)

7. There is escalating pressure for India to commit itself to a date when it can achieve net zero emissions. In this context, examine how engagement with the U.S. can help India expand mitigation and adaptation action. (15 marks, 250 words)

Defence and Internal Security

1. Analyse the significance of full-time domain specialists in Professional Military Education (PME) for the Indian armed forces. (15 marks, 250 words)

2. The past few years have seen a consistent decline in naxalite activities but their potency in select areas has not reduced. Discuss the way forward. (10 Marks, 150 Words)

Disaster management

1. Even as India battles the coronavirus pandemic, fears of a Nipah virus outbreak have surfaced again in Kerala. In this context, examine the preventive and containment measures that need to be taken by drawing lessons from the pandemic. (15 marks, 250 words)

2. India must create a social safety net to manage the fallout of cyclonic storms. Discuss. (250 words; 15 marks)

GS Paper 3

Ethics

1. Players selecting premier league clubs over national duties in sports are violating sports ethics. Do you agree? Justify. (10 Marks, 150 Words)

2. Artificial Intelligence (AI) based decisions are susceptible to inaccuracies, discriminatory outcomes and bias. Discuss the safety guidelines on the ethics of artificial intelligence. (10 Marks, 150 Words)