

Cyberattack on Indian Power Grid Utilities

New age hybrid warfare



The Government of National Capital Territory of Delhi (Amendment) Bill, 2021

Addressing ambiguities in the administration of the NCT



Suez Canal blockage

Global ramifications



Looking Beyond Privatisation

Proposal to privatise public sector banks



SC Questions Delay in Setting Up Environment Regulator

Sustainable environmental management

Incredible Results

CSE 2019

4 Ranks
in top 10

13 Ranks
in top 50

22 Ranks
in top 100



Rank 3
Pratibha Verma



Rank 6
Vishakha Yadav



Rank 8
Abhishek Saraf



Rank 10
Sanjita Mohapatra

CSE 2018

11 Ranks
in top 50

28 Ranks
in top 100

183 Ranks
in the final list



Rank 11
Pujya Priyadarshni



Rank 16
Dhodmise Trupti Ankush



Rank 21
Rahul Jain



Rank 24
Anuraj Jain



Rank 31
Mainak Ghosh

CSE 2017

5 Ranks
in top 50

34 Ranks
in top 100

236 Ranks
in the final list



Rank 3
Sachin Gupta



Rank 6
Koya Sree Harsha



Rank 8
Anubhav Singh



Rank 9
Soumya Sharma



Rank 10
Abhishek Surana

CSE 2016

8 Ranks
in top 50

18 Ranks
in top 100

215 Ranks
in the final list



Rank 2
Anmol Sher Singh Bedi



Rank 5
Abhilash Mishra



Rank 12
Tejaswi Rana



Rank 30
Prabhash Kumar



Rank 32
Avdhesh Meena

CSE 2015

5 Ranks
in top 50

14 Ranks
in top 100

162 Ranks
in the final list



Rank 20
Vipin Garg



Rank 24
Khumanthem Diana Devi



Rank 25
Chandra Mohan Garg



Rank 27
Pulkit Garg



Rank 47
Anshul Agarwal

CSE 2014

6 Ranks
in top 50

12 Ranks
in top 100

83 Ranks
overall selections



Rank 4
Vandana Rao



Rank 5
Suharsha Bhagat



Rank 16
Ananya Das



Rank 23
Anil Dhameliya



Rank 28
Kushaal Yadav



Rank 39
Vivekanand T.S

TABLE OF CONTENTS

1. POLITY

• Dormant Parliament, fading business	01
• Ensuring trust in the electoral process	02
• SVEEP (Systematic Voters' Education and Electoral Participation) programme	04
• Master and the roster	04
• SC walks a tightrope over vacancies	05
• SC suggests posting retired judges to clear backlog in HCs	05
• Why no decision on list sent by Collegium, SC asks government	06
• 40% of RTI rejections did not cite valid reason, says analysis	06
• Rape and marriage	06
• SC seeks States' views on 50% cap on quota	07
• Bureaucrats cannot be State Election Commissioners: SC	08
• The Government of National Capital Territory of Delhi (Amendment) Bill, 2021	09

2. ECONOMY

• Re-evaluating inflation targeting	12
• Looking beyond privatisation	13
• The distress sale of national assets is unwise	13
• Centre to infuse Rs. 14,500 cr. into banks under PCA soon'	14
• Doubling down on a resilient India	14
• Recalibrating relations with EU	15
• Ploughing a new furrow in the agri-regulatory system	16
• A case for a revamped, need-based PDS	17
• Railways and a question of transparency	18
• Bharatiya Prakritik Krishi Paddhati (BPKP)	19
• Central Scrutiny Centre (CSC)	20
• Champion Services Sector (CSS) Scheme	20
• PLI Scheme for Food Processing Industry	21
• UdyogManthan	21

• Petition in HC seeks expansion of ambit of electric vehicles scheme	21
• Land Ports Authority of India (LPAI)	22
• Despite arbitration tug of war, mutual settlement is key	22
• Rajya Sabha passes Bill to raise FDI limit in insurance sector	23
• Maritime India Summit	23
• Parliament passes MMDR amendment Bill	24
• The job crunch and the growing fires of nativism	24
• CSIR Floriculture Mission	25

3. INTERNATIONAL RELATIONS

• MaitriSetu	27
• India and Japan back in new Sri Lanka port project	27
• The anatomy of a spring ceasefire	27
• China gives green light for first downstream dams on Brahmaputra	29
• Remove the wedges in India-Bangladesh ties	29
• 'Include Chabahar on key corridor'	31
• India, Japan space agencies review ties	32
• A robust economic relationship	32
• Aligning a missile deal with destination Manila	33
• U.S., China spar at Alaska meet	34
• The surge of geopolitics in South Asia's power trade	35
• China, Iran sign a 25-year 'strategic pact'	36
• The vital but delicate task of reviving the Iran deal	36
• Ending the war in Yemen	38
• The Afghan endgame	39
• Exercise Desert Flag	40
• Exercise DUSTLIK II	40
• Exercise Vajra Prahar	40
• Taking the long view with China	40
• UNHRC vote on Sri Lanka	41

4. ART AND CULTURE

- Sun Temple at Konark 44
- Lingaraja Temple 44
- Nowruz 45
- Bhagoria Festival 45

5. SCIENCE AND TECHNOLOGY

- Artificial Photosynthesis 46
- JNCASR team develops potential drug candidate for Alzheimer's 46
- Optical monitoring of power line health 46
- Telecommunication spectrum 47
- Martian 'blueberries' find a parallel on Earth 47
- Currents on Enceladus 47
- Egg cells 48
- AIM-PRIME 48
- Global Bio India 48
- India Science Research Fellowship (ISRF) 48
- ISRO puts Brazil's Amazonia-1, 18 other satellites into orbit 49

6. SECURITY AND DEFENCE

- In need of full-time heads 50
- INS Karanj 50
- Indian Naval Landing Craft Utility (LCU) L58 51
- Technology for air-to-air missiles tested 51
- DAC to take up deals for armed drones, submarines 51
- 'India's arms imports down by 33%' 52
- Future force for future wars 52
- Cyber-attack on Indian Power Grid Utilities 53

7. ENVIRONMENT AND ECOLOGY

- Working towards climate justice in a non-ideal world 57
- Bring down benzene emission at fuel outlets, says panel 58
- Pollution linked to virus spread: Vardhan 58
- Delhi remains most polluted capital: report 59
- NITI Aayog vision for Great Nicobar ignores tribal, ecological concerns 59

- Mining threat looms over Aravalis in Haryana 60
- International Day of Forests 61
- Framework for testing water launched 61
- Water, the looming frontier 62
- SC questions delay in setting up environment regulator 63
- Climate Change and Natural disasters 64
- Whale Sharks 65
- New species of red algae seen in west, south east Indian coast 65
- Researchers find new butterfly species 66
- SC bats for Great Indian Bustard 66
- Himalayan serow 66
- Gregarious bamboo flowering in Wayanad poses threat 66
- U.P., M.P. sign agreement on Ken-Betwa interlinking work 67
- Eviction of prawn gherries restarts at Chilika Lake 67
- Pong Dam Wildlife Sanctuary 68
- Nag River 68
- Earth Hour 68
- Sub-Mission on Agroforestry (SMAF) Scheme 68
- Jal Shakti Abhiyan: Catch the Rain Campaign 69
- Water Quality Information Management System (WQMIS) 70
- Project RE-HAB 70
- Energy meet calls for faster shift to renewables 71
- IIT-Delhi researchers develop technology to recycle e-waste 71
- Central Ground Water Board (CGWB) 71
- World Wildlife Day 71

8. HEALTH ISSUES

- We need to urgently invest in public health 73
- 'Move health to Concurrent list' 74
- Gestational Diabetes 74
- National Action Plan for Containment of Antimicrobial Resistance (NAP-AMR) 75
- World Hearing Day 76

9. SOCIAL ISSUES

- The limits of POCSSO 77
- COVID may have doubled poverty in India 78
- How to treat unpaid work 78

10. HISTORY

- Lachit Borphukan 79
- Savitribai Phule 79
- Amid Bangladesh liberation anniversary, role of India, U.S. in 1971 in spotlight 79
- Singorgarh Fort 79

11. DISASTER MANAGEMENT

- National Cyclone Risk Mitigation Project (NCRMP) 81

12. EDUCATION

- Clustering educational institutes and research centres 82
- QS World University Rankings 83

13. GEOGRAPHY

- Slowing currents 84
- Celestial parking lot 84
- Indian monsoon 25 million years ago resembled present day Australia's 84
- Ghoramara Island 84
- Climate Data Services Portal 85
- Suez Canal blockage 85

14. GOVERNANCE

- Health first, fiscal prudence later 87
- Panel flags Centre's meagre pensions 88
- Aadhaar as a hurdle 88
- 'Only half of govt. schools, anganwadis have tap water' 89
- Doctrine of Legitimate Expectations 89
- GRAM UJALA Programme 90

15. MISCELLANEOUS

- Bao-dhaan 91
- Gandhi Peace Prize 91
- Women-led startup develops product for low-cost internet in rural areas 91
- U.S. think tank report classifies India as 'partly free' 92
- 'Ola unit can make 10 mn 2-wheeler EVs' 92
- Work on floating solar power plant in final stages 92

16. PRACTICE QUESTIONS

93

17. ANSWER KEYS

109

18. MAINS PRACTICE QUESTIONS

112

19. INTERVIEW TRANSCRIPT

115

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1 st March to 5 th April, 2021	Polity					
6 th April to 10 th May, 2021	Economics	Economics				
11 th May to 15 th June, 2021	Geography	Geography	Geography			
16 th June to 21 st July, 2021	Modern History	Modern History	Modern History	Modern History		
22 nd July to 25 th August, 2021	International Relations + World History	Polity	Polity	Polity	Polity	
26 th August to 1 st October, 2021	Ethics + Governance	Ethics + Governance	Economics	Economics	Economics	Economics
4 th October to 8 th November, 2021	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Geography	Geography	Geography
9 th November to 14 th December, 2021	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Modern History	Modern History
15 th December to 18 th January, 2022	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Polity
19 th January to 22 nd February, 2022	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT
23 rd February to 30 th March, 2022		International Relations + World History	International Relations + World History	International Relations + World History	International Relations + World History	International Relations + World History
31 st March to 4 th May, 2022			Focus Prelims	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India
5 th May to 8 th June, 2022			Focus Prelims	Focus Prelims	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology
After Prelims 2022			Ethics + Governance	Ethics + Governance	Ethics + Governance	Ethics + Governance
After Prelims 2022						Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper

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(Evening Batch)

Monday to Friday | 5:30 PM to 8:30 PM

Slots	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5	Batch 6
1 st March to 5 th April, 2021	Geography					
6 th April to 10 th May, 2021	Modern History	Modern History				
11 th May to 15 th June, 2021	Economics	Economics	Economics			
16 th June to 21 st July, 2021	Polity	Polity	Polity	Polity		
22 nd July to 25 th August, 2021	International Relations + World History	Geography	Geography	Geography	Geography	
26 th August to 1 st October, 2021	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Modern History	Modern History	Modern History	Modern History
4 th October to 8 th November, 2021	Ethics + Governance	Ethics + Governance	Ethics + Governance	Economics	Economics	Economics
9 th November to 14 th December, 2021	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Polity	Polity
15 th December to 18 th January, 2022	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Geography
19 th January to 22 nd February, 2022	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper
23 rd February to 30 th March, 2022		International Relations + World History	International Relations + World History	International Relations + World History	International Relations + World History	International Relations + World History
31 st March to 4 th May, 2022			Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology
5 th May to 8 th June, 2022				Focus Prelims	Internal Security + CSAT	Internal Security + CSAT
After Prelims 2022				Focus Prelims	Focus Prelims	Ancient India + Medieval India + Art & Culture + Post Independent India
After Prelims 2022				Ethics + Governance	Ethics + Governance	Ethics + Governance

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YEAR LONG TIMETABLE

(Weekend Batch)

Saturday - 2:00 to 8:00 PM

Sunday - 10:00 AM to 8:00 PM

Slots	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5	Batch 6
March (06, 07, 13, 14, 20, 21, 27 & 28) + April (03 & 04)	Economics					
April (10, 11, 17, 18, 24, 25) + May (01, 02, 08 & 09)	Geography	Geography				
May (15, 16, 22, 23, 29 & 30) + June (05, 06, 12 & 13)	Polity	Polity	Polity			
June (19, 20, 26 & 27) + July (03, 04, 10, 11, 17 & 18)	Modern History	Modern History	Modern History	Modern History		
July (24, 25 & 31) + August (01, 07, 08, 14, 15, 21 & 22)	Ancient India + Medieval India + Art & Culture + Post Independent India	Economics	Economics	Economics	Economics	
August (28 & 29) + September (04, 05, 11, 12, 18, 19, 25 & 26)	International Relations + World History	International Relations + World History	Geography	Geography	Geography	Geography
October (02, 03, 09, 10, 16, 17, 23, 24, 30 & 31)	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Polity	Polity	Polity
November (06, 07, 13, 14, 20, 21, 27 & 28) + December (04 & 05)	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Modern History	Modern History
December (11, 12, 18, 19, 25 & 26) + January '22 (02, 08, 09 & 15)	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Economics
January '22 (16, 22, 23, 29 & 30) + February '22 (05, 06, 12, 13 & 19)	Ethics + Governance	Ethics + Governance	Ethics + Governance	Ethics + Governance	Ethics + Governance	Ethics + Governance
February '22 (20, 26 & 27) + March '22 (05, 06, 12, 13, 19, 20 & 26)		Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India	Ancient India + Medieval India + Art & Culture + Post Independent India
March '22 (27) + April (02, 03, 09, 10, 16, 17, 23, 24 & 30)			International Relations + World History	International Relations + World History	International Relations + World History	International Relations + CSAT
May '22 (01, 07, 08, 14, 15, 21, 22, 28 & 29) + June '22 (04)				Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology	Environment & Ecology + Science & Technology
After Prelims 2022					Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper	Social Issues & Social Justice + Essay + Disaster Management + Compulsory Language Paper
After Prelims 2022						Internal Security + World History

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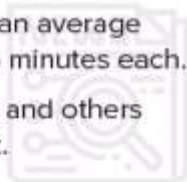
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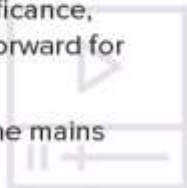
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POLITY

Functioning of the legislature

1. Dormant Parliament, fading business

- » Prelims: Terminologies associated with parliament functioning- adjournment, parliamentary committees (composition and functions).
- » Mains: Concerns associated with the functioning of the legislature.

Context:

- The 2021 Budget session of Parliament ended two weeks ahead of the original plan.

Concerns:

Trend of the last few sessions:

- The Budget session of 2020 was curtailed ahead of the lockdown imposed following the novel coronavirus pandemic.
- A short 18-day monsoon session ended after 10 days as several Members of Parliament and Parliament staff got affected by COVID-19.
- The winter session was cancelled.
- The fiscal year 2020-21 saw the Lok Sabha sitting for 34 days (and the Rajya Sabha for 33), the lowest ever.
- The casualty was proper legislative scrutiny of proposed legislation as well as government functioning and finances.
- Parliament could have adopted remote working and technological solutions, as several other countries did.

No Bill scrutiny:

- Many high impact Bills were introduced and passed within a few days.
 - * The Government of National Capital Territory of Delhi (Amendment) Bill, 2021, which is the Bill to change the governance mechanism of Delhi — shifting governance from the legislature and the Chief Minister to the Lieutenant Governor was passed by both houses.
 - * Another Bill, the Mines and Minerals (Development and Regulation) Amendment Bill, 2021, which amends the Mines and Minerals Act, 1957 to remove end-use restrictions on mines and ease conditions for captive mines, was also passed by both houses.

- * The National Bank for Financing Infrastructure and Development (NaBFID) Bill, 2021 — to create a new government infrastructure finance institution and permit private ones in this sector was passed within three days of introduction.

- * The Insurance (Amendment) Bill, 2021, the Bill to increase the limit of foreign direct investment in insurance companies from 49% to 74% also took just a week between introduction and passing by both Houses.

- An important development of this session has been the absence of careful scrutiny of Bills.
- During the session, 13 Bills were introduced, and not even one of them was referred to a parliamentary committee for examination.
- In all, 13 Bills were introduced in this session, and eight of them were passed within the session.
- This quick work would be seen as avoidance of Parliament's duty to scrutinise Bills and certainly not as a sign of efficiency.

Consulting House panels:

- The percentage of Bills referred to committees declined from 60% and 71% in the 14th Lok Sabha (2004-09) and the 15th Lok Sabha, respectively, to 27% in the 16th Lok Sabha and just 11% in the current one.
- This development also highlights the decline in the efficacy of committees.
- Parliamentary committees have often done a stellar job.
 - * The committee that examined the Insolvency and Bankruptcy Code suggested many changes to make the Code work better, and which were all incorporated in the final law.
 - * Similarly, amendments to the Motor Vehicles Act were based on the recommendations of the Committee.

Money Bill classification:

- The Finance Bill has made major amendments to the Life Insurance Corporation Act, 1956.
 - * As this is a Money Bill, the Rajya Sabha cannot make any amendments, and has only recommendatory powers.

- The last few years have seen the dubious practice of marking Bills as 'Money Bills' and getting them past the Rajya Sabha.
- Some sections of the Aadhaar Act were read down by the Supreme Court of India due to this procedure.
 - * However, with a dissenting opinion that said that the entire Act should be invalidated.
 - * The Finance Bills, over the last few years, have contained several unconnected items such as restructuring of tribunals, the introduction of electoral bonds, and amendments to the foreign contribution act.
- It would be useful if the Court can give a clear interpretation of the definition of Money Bills and provide guide rails within which Bills have to stay to be termed as such.

Budget passed without elaborate discussion:

- During this session, the Union Budget was presented, discussed and passed.
- The Lok Sabha had listed the budget of just five Ministries for detailed discussion and discussed only three of these; 76% of the total Budget was approved without any discussion.
- This behaviour was in line with the trend of the last 15 years, during which period 70% to 100% of the Budget have been passed without discussion in most years.
- The Constitution requires the Lok Sabha to approve the expenditure Budget (in the form of demand for grants) of each department and Ministry.

The missing Deputy Speaker:

- A striking feature of the current Lok Sabha is the absence of a Deputy Speaker. By the time of the next session of Parliament, two years would have elapsed without the election of a Deputy Speaker.
- Article 93 of the Constitution states that "... The House of the People shall, as soon as may be, choose two members of the House to be respectively Speaker and Deputy Speaker..."
- Usually, the Deputy Speaker is elected within a couple of months of the formation of a new Lok Sabha.
- The issue showed up starkly this session when the Speaker was hospitalised. Some functions of the Speaker such as delivering the valedictory speech were carried out by a senior member.

Conclusion:

- The deterioration in Parliament's functioning is not a recent phenomenon.

- While over the last few years most Bills have been discussed in the House and have had less disruptions, the scrutiny of Bills has suffered as they are not being referred to committees.
- Parliament has a central role in our democracy as the representative body that checks the work of the government.
- It is also expected to examine all legislative proposals in detail, understand their nuances and implications of the provisions, and decide on the appropriate way forward.
- In order to fulfil its constitutional mandate, it is imperative that Parliament functions effectively.
- This will require making and following processes such as creating a system of research support to Members of Parliament, providing sufficient time for MPs to examine issues, and requiring that all Bills and budgets are examined by committees and public feedback is taken.
- In sum, Parliament needs to ensure sufficient scrutiny over the proposals and actions of the government.

Election related issues

2. Ensuring trust in the electoral process

- » Prelims: Provisions related to electoral bond scheme
- » Mains: Concerns related to electoral bond scheme and recommendations

Context:

- The delay in adjudicating the petition filed in 2017 challenging the electoral bonds scheme.

Background:

Electoral Bond Scheme:

- Under the electoral bond scheme, an electoral bond, issued in the nature of a promissory note, can be bought by any Indian citizen or company incorporated in India. The scheme allows parties to receive these bonds.
- This new instrument of political party funding is aimed to ensure greater transparency by addressing the issue of anonymous financing. It sought to eliminate black money from the system.
- The government has introduced amendments to laws, including the Income Tax Act of 1961, the Companies Act of 2013, and the Representation of the People Act of 1951 to give effect to the electoral bond scheme.

Big money in electoral politics:

- Bonds worth nearly Rs. 6,500 crore have been sold so far. This points to the role of big money in electoral politics.

- Information obtained under the Right to Information (RTI) Act shows that electoral bonds with the highest denomination value of Rs. 1 crore are the most preferred by donors and constitute 92% of the total value of bonds sold till October 2020.

Concerns:

- The Election Commission has expressed its opposition to electoral bond scheme in the ongoing Supreme Court hearings. The EC contends that the electoral bond scheme will have an adverse impact on transparency in political party financing and would make it impossible for the constitutional body to ascertain whether donations received were in compliance with the statutory framework governing political parties.
- Even the Reserve Bank of India flagged serious concerns about the electoral bonds.
- There are numerous concerns being expressed with respect to electoral funding in general and the Electoral Bond scheme in particular.

Lack of transparency:

- The political system in India has traditionally been hostile to the idea of transparency in electoral financing.
- Despite the tall claims made in favour of the Electoral Bond Scheme, it still allows donors to anonymously donate unlimited amounts of funds to political parties.
- The provisions of the electoral bond scheme allow the donors to donate to the political party without the public, the Election Commission or even the Income Tax Department knowing the identity of the donors.
- This, the article claims, is a severe blow to voters' right to know. People's ability to track donations by big businesses and expose quid pro quo has been undermined.

Threat of foreign influence:

- In 2016 and 2017, amendments were made to the Foreign Contribution (Regulation) Act (FCRA), 2010, with retrospective effect. These amendments enabled Indian subsidiaries of foreign companies to make donations to political parties.
- These amendments in conjunction with electoral bonds allow anonymous financing by foreign entities opening Indian elections to the influence of foreign interests.

Chances of money laundering:

- As against the claims made by the proponents of electoral bond scheme of it addressing the problem of black money and large cash

donations because of its insistence of transaction through cheques, demand drafts, direct debit or electronic clearing, it actually fails to tackle the threat of money laundering in political funding.

- Under The Income Tax Act, political parties are exempted from disclosing sources of donations of less than Rs. 20,000. Though most of the anonymous donations received by parties were large cash contributions, they are 'broken down' and shown as multiple small donations to escape scrutiny. This allows donors to continue to anonymously pump cash into the system.
- Even the amendments to the Income Tax Act in 2017 only lowered the stipulated ceiling of anonymous contributions from Rs 20,000 to Rs 2,000 without taking the much needed step to do away with the provision of non-disclosure of sources.
- Electoral bonds are likely to abet money laundering since the amendments to the Companies Act in 2017 removed the cap of 7.5% on political contributions by a company as a percentage of its average net profits of the preceding three years. This allows for black money to be easily routed through shell companies to purchase electoral bonds.

Mirage of neutrality:

- The rationale for providing anonymity to donors of electoral bonds is to allow donors to support political parties by protecting them against the wrath of rival parties, especially the party in power.
- However as the bonds are issued only through the State Bank of India, it would not be difficult for the party in power to access information about the identity of purchasers and details of bonds sold to them, and match those to deposits in political party accounts.
- This would play to the advantage of the party in power.

Against the spirit of electoral process:

- Electoral bonds go against the principle of transparency and are vulnerable to be used by special interest groups, corporate lobbyists and foreign entities to acquire a stranglehold on the electoral process and governance at the expense of citizens.

Recommendations:

- Donations must be made transparent and parties should be obligated to file reports with the Election Commission and other oversight bodies disclosing the names of donors and amounts received.
- The information related to electoral funding must also be placed in the public domain.

Conclusion:

- The petition challenging the electoral bonds scheme deals with the vexed issue of election funding in India. The ongoing case with respect to electoral bond scheme deals with weighty issues which have a tremendous bearing on the sanctity of the electoral process in the country.
- To ensure public trust in the electoral process, it is critical that the Supreme Court immediately adjudicates on the electoral bonds scheme.

Election related issues**3. SVEEP (Systematic Voters' Education and Electoral Participation) programme**

- » Prelims: SVEEP-aims and measures taken
- » Mains: Measures to increase electoral participation and deepening of democracy in India
- Systematic Voters' Education and Electoral Participation program, better known as SVEEP, is the flagship program of the Election Commission of India for voter education, spreading voter awareness and promoting voter literacy in India.
- SVEEP's primary goal is to build a truly participative democracy in India by encouraging all eligible citizens to vote and make an informed decision during the elections.
- The programme is based on multiple general as well as targeted interventions which are designed according to the socio-economic, cultural and demographic profile of the state as well as the history of electoral participation in previous rounds of elections and learning thereof.
- It will spread awareness about the need to conserve the small bird and also motivate the voters to exercise their franchise.

Functioning of the Indian Judiciary**4. Master and the roster**

- » Prelims: Master of the roster system
- » Mains: Concerns associated with the Master of the roster system and recommendations

Context:

- The Supreme Court closed its suo-motu case to examine alleged conspiracy against the judiciary in the wake of sexual harassment allegations against former Chief Justice of India (CJI) Ranjan Gogoi.
- The case was closed citing the inability of recovering electronic evidence in relation to the case.

Details:**Master of the Roster system:**

- The article laments that the SC proceedings failed to recognise the threat to judicial independence posed by the singular power of the CJI as the Master of the Roster.
 - * The Master of the Roster system vests exclusive discretion in the Chief Justice to constitute benches and allocate cases.
- The Master of the Roster power enjoyed by Justice Gogoi allowed him to institute suo motu proceedings despite being an accused and even presided over it. The case was labelled as a matter of judicial independence.

Concerns:**Threat of becoming a singular power:**

- The Master of the Roster power makes the CJI's office a high stakes one placing all the powers in the hands of the CJI and making the CJI the sole point of defence of the Court against executive interference.
- With the CJI as the sole Master of the Roster, any executive seeking to influence the Supreme Court needs only a pliant CJI. A pliant Master of the Roster carries the danger of producing a pliant Court. Hence, this system threatens the principle of judicial independence.

Lack of scrutiny:

- The CJI's Master of the Roster power is enjoyed without scrutiny.
- A group of senior judges of the SC have previously levelled allegations of favouritism in how CJI Dipak Misra allocated cases, through a press conference.

Reluctance of the higher judiciary to reform:

- The Supreme Court has been reluctant to dilute the Master of the Roster power.
 - * In *Asok Pande v. Supreme Court of India* (2018), a three-judge bench of the Court held that Master of the Roster is the CJI's exclusive power.
 - * The two-judge bench in *Shanti Bhushan v. Supreme Court of India* (2018) rejected the plea that the Master of the Roster should be interpreted as the collegium.

Challenges in judiciary:

- The existing system despite the progressive reform like the institution of the collegium system in the appointment process has failed to prevent executive interferences in the judiciary due to the following two reasons.
 - * Lure of post-retirement jobs

- * The CJ's allocation of cases remains an unchecked power owing to the Master of the Roster powers enjoyed by CJI.

Way forward:

- Future judicial reforms should address the above two issues in the following ways.
 - * A cooling-off period between retirement and a post-retirement appointment needs to be introduced.
 - * The power of Master of the Roster needs to be diversified beyond the CJ's exclusive discretion. Rather it could involve a system similar to the collegium system associated with the appointment process.

Functioning of the Indian Judiciary

5. SC walks a tightrope over vacancies

- » Prelims: Collegium system functioning in India
- » Mains: Lacunae in the collegiums system and recommendations

Context:

The Supreme Court Collegium is striving to reach a consensus on recommendations to fill the five vacancies.

Details:

- The names of several High Court judges are in the zone of consideration.
- The Collegium is discussing diverse opinions from within on issues like proportionate representation from various High Courts and seniority among High Court judges before finalising the names to recommend to the government for appointment.
- Proportionate representation from High Courts and seniority carry weight during the appointment process.
 - * However, these are only conventions and not constitutional or legal mandates.

Issue:

- The past several months have seen the Supreme Court function under a series of challenges posed by the COVID-19 pandemic, even as its judicial strength faded to 29 with the retirement of Justice Indu Malhotra.
 - * The maximum possible strength is 34.
- The year 2021 will see four retirements in the top court.
 - * As per the Constitution of India, judges of the Supreme Court retire at the age of 65.

Appointment of Judges to the Supreme Court:

- The Collegium System of the Supreme court of India deals with the appointment and transfer of judges.
- Memorandum of Procedure (MoP) is an agreement between the Government and the judiciary that has a set of guidelines for the appointment of judges of the Supreme Court.
- The MoP was formulated after the Third Judges Case in order to govern the process of how the Collegium System would make recommendations to the executive.

Functioning of the Indian Judiciary

6. SC suggests posting retired judges to clear backlog in HCs

- » Prelims: Constitutional provisions with respect to ad hoc judges (Art 224A)
- » Mains: Concerns associated with judicial backlog; Measures to address shortage of judges

Context:

The Supreme Court pushed for the appointment of retired judges to battle the pendency of cases in High Courts.

Issues:

- There are suits pending in chartered courts, and in North India, some courts have cases pending for 30 years.
- Judicial pendency has become a great cause of concern.

Details:

- A Bench led by Chief Justice of India Sharad A. Bobde said retired judges could be chosen on the basis of their expertise in a particular field of dispute and allowed to retire once the pendency in that zone of law was over.
- It said retired judges who had handled certain disputes and fields of law for over 15 years could deal with them faster if brought back into harness as ad-hoc judges.
- The court orally outlined prospective guidelines for the appointment and functioning of an ad hoc judge.
- The Chief Justice said the appointment of ad-hoc judges was provided for in the Constitution under Article 224A.
 - * Under the Article, the Chief Justice of a High Court for any State may at any time, with the previous consent of the President, request any person who has held the office of judge of that court or of any other High Court to sit and act as a judge of the High Court for that State.

Functioning of the Indian Judiciary

7. Why no decision on list sent by Collegium, SC asks government

- » Prelims: Collegium system functioning
- » Mains: Concerns associated with functioning of the collegiums system

Context:

The Supreme Court asked the government to clarify the status of 55 recommendations made by the Collegium for judicial appointments to High Courts six months to nearly a year-and-a-half ago.

Details:

- The Supreme Court has been repeatedly conveying to the government its growing concerns about the judicial vacancies in High Courts.
- Of the pending recommendations, 44 were made to fill vacancies in the Calcutta, Madhya Pradesh, Guwahati, Rajasthan and Punjab High Courts.
- These recommendations have been pending with the government for over seven months to a year.

Judicial Appointments to High Courts:

- Collegium System is a legally valid system of appointment and transfer of judges in the SC and all HCs.
 - * The names are decided by a forum of the Chief Justice of India and the four senior-most judges of the Supreme Court.
- There is no mention of the Collegium either in the original Constitution of India or in successive amendments.
- The recommendations of the Collegium are binding on the Central Government if the Collegium sends the names of the judges/lawyers to the government for the second time.
- But a time limit is not fixed for the government to give assent to the names. This is the reason that appointment of judges takes a long time.

Miscellaneous

8. 40% of RTI rejections did not cite valid reason, says analysis

- » Prelims: CIC- composition and functions
- » Mains: Structural framework for the implementation of RTI; Challenges in the implementation of the RTI act.

Context:

- Central Information Commission's annual report on Right to Information (RTI) requests.

Details:

- The CIC's annual report covers more than 2,000 public authorities across the Central government as well as the union territories.
- An analysis of CIC macro-data from Central ministries shows that the Home Ministry had the highest rate of rejections, as it rejected 20% of all RTIs received. The Agriculture Ministry's rejection rate doubled from 2% in 2018-19 to 4% in 2019-20. The Delhi Police and the Army also saw increases in rejection rates.
- The Centre has only rejected 4.3% of all Right to Information (RTI) requests in 2019-20, the lowest ever rate.
- However, almost 40% of these rejections did not include any valid reason, as they did not invoke one of the permissible exemption clauses in the RTI Act.
 - * This includes 90% of rejections by the Prime Minister's Office.
- In 38.7% of rejections in 2019-20, public authorities failed to cite permissible exemption clauses, and were classified under the 'Others' category in the CIC data. This is an increase from the 33% seen the previous year.

RTI Act:

- The Right To Information Act is one of the most important acts which empowers ordinary citizens to question the government and its working.
 - * This has been widely used by citizens and media to uncover corruption, progress in government work, expenses related information, etc.
- The RTI Act allows public authorities to reject RTI requests on a number of grounds, ranging from information that would endanger life and safety to that which involves irrelevant personal information, Cabinet papers, foreign governments, copyrights, or sovereignty, security and intelligence matters.
- Public authorities are expected to cite the relevant clause of the Act to invoke the exemption.

Miscellaneous

9. Rape and marriage

- » Mains: Marital rape

Context:

- The Chief Justice of India enquired a Maharashtra government employee asking whether he would marry a girl he was accused of raping repeatedly while she was a minor.

- In another case, the Bench stayed the arrest of a man accused of rape after falsely promising marriage.

Concerns:

- In his petition, the accused recounted the allegations that he sexually abused the girl since she was in high school, and also that he had threatened the minor.
- Instead of meting out harsh punishment, the Court asked the lawyer representing the accused to find out whether his client would be willing to marry the victim or risk going to jail.
- By offering marriage as a solution to a rape victim, the judiciary failed to protect the rights of a girl.
- In both cases, these crimes attract severe penalties under the Criminal Law (Amendment) Act, 2013.

Marital rape:

- Though marital rape is not included in the Act, the Justice J.S. Verma Committee was clear that the law ought to specify that a marital or another relationship between the perpetrator and victim cannot be a defence against sexual violation.
- Citing the judgment of the European Commission of Human Rights, it endorsed the conclusion that "a rapist remains a rapist regardless of his relationship with the victim".

Supreme Court Judgement:

- In *Shimbu & Anr vs State of Haryana* (2013), the Supreme Court said the offer of a rapist to marry the victim cannot be used to reduce the sentence prescribed by law.

Way forward:

- The judiciary's shocking remarks echo a deep-set prejudice against gender equality.
- The scars of the Nirbhaya case are still raw, and a series of rape and murders are being reported against minors, especially Dalits, in Uttar Pradesh.
- The law should deliver justice, not blatantly tilt the scales against women's rights.
- Sexual consent is the right of every individual – married or unmarried.
- Non-consensual sex should be punished, regardless of the relationship of the perpetrator to the victim.

Important Supreme Court Judgements

10. SC seeks States' views on 50% cap on quota

- » Prelims: Indra Sawhney case; 102nd Constitutional amendment
- » Mains: Arguments in favour of and against reservation

Context:

- The Supreme Court has decided to examine whether its judgment in the Indra Sawhney case of 1992 which fixed reservation for the marginalised and the poor in government jobs and educational institutions at 50% needs a relook.

Background:

Indra Sawhney v Union of India & Ors case, 1992:

- The Supreme Court had set the upper limit for reservation in jobs and education at 50%, except in "extraordinary circumstances".
- The court in the Indra Sawhney case tried to come up with a solution that is reasonable and strikes a fine balance between the society and rights of the backward classes
- However, over the years, several States, such as Maharashtra and Tamil Nadu, have crossed the upper limit of 50% and passed laws which allow reservation to be as high as 60%.

Maratha quota law:

- The Maharashtra State Reservation for Socially and Educationally Backward Classes (SEBC) Act of 2018 originally provided 16% reservation to Marathas (based on the recommendation by the Gaikwad Commission) and came after years of protests by the community.
- In June 2019, the Bombay high court trimmed the quantum of the quota to 12% in education and 13% in jobs. In its order, the high court said the 50% cap could be breached in exceptional circumstances
- The Maratha reservation had been challenged in the SC and a five-judge Bench was set up to hear the same.

Details:

- The bench will look into whether the Maharashtra State Reservation for Socially and Educationally Backward Classes (SEBC) Act of 2018, which provides quota benefits for the Maratha community, thus taking the reservation percentage in the State across the 50% mark, was enacted under "extraordinary circumstances".

- * The Indra Sawhney judgment notes that the 50% rule could be crossed in certain exceptional and extraordinary situations for bringing far-flung and remote areas population into mainstream.

- The five judge bench looking into the Maratha reservation issue has expanded the ambit of the case and has framed the following questions to be looked into by the court.

Relook at upper limit for reservation:

- The court will be looking into whether the Indira Sawhney verdict of 1992, fixing 50% limit on quota, needs to be relooked by a larger Bench of more than nine judges.
- The Bench has made other States party to the case and has asked them to make their stand clear on the question of whether reservation should continue to remain within the 50% boundary or not.

Impact of the 102nd amendment act:

- The bench will also judge whether the Constitution (One Hundred Second Amendment) Act of 2018, which introduced the National Commission for Backward Classes (NCBC), interferes with the authority of the State legislatures to provide benefit to the social and educationally backward communities in their own jurisdiction.
 - * The 102nd Constitutional amendment act introduced Articles 338B and 342A in the Constitution.
 - » Article 338B deals with the NCBC.
 - » Article 342A empowers the President to specify the socially and educationally backward communities in a State. Thus it strips the State legislatures of their discretionary power to include their backward communities in the State List.
- The Constitutional amendment empowers the Parliament to include a community in the Central List for socially and backward classes for grant of reservation benefits.

Conclusion:

- The potential reconsideration of the Indra Swahney case ruling, also popularly referred to as the Mandal case, could alter the structure of reservations that has been in place for decades.

Election related issues

11. Bureaucrats cannot be State Election Commissioners: SC

- » Prelims: SEC- appointment process; powers and functions
- » Mains: Recommendations for reforming SEC

Context

- The article analyses the challenges faced by the local governments and the recent judgment of the Supreme Court in reference to the State Election Commissioner.

Background:

- The 73rd and 74th Constitutional Amendments have provided functional autonomy to the Rural and Urban local bodies.
- In spite of its existence for more than a quarter-century, experts have agreed there has been inadequate devolution of powers to them.

Issues related to local bodies in India

- Local body elections are beset with controversies.
- Local polls are often marred by violence, and charges of arbitrary delimitation and reservation of wards.
- For conducting elections in a free and fair manner we need an independent State Election Commissioner (SEC).
 - * Unfortunately, most political parties in the states appoint senior bureaucrats from among their favourites to this office. In practice, SECs frequently face charges of being partisan.
 - * This pattern cannot be generalized with respect to all the states, but the SECs do not seem to enjoy the confidence of political parties and the public to the same extent as the Election Commission of India does as far as their independence is concerned.
- It is in this backdrop that the Supreme Court's judgment declaring that a State Election Commissioner should be someone completely independent of the State government acquires salience.

Constitutional Position

- The State Election Commission is a Constitutional Authority that came into existence after the promulgation of the 73rd and 74th amendment to the Constitution of India to conduct elections to rural and urban local bodies in the states.
 - * It was constituted under the provisions of Article 243K read with Article 243ZA of the Constitution of India.
- The powers and functions of the state election commission under articles 243K and 243ZA of the Constitution of India are identical to those vested in the Election Commission of India constituted under Article 324 of the Constitution of India in their respective domains.

The ECI and SECs have a similar mandate; do they also have similar powers?

- In 2006, the Supreme Court emphasised the two constitutional authorities enjoy the same powers.
- In Kishan Singh Tomar vs Municipal Corporation of the City of Ahmedabad, the Supreme Court directed that state governments should abide by orders of the SECs during the conduct of the panchayat and municipal elections, just like they follow the instructions of the EC during Assembly and Parliament polls.

Supreme Court observation on giving the Law Secretary an additional charge as SEC

- The Goa government had given its Law Secretary the additional charge of State Election Commissioner.
- The Supreme Court held that independent persons and not bureaucrats should be appointed State Election Commissioners.

Details

- Under the constitutional mandate, it is the duty of the State to not interfere with the functioning of the State Election Commission
- The SC said giving government employees the additional charge of State Election Commissioners is a "mockery of the Constitution".

- The top court directed that the States should appoint independent persons as Election Commissioners all along the length and breadth of the country.
- By invoking its extraordinary power under Article 142 of the Constitution, the Court has asked all SECs who are under the direct control of the respective State governments to step down from their posts.

Grey Area

- In practice, most States appoint retired bureaucrats as SECs. Whether the apex court's decision would have a bearing on those who are no more serving State governments remains to be seen.
- However, it is clear that these governments will now have to find a way to appoint to the office only those who are truly independent and not beholden to it in any manner.

Significance

- The verdict will help secure the independence of SECs in the future.
- More significantly, the Court has boosted the power of the election watchdog by holding that it is open to the SECs to countermand any infractions of the law made by the State government in the course of preparing for local body polls.

Conclusion

- Political parties should accept the new reality, respect the views of the Supreme Court and should avoid controlling the local body elections like in the past.

Salient features of Indian Constitution: Governing of Union Territory

12. The Government of National Capital Territory of Delhi (Amendment) Bill, 2021.

- » Prelims: Article 239AA
- » Mains: Criticism of the amendment and Central government's stand

Context

- The Center has introduced the Government of National Capital Territory of Delhi (Amendment) Bill, 2021 in the Lok Sabha.

- The Centre claims that the amendment bill seeks to give effect to the Supreme Court's (SC) interpretation and that it "further defines" the responsibilities of the elected government and the Lt Governor in line with the constitutional scheme.

What did the SC say?

- In its 2018 verdict, the five-judge Bench had held that the L-G's concurrence is not required on issues other than police, public order and land.
- It had added that decisions of the Council of Ministers will, however, have to be communicated to the L-G.
 - * "It has to be clearly stated that requiring prior concurrence of the Lieutenant Governor would absolutely negate the ideals of representative governance and democracy conceived for the NCT of Delhi by Article 239AA of the Constitution."
 - * "The status of the Lieutenant Governor of Delhi is not that of a Governor of a State, rather he remains an Administrator, in a limited sense, working with the designation of Lieutenant Governor".
- The L-G was bound by the aid and advice of the Council of Ministers. It had also pointed out that the elected government must keep in mind that Delhi is not a state.

The Government of National Capital Territory of Delhi (GNCTD) Act, 1991

- Delhi's current status as a Union Territory with a Legislative Assembly is an outcome of the 69th Amendment Act through which Articles 239AA and 239BB were introduced in the Constitution.
- The GNCTD Act was passed simultaneously to supplement the constitutional provisions relating to the Assembly and the Council of Ministers in the national capital.
- For all practical purposes, the GNCTD Act outlines the powers of the Assembly, the discretionary powers enjoyed by the L-G, and the duties of the Chief Minister with respect to the need to furnish information to the L-G.

What does the Bill say?

- According to proposed amendments, Section 21 of the Act — dealing with restrictions on laws passed by legislative assembly with respect to certain matters — is sought to be revised to clarify that the expression "government" referred to in any law to be made by the legislative assembly shall mean the "Lieutenant Governor".
- The Bill through amendments in various sections makes it mandatory for the government to send files to/seek the opinion of the Lieutenant Governor before taking any administrative decisions.
- The Bill gives discretionary powers to the L-G of Delhi even in matters where the Legislative Assembly of Delhi is empowered to make laws.
- The Bill seeks to add a provision in the original GNCTD Act, 1991, barring the Assembly or its committees from making rules to take up matters concerning day-to-day administration, or to conduct inquiries in relation to administrative decisions.

Criticism of the proposed amendments

- The amendment places more powers in the hands of the L-G, despite the Supreme Court ruling of 2018 saying that the Chief Minister will have greater say in all matters barring land, police and law and order.
 - * The Bill, if it becomes law, will wholly undermine the Court's efforts to strengthen the elected government vis-à-vis the appointed Lieutenant Governor.
- It is also being said that the proposed amendments to the Government of National Capital Territory of Delhi (GNCTD) Act, 1991, if passed would impact the powers of the Delhi Assembly committees to probe the day-to-day functioning of the administration.
- It curtails the power of a democratically elected government, is against the will of the people and the spirit of federalism.

Why has the Centre proposed Amendments?

- The Ministry of Home Affairs (MHA) statement on "objects and reasons" of the Bill stated that Section 44 of the 1991 Act deals with the conduct of business and there is no structural mechanism for effective time-bound implementation of the said section.
 - * "Further, there is no clarity as to what proposal or matters are required to be submitted to Lieutenant Governor before issuing order".

- Section 44 of the 1991 Act says that all executive actions of the L-G, whether taken on the advice of his Ministers or otherwise shall be expressed to be taken in the name of the L-G.

Conclusion

- The 'Union Territory' concept is one of the many ways in which India regulates relations between the Centre and its units. It should not be used to subvert the basis of electoral democracy.



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

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ECONOMY

Indian Economy and issues relating to growth and development

1. Re-evaluating inflation targeting

- » Prelims: Monetary policy framework agreement; Monetary policy committee-composition and mandate
- » Mains: Concerns associated with inflation targeting approach

Context:

- March 31st will mark the end of the term of monetary policy framework agreement between the Centre and the Reserve Bank of India (RBI) on inflation targeting.
- The article evaluates the effectiveness of the monetary policy.

Background:

Inflation targeting:

- Inflation control is a legitimate objective of economic policy given the correlation between inflation and macro-economic stability.
- Inflation targeting is one of the many inflation control policies.
- Unlike the money-supply targeting policy of inflation control, inflation targeting method prescribes the use of the interest rate to target inflation. Given that the policy interest rate, is under the direct control of the central bank, this method is believed to be more effective than the monetarist approach.

Details:

- Though the inflation rate has remained within the prescribed band of 2% to 6% since 2016 and the RBI has succeeded in anchoring inflationary expectations, the available evidence and observed trends are not conclusive on the efficacy claimed for inflation targeting.

Logical vulnerabilities in the assumed model:

- The economic model that underlies inflation targeting revolves around the proposition that inflation reflects "overheating", or economic activity at a level greater than the "natural" level of output, having been taken there by central banks that have kept interest rates too low, at a level lower than the "natural" rate of interest. This necessitates the need to raise the rate of interest ('repo' rate) to control inflation.
- Inflation in India entered the prescribed band of 2% to 6% two years before inflation targeting was adopted in 2016-17. In fact, inflation had fallen steadily since 2011-12, halving by 2015-16.

This by itself suggests that there is a mechanism driving inflation other than what is imagined in inflation targeting.

- The decline in inflation has been mainly led by the relative price of food. The vagaries of the price of food are a major determinant in inflation rate and the adopted model fails to acknowledge this aspect.

Impact of inflation targeting:

- Five variables namely growth, private investment, exports, Non-Performing Assets (NPAs) of commercial banks, and employment would be analyzed here.
 - * The economy's trend rate of growth actually began to decline after 2010-11. This trend was observed despite falling inflation trend. It indicates that the sharply falling inflation could do nothing to revive growth, belying the proposition that low inflation is conducive to growth.
 - * The swing in the real interest rate of over 5 percentage points in 2013-14 was powered further in 2016, when inflation targeting was adopted, and could have contributed to a declining private investment rate. This indicates that the higher interest rates, the toolkit for inflation targeting, may have been harmful for private investment in the economy.
 - * Exports and employment rates have fared poorly since inflation targeting was adopted in 2016.
 - * It has long been recognised that a central bank focusing on inflation may lose control of financial stability. NPAs have grown since 2016, and the cases of IL&FS, PMC Bank, PNB and YES Bank are indicative of the poor management and malfeasance in the financial sector, given the excessive focus of the central bank on inflation targeting.

Conclusion:

- Though Inflation control will always be relevant for macroeconomic stability, there is no conclusive evidence that the policy has worked in India as the presumed benefits of low inflation are yet to become evident.
- Infact inflation targeting may end up raising interest rates to higher and higher levels which bring out many negative impacts as discussed, without lowering inflation.

Indian Economy and issues relating to growth and development-Financial sector

2. Looking beyond privatisation

- » Prelims: Nationalization of banks in 1969 and 1980's
- » Mains: Concerns associated with nationalization of banks

Context:

- The Union government has announced its intent to privatise Public Sector Banks (PSBs) in the recent Budget session.

Details:

- The article argues against the proposed move to privatise Public Sector Banks based on the following arguments.

Wrong notion:

- The failure of innumerable private banks around the world, challenge the notion that only private banks are efficient. The large volumes of NPAs observed in private corporate entities also challenge the notion of private enterprises being the epitome of efficiency.

Positive role played by public banks:

- The nationalisation of 14 private banks in 1969, followed by six more in 1980, transformed the banking sector and ensured the following benefits.
 - * Neglected areas like agriculture, poverty alleviation plans, rural development, health, education, exports, infrastructure, women's empowerment, small scale and medium industry, and small and micro industries, have witnessed increased credit disbursal rates from the public sector banks.
 - * The nationalization of banks helped in promoting more equitable regional growth. The increased number of bank branches in rural areas has reduced the poor people's dependence on moneylenders and thus helped move out of the vicious cycle of poverty.
 - * Bank nationalization helped create jobs. They also improved the working conditions of employees in the banking sector, as the state ensured higher wages, security of services, and other fringe benefits.
 - * As an institution, PSBs have been vehicles of the Indian economy's growth and development. They have also contributed significantly to infrastructural development.

Threat posed by privatization of banks:

- Placing the huge network of bank branches and the infrastructure and assets in the hands of private enterprises or corporates may turn out to

be detrimental given the risks of monopoly and cartelisation of the crucial financial sector and this could lead to denial of economical banking services to the common man.

Unfair criticism of Public sector banks:

- It is unfair to blame PSBs alone for the alarming rise of NPAs.
- Wilful default by large corporate borrowers and subsequent recovery haircuts and write-offs, have put a big dent on the balance sheets of PSBs.
- The lack of strong recovery laws and lack of criminal action against wilful defaulters is a major lacuna in the system.

Recommendations:

- Stringent measures are required to recover large corporate stressed assets.
 - * There is an urgent need to bring in a suitable statutory framework to consider wilful defaults on bank loans a "criminal offence".
 - * There should be a system to examine top executives of PSBs across the country which will help in improving accountability among the top executives of the bank.

Conclusion:

- Privatisation of PSBs is not a definitive panacea for the problems of the banking sector in India.

Indian Economy and issues relating to growth and development-Financial sector

3. The distress sale of national assets is unwise

- » Mains: Concerns associated with nationalization of banks

Context:

- The article argues against the selling of government assets through outright privatisation of India's public sector undertakings (PSUs).

Background:

- The Prime Minister of India has been pushing for privatisation, asserting that the government has no business being in business.
- The Finance Minister, in the Budget speech for 2021-22, announced a new policy for central public sector enterprises (CPSEs). The policy would serve as a roadmap for the disinvestment of government-owned firms across sectors.

Criticisms:

Loss of public wealth:

- It is argued that the government has explicitly embraced privatisation instead of disinvestment, cautioning that the short-term gains through distress sale of national assets could lead to long-term loss of public wealth.

Impact on social justice:

- PSUs have historically played an active role in developing backward regions. Importantly, through reservations, PSUs have ensured high-quality jobs for Dalits, Adivasis and Other Backward Classes.
- Once PSUs are privatised or disinvested to below 50% government ownership, reservations for these historically marginalised sections will become history.
- Also, with privatisation, PSU employees would have to face lay-offs that will inevitably follow. This is a concern considering the prevailing massive job losses and unemployment.

Impact on the banking sector:

- In the banking sector, there has been an exponential rise in non-performing assets (NPAs).
- There is a considerable number of wilful defaults.
- India's experience with Yes Bank and other private sector banks hardly suggests that privatisation will eliminate greed and corruption in banking.
- Also, it is argued that it is the resilience of nationalised banks that helped save us from the worst effects of the global recession in 2008-09.
- Public sector banks have been central to expanding financial inclusion to the unbanked in India over the last five decades.
- Private Banks with profit-maximizing motives might not be as efficient in serving a public purpose.
- Besides, the Reserve Bank of India is reversing its principled, long-standing opposition to ownership of banks by industrial houses.
 - * Such a move will only lead to further concentration of the economy in a few hands, heighten conflict of interest and risk diversion of funds.

Way Forward:

- Many of our PSUs and public sector banks are profitable institutions that aid crucial developmental outcomes. Others require a realignment of incentives or an infusion of capital for a profitable turnaround.
- To derive maximum value from PSUs for the exchequer, the government should calibrate an appropriate strategy on a case to case basis.
- Disinvestment, executed carefully and strategically can generate resources for the government, set the right incentives for their managements, and reward the investing public.
- A middle path would be to divest only non-core, non-strategic public sector enterprises.

- Transparency, accountability and appropriate valuation are needed in the process of valuation of the government assets to be sold and in the entire privatisation process.

Indian Economy and issues relating to growth and development-Financial sector**4. 'Centre to infuse Rs. 14,500 cr. into banks under PCA soon'**

- » Prelims: RBI's prompt corrective action (PCA) framework

Context:

- The Finance Ministry is likely to decide on the infusion of ₹14,500 crore mainly in banks that are under the RBI's prompt corrective action (PCA) framework, to improve their financial health.

Details:

- For the current financial year, the government had allocated ₹20,000 crore for capital infusion into PSBs to help them meet their regulatory requirements.
- The capital infusion will help these banks to come out of the RBI's enhanced regulatory supervision.
- Indian Overseas Bank, Central Bank of India and UCO Bank are currently under the PCA framework.
- PCA framework places several curbs, including on lending and management compensation.

Prompt Corrective Action (PCA) framework:

- Prompt Corrective Action (PCA) is a framework in which banks with weak financial records are placed under the supervision of the Reserve Bank of India.
- The Prompt Corrective Action framework deems banks as risky if they slip some trigger points – capital to risk weighted assets ratio (CRAR), net NPA, Return on Assets (RoA) and Tier 1 Leverage ratio.

Indian Economy and issues relating to growth and development**5. Doubling down on a resilient India**

- » Mains: Investment climate in India- Potential and challenges

Context

- The article speaks about India's investment climate.

FDI inflows

- Despite India experiencing economic contractions due to covid-19, India saw the fastest growth in Foreign Direct Investment (FDI) inflows among all the major economies in 2020.

- Google, Facebook, Walmart, Samsung, Foxconn, and Silver are some of the companies which have placed trust in the Indian markets.

But India still remains a complex place to do business.

Challenges

- Companies usually are concerned about market access as they encounter obstacles or conditions which are tough for them to achieve when it comes to operating in India.
- Policies change quite often which shows a lack of planning and frequent changes in rules, laws, create a complex environment for executing an action plan.
- The government's push to build a "self-reliant" India has rattled investors.
- Smaller companies lack the resources and monetary advantages to navigate on-the-ground hurdles.

Still, leading corporate investors see the Indian market differently. They have the vision to understand that these are risks worth taking given the scale of the India Opportunity.

India an essential part of their growth story

1. First, sheer demographics.

- What India offers through its nearly 1.4 billion people and their growing purchasing power is uniquely valuable for multinationals with global ambitions.
- No other country outside of China has a market that houses nearly one in six people on the planet and a rising middle class of 600 million.

2. Second, shifting geopolitics.

- Trade war and rising tensions between the USA and China are making companies rethink on its strategies as they are moving to different production hubs.
- Savvy countries such as Vietnam have capitalised on this opportunity to great effect, but India is only finally getting serious about attracting large-scale production and exports.
- Major multinational companies such as Samsung have invested billions in the Indian market, and manufacturers such as Cisco, Nokia, Ericsson, and Flex are reportedly weighing new investments that take advantage of fresh incentive programs.

3. Third, rising digital connectivity.

- India's digital landscape has further expanded due to cheap mobile data and India has an estimated 700 million active internet users.
- This is the primary reason why leading global tech companies are investing in India and weathering acute policy pressure.
- Domestic Indian companies have also demonstrated their ability to innovate and deliver high-quality services at scale.

- The partnerships and FDI flows linking multinationals and Indian tech firms will continue to unlock shared market opportunities for years to come.

4. Fourth, national resilience.

- Despite facing the scourge of the novel coronavirus head-on, India has managed the pandemic better than many of its western peers and restored economic activity even before implementing a mass vaccination programme.

Way Forward:

- Companies should continuously demonstrate their commitment to India.
 - * Successful companies do this by placing shared value creation at the heart of their business strategy. They tie corporate success to India's growth and development.
 - * They forge enduring partnerships and lasting relationships, elevate and invest in Indian talent, align products with Indian tastes, and ultimately tackle the hardest problems facing India today.

Indian Economy and issues relating to growth and development

6. Recalibrating relations with EU

- » Prelims: Broad-based Trade and Investment Agreement
- » Mains: Potential of economic partnership between India and the EU; Challenges and recommendations

Context:

- The article talks about the need and opportunity for India to forge stronger ties with the European Union to revitalise its exports, in the backdrop of BREXIT and India's Atmanirbhar Bharat Abhiyan.

India's vision of self-reliance:

- The Atmanirbhar Bharat programme and the Budget 2021-22 have set the tone and tenor to bolster supply chains and achieve self-reliance.
- However, it does not mean that India looks at being economically insular.
- Realising the vision of a self-reliant India would entail localising an increasing share of value added along supply chains through investments and phase-wise reduction of import tariffs with strategic partners such as the European Union (EU).

Export potential:

- India has an untapped export potential of \$39.9 billion in the EU and Western Europe.

- The top products with export potential include apparel, gems and jewellery, chemicals, machinery, automobile, pharmaceuticals and plastic. India benefits from tariff preferences under the EU's Generalized System of Preferences (GSP) for several of these products.
- In fact, India is among the major beneficiaries of the EU's GSP.
 - * Exports under the GSP are valued at nearly \$19.4 billion in 2019, accounting for nearly 37% of India's merchandise exports to the EU.

Concerns:

- There are several products where India has export potential in the EU, but these have graduated or are on the brink of graduation under EU GSP.
 - * Product graduation applies when average imports of a product from a beneficiary country exceed 17.5% of EU-GSP imports of the same product from all beneficiary countries over three years.
- India's exports of products such as textiles, inorganic and organic chemicals, gems and jewellery, iron, steel and their articles, base metals and automobiles are already out of the ambit of EU-GSP benefits.
- There is also a likelihood of losing EU-GSP benefits in other categories such as apparel, rubber, electronic items, sports goods and toys due to product graduation.
- Meanwhile, India's competitors in apparel exports such as Bangladesh would continue to receive tariff benefits in the EU under the Everything but Arms Initiative.
- Another competitor, Vietnam, concluded a Free Trade Agreement (FTA) with the EU in 2019.

Cautious approach to FTAs:

- India's negotiation for a Broad-based Trade and Investment Agreement, which commenced in 2007, is yet to materialise due to lack of concurrence in areas like automobiles and dairy and marine products.
- India's cautious approach to FTAs is due to its past experience of an unequal exchange of benefits in several FTAs signed by the country.

Way Forward:

- In light of the declining preferential access and the likely erosion of competitiveness in the EU market, there is clearly a need to deepen trade and investment ties with the region.
- A thorough assessment of the benefits from FTA for domestic producers is warranted.
- India must consider the impact of FTA on sensitive sectors, and the possibility of inclusion of safeguards such as sunset clause on concessions for some items.

- There should also be provisions for aspects such as investment and Non-Tariff Measures (NTMs).
 - * As far as NTMs are concerned, India faces as many as 414 NTMs in the EU, in a wide array of sectors.
 - * FTAs have some institutional arrangements for NTMs.
 - * India should critically review the availability of such arrangements in its negotiations, as also their operationalization and effectiveness.
- India also needs to negotiate on investment-related aspects with the EU to enhance bilateral investments and foster stronger value chains, especially in technology-intensive sectors in which the EU has a comparative advantage.

Conclusion:

- Post-Brexit EU finds itself in the midst of a growing need for recalibrating ties with its partner countries.
- Forging stronger ties with the EU through a mutually beneficial agreement could help strengthen Indian manufacturing and revitalise exports.

Indian Economy - Agriculture related

7. Ploughing a new furrow in the agri-regulatory system

- » Prelims: Enabling the Business of Agriculture Index- parameters
- » Mains: India's performance; challenges and potential

Context:

- World Bank's Enabling the Business of Agriculture (EBA) 2019 report.

Background:

- The small landholding farmers across India face various constraints in carrying out farming activities. They include constraints in accessing agricultural inputs, markets, finance, human resources, and information, which are critical for increasing farmers' competitiveness.
- The existing institutional set up that controls farm production often fails to ease these constraints for the farmers.

Enabling the Business of Agriculture index:

- The EBA measures the extent to which government regulatory systems in 101 countries worldwide make it easier for their farmers to operate agricultural activities.
- Enabling the Business of Agriculture (EBA) index is based on eight indicators.

- * The indicators are supplying seed, registering fertilizer, securing water, registering machinery, sustaining livestock, protecting plant health, trading food, and accessing finance.

India's performance:

- Among 101 countries covered, India ranked 49 on the EBA aggregate score.
- Among emerging groups of 20 (EG 20) countries, India has the second least favourable regulatory environment for farming activities after South Africa.
- Notably, India lags behind its close competitors in world agriculture, namely China, Brazil, and the Russian Federation.

Areas of concern:

- India has exhibited weak performance on five out of eight indicators. They are registering fertilizer and machinery, securing water, sustaining livestock, and protecting plant health indicators.
 - * Inadequate access to quality agricultural inputs such as fertilizers, water, and mechanical power can cause productivity loss, higher cost of food production and uncertainty, and lower capacity of farmers to produce surpluses, adopt new plant varieties and accept new opportunities to improve their income.
 - * A vibrant agricultural sector is not just significant for India and its economy but also has global ramifications since the future of world agriculture and food production is expected to increasingly depend on middle-income countries such as China, India, Brazil, and Indonesia.

Areas of good performance:

- The comparative score of India on supplying seed, trading food, and accessing finance indicators is high.
 - * A robust seed supply system is required for improving yield and adopting new crop varieties.
 - * The trading food indicator assesses laws and regulations that facilitate the exporting of farm products by farmers.

Conclusion:

- The EBA results reveal that the strength of India's agricultural regulatory environment is weak on the whole and more so with respect to some key performance indicators.
- India needs to put in place an agricultural regulatory system that would make it easier for its farmers to conduct agricultural activities, thereby improving their productivity, competitiveness, and income.

- Governments must enact laws and regulations that influence farmers' access to agricultural inputs, cost of production, farmers' participation in agricultural markets and value chains, the competitiveness of farmers, and private investment in the farming sector.

Additional information:

Warehouse receipts:

- Warehouse receipt operators accept deposits of crops and provide warehouse receipts to farmers as evidence of deposited crops. By using warehouse receipts as collateral, farmers can receive credit.
- A robust warehouse receipts system enables the farmers to obtain the credit needed to invest in agriculture.

Indian Economy-Agriculture related

8. A case for a revamped, need-based PDS

- » Prelims: NFSA; PDS related terminologies
- » Mains: Concerns associated with current PDS regime and recommendations

Context:

- The recent Economic Survey has flagged the issue of the growing food subsidy bill in India. As per the government's own admission the food subsidy bill is increasingly becoming unmanageably large.

Background:

National Food Security Act:

- The National Food Security Act (NFSA) came into force in 2013.
- It extended entitlements of food grains to almost two-thirds of the country's population.
- The law requires the authorities to provide to each beneficiary 5 kg of rice or wheat per month.

Details:

- The withdrawal of food grains by States from the central pool under various schemes has increased over the years.
- During the last three years, the quantity of food grains annually drawn by States has hovered around 60 million tonnes to 66 million tonnes. However, by December 2020, the Centre set apart 94.35 million tonnes to the States under different schemes including the NFSA and additional allocation, meant for distribution among the poor free of cost.

Concerns:

Rising food subsidy:

- Food subsidy has been on a perpetual growth trajectory.

- * During 2016-17 to 2019-20, the subsidy amount, clubbed with loans taken by the Food Corporation of India (FCI) under the National Small Savings Fund (NSSF) towards food subsidy, was in the range of Rs. 1.65-lakh crore to Rs. 2.2-lakh crore. In future, the annual subsidy bill of the Centre is expected to be about Rs. 2.5-lakh crore.
- * The COVID-19 pandemic has further expanded this with the revised estimate of the food subsidy pegged at about ₹23-lakh crore, excluding the extra-budgetary resource allocation of ₹84,636 crore.

Issue prices:

- Though the NFSA in 2013, envisaged a price revision after three years, the Central Issue Price (CIP) has remained at Rs. 2 per kg for wheat and Rs. 3 per kg for rice for years now.

Political compulsions:

- It would be extremely difficult to reduce the economic cost of food management in view of rising commitment towards food security and the government's reluctance to not disturb the NFSA norms or increase the prices owing to political compulsions.

Financial viability:

- The insistence of keeping the retail prices of food grains at fair price shops at the present low levels, even after the passage of nearly 50 years and achieving substantial poverty reduction in the country goes against the financial sustainability of the system.
- * As per the Rangarajan group's estimate in 2014, the share of people living below the poverty line (BPL) in the 2011 population was 29.5% (about 36 crore).
- The mere increase in the CIPs of rice and wheat without a corresponding rise in the issue prices by the State governments would only increase the burden of States, which are already reeling under financial stress.

Way forward:

- PDS is a useful tool to counter the challenge of extreme poverty and hunger and hence the dismantling of it is not a solution.
- Also, given the fact that the PDS system helps support the farmers through government procurement of their produce, it might not be advisable to replace the in-kind provision of food subsidy of the PDS system with Direct Benefit Transfer (DBT).
- The Centre should have a relook at the overall food subsidy system.

Revising NFSA coverage:

- The centre should revisit NFSA norms and coverage. The government could look at

decreasing the quantum of coverage under the law, from the present 67% to around 40%.

- For all ration cardholders drawing food grains, a "give-up" option, as done in the case of cooking gas cylinders, can be made available.
- Though the States have been allowed to frame criteria for the identification of PHH cardholders, the Centre can play a critical role in nudging the states into pruning the number of beneficiaries under the NFSA system.

Relook at the pricing mechanism:

- With respect to the pricing mechanism, the existing arrangement of flat rates should be replaced with a slab system. Leaving the poor and needy sections, other beneficiaries can be made to pay a little more for a higher quantum of food grains.

Conclusion:

- A revamped, need-based PDS is required not just for cutting down the subsidy bill but also for reducing the scope for leakages. There should be a political will to take the necessary steps.

Additional information:

- Diversion of food grains and subsidy leakage is another serious cause of concern.
- Reforms implemented in the PDS through various steps, including end-to-end computerisation of operations, digitisation of data of ration cardholders, seeding of Aadhaar, and automation of fair price shops have helped address this concern to an extent.

Indian Economy and Infrastructure

9. Railways and a question of transparency

- » Prelims: Dedicated freight corridors
- » Mains: Concerns with respect to functioning of Indian railways; recommendations

Context:

- The article analyses the concerns associated with the functioning of the Indian railways and suggests measures to improve its performance.

Concerns:

- The railways are in the midst of financial distress and are faced with fundamental organisational issues.

Depressed freight earnings:

- The freight earnings in 2020-21 though more than in 2019-20, would be lower than what was achieved in 2018-19. In fact, the passenger and freight earnings in 2019-20 were less than in 2018-19, indicating that a downslide had started even before the outbreak of COVID-19, probably due to the economic slowdown.

Operating Ratio:

- The Operating Ratio (OR), which is broadly the ratio of working expenses to revenues, has been artificially kept below 100% by making less-than-required provision for pension payments during 2019-20 and 2020-21. While the official figures of OR are 98.36% for 2019-20 and 96.96% for 2020-21, the actual OR works out to 114.19% and 131.49%, respectively, if the required provision is made for pension payments.
- * The Operating Ratio is an important financial performance index to measure the financial viability and sustainability of the Railways.
- The railway finances are in the red and the COVID-19 pandemic has nothing to do with it.

Increasing burden of staff costs and pension payments:

- A major challenge facing the Railways is the burgeoning staff costs including pension.
- Over the years, traffic revenues have been unable to keep pace with the increase in staff costs and pension payments. While the passenger and freight revenues increased by 84.8 % from 2010-11 to 2019-20, the staff and pension costs raced ahead at almost double that rate, by 157%, in the same period.
- While in 2010-11, the staff plus pension costs formed 55.7% of the traffic earnings, by 2019-20, they had shot up to 77.5% of the traffic earnings. This, despite the fact that there has been a reduction of about one lakh staff on the roll during this period.
- The spike in the staff and pension costs is largely attributable to the implementation of the Central Pay Commission recommendations. The Indian Railway's finances are bound to be subjected to another fatal body blow by the next Pay Commission around 2025-26.

Skewed product mix of freight:

- A detailed analysis of the product mix of freight carried by the railways brings to light a major concern associated with railways.
- A disturbing feature of freight traffic is the overwhelming dependence on one commodity: coal. Despite all the marketing efforts over the years, almost 50% of freight earnings are contributed by the transport of coal.
- With the availability of alternative sources of renewable energy such as solar at competitive prices, the dependence on coal-based thermal power plants is bound to reduce to meet the incremental energy needs. Also, India's commitment under the 2015 Paris Agreement would result in India reducing its dependency on coal-based power plants. This does not augur well for the Railways and it will have to therefore think seriously of life after coal.

Recommendations:

- The serious problems of viability facing the country's largest and most crucial transport organisation should be addressed at the earliest. The following measures could act as a guiding post.
 - * The railways should work towards achieving a quantum jump in revenues, particularly on the freight front, and a drastic reduction in the number of employees. The full commissioning of the two Dedicated Freight Corridors (DFCs), slated to be operational by 2022, assumes great urgency and importance as it would help boost revenues for the railways.
 - * The railways should promote the adoption of the roll-on roll-off model of transporting loaded trucks on rail on the DFCs, which apart from boosting revenues has the added advantage of reducing the overall carbon footprint.
 - * A suggestion to corporatize the Railways' Production Units and to outsource the non-critical sectors like medical services needs to be looked into with discussions with all stakeholders.
 - * An annual report called 'Indian Railways Report' on the lines of the annual Economic Survey should be placed in Parliament every year detailing the physical and financial performance of the Railways, identifying the challenges and plans for the future to meet the country's rail transport needs. This would ensure detailed public scrutiny of the affairs of the railways.

Governmental schemes/Programmes/initiatives**10. Bharatiya Prakritik Krishi Paddhati (BPKP)**

- » Prelims: Paramparagat Krishi VikasYojana
- » Mains: Significance of organic farming practices in India
- It is a sub scheme of Paramparagat Krishi VikasYojana (PKVY).
- It was introduced in 2020-21 for the promotion of traditional indigenous practices including natural farming.
- The scheme mainly emphasizes the exclusion of all synthetic chemical inputs and promotes:
 - * On-farm biomass recycling with major stress on biomass mulching
 - * The use of cow dung-urine formulations
 - * Plant based preparations

* Time to time working of soil for aeration

- Under BPKP, financial assistance of Rs 12200/ha for 3 years is provided for cluster formation, capacity building and continuous handholding by trained personnel, certification and residue analysis.
- BPKP is aimed at promoting traditional indigenous practices which reduces externally purchased inputs.
- Benefit of the scheme: natural farming will reduce dependency on purchased inputs and will help to ease smallholder farmers from credits burden.

Governmental schemes/Programmes/Initiatives

11. Central Scrutiny Centre (CSC)

» Prelims: Central Scrutiny Centre

Context:

- Finance Minister launches the Central Scrutiny Centre (CSC) to scrutinise user filings.

About the Central Scrutiny Centre:

- The CSC is an initiative of the Corporate Affairs Ministry to scrutinise the filings by users under straight through processes.
- The objective behind the launch of CSC is to ensure that data quality is uncompromised and free from flaws.
- CSC will primarily scrutinise the filings made by users under straight through processes, identify data quality issues and irregularities, and communicate the same to the concerned Registrar of Companies so that corrective steps can be taken to restore authenticity and correctness of data and it can be seamlessly shared with other regulators, if required.

Investor Education and Protection Fund Authority (IEPFA)

- The mobile app aims at achieving the goal of financial literacy, spreading investor awareness, education, and protection among investors.
- The prime goal here is to push Ease of Living.
- The app will have the facility of tracking the status and progress of IEPF claim refund process.
- It will also provide a mechanism for investors and common citizens to report on suspected fraudulent schemes.

Governmental schemes/Programmes/Initiatives

12. Champion Services Sector (CSS) Scheme

» Prelims: Champion Services Sector

Background:

- The Union Cabinet, in 2018, approved the proposal of the Department of Commerce to give focused attention to 12 identified champion services sectors for promoting their development and realising their potential.
- The 12 sectors are IT & ITES, tourism and hospitality services, medical value travel, transport and logistics services, accounting and finance services, audio visual services, legal services, communication services, construction and related engineering services, environmental services, financial services and education services.

About the CSS Scheme:

- It is an umbrella scheme for the period 2019-20 to 2023-24.
- It is a central sector scheme of the Dept. of Commerce.
- The aims of the scheme are:
 - * Unleash the full potential of the services sector and achieve their sustained growth.
 - * Diversification across a broad range of services sectors.
 - * Enhance global competitiveness of India's services sectors and position India as a services hub of the world.

The objectives of the scheme are:

- Addressing sectoral and cross-cutting issues including domestic regulatory reforms.
- 'New' initiatives including new processes, new infrastructure, new mindset, new sectors and new standards to prevent India's services sector from losing its competitive position in the global market.
- Enhance gross value added contributed by the domestic services sectors.
- Boosting India's exports across a broad range of services sectors.
- Skill training and employment creation.

The Ministry of Electronics and Information Technology has initiated the following projects under CSS scheme:

- FutureSkillsPRIME: It is a programme for reskilling/upskilling of IT manpower for employability.
- Next Generation Incubation Scheme (NGIS): The NGIS aims to create a vibrant software product ecosystem to complement the robust IT industry.

Governmental schemes/Programmes/Initiatives

13. PLI Scheme for Food Processing Industry

» Prelims: PLI scheme

Context:

- Cabinet approves Production Linked Incentive Scheme for Food Processing Industry.

Details:

- The scheme will support the creation of global food manufacturing champions commensurate with India's natural resource endowment and support Indian brands of food products in the international markets.
- The scheme has been launched with an outlay of Rs. 10900 crore.
- It is a Central Sector Scheme.

Objectives of the Scheme:

- The objectives of the Scheme are to support food manufacturing entities with stipulated minimum sales and willing to make minimum stipulated investment for expansion of processing capacity and branding abroad to incentivise emergence of strong Indian brands.
- It aims to:
 - * Support creation of global food manufacturing champions;
 - * Strengthen select Indian brands of food products for global visibility and wider acceptance in the international markets;
 - * Increase employment opportunities of off-farm jobs; and
 - * Ensuring remunerative prices of farm produce and higher income to farmers.

Features:

- The first component relates to incentivising manufacturing of four major food product segments viz. Ready to Cook/Ready to Eat (RTC/RTE) foods, Processed Fruits & Vegetables, Marine Products, Mozzarella Cheese.
- Innovative/Organic products of SMEs including Free Range -Eggs, Poultry Meat, Egg Products in these segments are also covered under above component.

Schemes/Programmes/Initiatives

14. UdyogManthan

» Prelims: Udyog Manthan

- It was organized by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry, UdyogManthan is a series of focused webinars on promoting quality and productivity in Indian industry.

- The webinars are supported by the National Productivity Council, Bureau of Indian Standards as well as industry chambers like CII, FICCI & ASSOCHAM.
- The webinars aim to draw in best practices and experiences of sector and industry experts to identify challenges related to quality and productivity faced by the Indian industry, with a view of solving them to promote Vocal for Local and ultimately Aatmanirbhar Bharat.
- UdyogManthan will cover various sectors including pharma, medical devices, closed circuit camera, electronics system design and manufacturing, new and renewable energy, robotics, aerospace and defence, toys, furniture, etc.

Schemes/Programmes/Initiatives

15. Petition in HC seeks expansion of ambit of electric vehicles scheme

- » Prelims: FAME scheme; Significance of hydrogen energy for transportation sector; National Hydrogen Mission

Context:

- A petition filed before the Delhi High Court has sought a direction to expand the ambit of the FAME (Faster Adoption and Manufacturing of Electric Vehicles) India Phase-II scheme to the hydrogen energy infrastructure.

Details:

- The petition seeks to ask the government to allocate a part of the unutilised funds from the FAME India Phase-II Scheme for promoting and incentivising demand for hydrogen fuel cell electric vehicles and construction and operation of hydrogen refuelling stations.
 - * There has been inadequate utilization of budget allocation made towards the FAME scheme. Out of a total budget of Rs. 700 crore for setting up charging infrastructure, only Rs.20 crore has been disbursed until now.

Significance of hydrogen energy:

- The adoption of hydrogen as a fuel will help reduce the dependence of India's transport sector on imported oil and gas.
- The hydrogen energy system can be conceived as a circular process. Hydrogen can be manufactured by the hydrolysis of water using renewable energy. This would make hydrogen a truly sustainable fuel source.
- The emission or by-product of hydrogen gas is water vapour. This would help decarbonize the energy mix. This augurs well for mitigating the GHG emissions.

National Hydrogen Energy Mission:

- The government has announced a National Hydrogen Energy Mission [NHEM] during the budget speech in February 2021.
- The National Hydrogen Energy Mission (NHM) will draw up a road map for using hydrogen as an energy source. NHEM initiative will capitalise on one of the most abundant elements on earth (Hydrogen) for a cleaner alternative fuel option.
- The National Hydrogen Energy Mission will focus on the generation of hydrogen from green power resources and will aim to link India's growing renewable capacity with the hydrogen economy.

Conclusion:

- The government should support and incentivize alternate fuel technologies, such as hydrogen-powered fuel cell electric vehicles.

S.No	ICP Location	State	Borders with	Current Status
1	Attari (Amritsar)	Punjab	Pakistan	Operational
2	Agartala	Tripura	Bangladesh	
3	Petrapole	West Bengal	Bangladesh	
4	Raxaul	Bihar	Nepal	
5	Jogbani	Bihar	Nepal	
6	Moreh	Manipur	Myanmar	
7	Dawki	Meghalaya	Bangladesh	under construction
8	Rupaidiha	Uttar Pradesh (U.P.)	Nepal	Approved in December, 2018.
9	Sunauli	Uttar Pradesh (U.P.)	Nepal	
10	Sutarkandi	Assam	Bangladesh	

Institutions**16. Land Ports Authority of India (LPAI)**

- » Prelims: Land Ports Authority of India Act, 2010; Integrated Check points of India
- LPAI is a statutory body established under Land Ports Authority of India Act, 2010 working under the Ministry of Home Affairs.
- It has its Headquarter in New Delhi.

Functions

- Put in place systems, which address security imperatives at the integrated check posts on the border;
- Plan, construct and maintain roads, terminals and ancillary buildings other than national highways, State highways and railways, at an integrated check post;
- Plan, procure, install and maintain communication, security, goods handling and scanning equipment at an integrated check post;
- LPAI endeavours to provide safe, secure and systematic facilities for movement of cargo as well as passengers at its ICPs (integrated check-posts).

Miscellaneous**17. Despite arbitration tug of war, mutual settlement is key**

- » Prelims: BITs

Context

- International decisions against the Government of India in the cases of Cairn Energy and Vodafone in the final quarter of 2020, and the decision by India to appeal against these awards, have had an adverse effect on investor trust and India's promise to honour its commitments to foreign investors under Bilateral Investment Treaties (BITs).
- Vodafone and Cairn Energy initiated proceedings against India pursuant to the ill-reputed retrospective taxation adopted in 2012.

Issues in the Cairn Energy-govt dispute

- Since the inception of the dispute, the Government of India has fervently defended its sovereign taxation powers.
- It is important for the Government of India to reflect upon its international legal responsibility to uphold treaty obligations.
- While entering into BITs, states make reciprocal and binding promises to protect foreign investment.
- In cases such as that of Cairn, sovereign powers that are legal under national laws may not hold water before sovereign commitments under international law.
- The Government of India may not be permitted to quote the permissibility of retrospective taxation under the Indian Constitution, to escape responsibility under the India-United Kingdom BIT.

- However, India could use international public policy against tax avoidance, and the sovereignty of a state to determine what transactions can or cannot be taxable as a defence.

Mutual Settlement:

- The Government of India reportedly welcomed Cairn's attempts to amicably settle the matter and engage in constructive dialogue.
- The Government of India has reportedly offered options for dispute resolution under existing Indian laws.
- One such possible option is the payment of 50% of the principal amount, and waiver of interest and penalty, under the 'Vivad se Vishwas' tax amnesty scheme.
- However, this can be possible if it is considered to be applicable to decisions made by international tribunals in favour of the tax-payer under bilateral investment treaties.
- Re-computation of tax liability on a long term capital gains basis has also been reportedly offered.

Way Forward:

- India boasts of being among the top 12 recipients of FDI globally.
- The increased FDI inflows in India over the years are a testament to the attractive investment opportunities available for foreign investors in India.
- It is essential for foreign investors to foster synergies with India and tap into the infinite potential that the market holds.
- It is important for parties to be open to dialogue with investors and explore alternatives that lead to the road of settlement.
- It may not be conducive to weave a web of litigation entangling stakeholders and closing exit routes.

Miscellaneous

18. Rajya Sabha passes Bill to raise FDI limit in insurance sector

- » Prelims: FDI limits in India
- » Mains: Significance of FDI in Indian economic growth; challenges

Context:

- The Rajya Sabha passed the Insurance Amendment Bill, 2021. The bill will be sent to the Lok Sabha for approval.
- The bill increases the maximum foreign investment allowed in an insurance company from 49% to 74%.

- * In 2015, the government hiked the FDI cap in the insurance sector from 26% to 49%.

Criticisms:

- Opposition parties raised concerns about the clause enabling "control and ownership" by foreign investors.
- It was pointed out that big insurance firms were not in shortage of capital and that the Bill differed from the government motto of "Atmanirbhar Bharat".
- It was highlighted that the insurance firms had managed to get FDI even up to the present limit of 49%. Justification to increase the limit was also sought.

Details:

- The Finance Minister assured that the policy holder's money would not leave Indian shores and have to be compulsorily invested here.
- It was argued that more FDI would mean greater competition and thus better-negotiated premiums for the end-user.
- Under the new structure, the majority of directors on the board and key management persons would be resident Indians, with at least 50% of directors being independent directors.
- It was highlighted that the key management personnel would have to be Indians and therefore would be governed by Indian laws.
- The increase in FDI limit is expected to encourage foreign insurers to bring more capital into the country which has a huge potential for growth in the sector.

Miscellaneous

19. Maritime India Summit

- It was organized by the Ministry of Ports, Shipping & Waterways, GOI.
- It was an exhibition attended by various stakeholders in the maritime sector including senior policy planners, domestic and international investors, CEOs of Indian and global maritime companies, industry experts, thought leaders, technology providers, bankers and insurers, representatives of major ports and shipping lines from across the world.
- The Summit visualized a roadmap for India's Maritime sector for next decade and will work to propel India to the forefront of the Global Maritime Sector.

During this event the

- Prime Minister released e-book of 'Maritime India Vision-2030'. Maritime India Vision 2030 is aiming to make the Indian Maritime Industry at par with top global benchmarks in next 10 years.

- Prime Minister also unveiled the e-plaque of 'Sagar-Manthan': Mercantile Maritime Domain Awareness Centre(MM-DAC).
- * It is an information system for enhancing maritime safety, search and rescue capabilities, security and marine environment protection.

Indian Economy and issues relating to growth and development

20. Parliament passes MMDR amendment Bill

- » Prelims: Minor minerals; Mineral resources in India
- » Mains: Significance of the amendment

Context:

- The Lok Sabha and Rajya Sabha have passed the Mines and Mineral (Development and Regulation) [MMDR] Amendment Bill, 2021.

Background:

The Mines and Minerals (Regulation and Development) Act:

- The Mines and Minerals (Regulation and Development) Act (1957) is an Act of the Parliament of India enacted to regulate the mining sector in India.
- This act forms the basic framework of mining regulation in India. It details the process and conditions for acquiring a mining or prospecting licence in India.
- This act is applicable to all minerals except minor minerals and atomic minerals.
 - * Mining minor minerals comes under the purview of state governments.

Details:

- The Bill amends the MMDR Act, 1957, which provides a framework for the regulation of the mining sector in India.
- The Bill removes the distinction between captive and non-captive mines and seeks to introduce an index-based mechanism by developing a National Mineral Index (NMI) for statutory payments.
- The National Mineral Exploration Trust (NMET) would oversee the functioning of the sector, and will be made an autonomous body.
- The bill shall remove restrictions of end-use for future auctions of mineral mining rights, allow operators of existing captive mines to sell up to 50 per cent of minerals extracted in a year.
- It empowers the central government to conduct an auction of mines if state governments do not conduct auctions in a timely manner.

Significance:

- The amendment could lead to an increase in the production level of minerals and generate employment, increase revenues and ensure private participation in the exploration and mining activities.
 - * India produces 95 minerals and has the same potential as South Africa and Australia but the mining sector was under-explored and India still had to import minerals like gold and coal.
- The Coal and Mines Minister stated that the amendments will create jobs and allow private players with enhanced technology into the mining sector.
 - * One per cent growth in the mining sector generates almost 1 lakh (jobs) in direct employment and 5 lakh (jobs) in indirect employment
- The Minister said that the mining sector right now contributes 1.75% to the country's GDP but the proposed reforms will raise the contribution to 2.5% as it seeks to make a large number of mines available for auctions by resolving legacy issues.

Indian Economy and issues relating to growth and development

21. The job crunch and the growing fires of nativism

- » Prelims: Article 19 and Article 16
- » Mains: Impact of growing nativism

Context:

- Haryana Governor's assent to The Haryana State Employment of Local Candidates Act of 2020.

Background:

Employment scenario in Haryana:

- The jobs situation in Haryana is staggeringly dismal.
 - * As per data from the Centre for Monitoring Indian Economy (CMIE), the unemployment rate in Haryana is the highest of all states in India.
 - * A whopping 80% of women in Haryana who want to work cannot find a job.
 - * More than half of all graduates in Haryana are jobless.

Details:

- The law regulates private sector hiring in the state of Haryana by mandating that 75% of all jobs with gross monthly salaries of up to ₹50,000 are provided to the State's own residents.

- According to the state government, the reservation law covers private companies, societies, trusts, and partnership firms in the state.
- The law would be applicable even to firms with as few as 10 employees.
- The law imposes responsibilities on key personnel of firms to register every employee earning ₹50,000 on an official portal and employing 75% of locals in such jobs. The law provides for severe monetary penalties for perceived non-compliance.

Government's stand:

- The state government said the reservation law will discourage the influx of migrants seeking low-paid jobs.
- The Haryana reservation law also provides training to eligible local candidates when qualified people are not available.

Concerns:

- Haryana's new law could have a detrimental impact on India's investment climate and its socio-economic framework.

Against constitutional provisions:

- Haryana's law goes against the provisions of the India Constitution, especially Article 19(1)(g) and Article 16(2).
 - * Article 19(1)(g) of the constitution enables an Indian citizen to practise any profession, or to carry on any occupation, trade or business.
 - * Article 16(2) of the constitution states that no citizen shall, on grounds only of religion, race, caste, sex, descent, place of birth, residence or any of them, be ineligible for, or discriminated against in respect or, any employment or office under the State

Impact on ease of doing business:

- The employers could seek exemptions from the law provided that they are able to prove that local candidates for a desired skill are not available. However, officials will decide if a firm can hire an outsider or should train local candidates instead. Also the officials would have the power to enter firms' premises for inspections. Such provisions resemble an 'Inspector Raj' system.
- Such onerous regulations and process would dissuade employers from operating in the State due to decreased ease of doing business. This would impact the investments flowing into the states.
- Given the integrated value chains, a single disruption in the Gurgaon back office operations of a global firm or the supplies of auto components, on account of the new law, would

also be damaging to India's reputation as a stable, trustworthy investment destination with a talented workforce.

Impact on employment:

- The new law when enacted might lead to removing existing non-Haryanvi employees beyond the 25% limit.
- Also the reduced investments will only further accentuate the unemployment problem in the Indian economy. Thus such local reservation laws defeat the idea of boosting local jobs.

Impact on unity of the nation:

- The clamour for preserving economic activity for 'sons of the soil' has become a recurrent theme in many Indian states.
 - * Andhra Pradesh had passed a similar law in 2019, and the Madhya Pradesh CM has promised to reserve 70% private sector jobs for the locals.
 - * The cabinet of the government of Jharkhand approved similar legislation to reserve jobs for Jharkhand residents.
 - * The Dravida Munnetra Kazhagam (DMK) in Tamil Nadu announced a similar proposal to reserve jobs for Tamils in its manifesto.
- Rising unemployment could spur more States to follow suit. Such a trend threatens to unleash a sort of 'work visa' regime for Indians within the country.
- Such laws also damage crucial workplace diversity.
- Such laws rupture the social fabric given their push for insularity.

Conclusion:

- The growing inter-state disparities, unsustainable economic development model, an impending demographic disaster will inevitably propagate nativistic sub-nationalism among the various states of India.
- Considering the fact that job creation is obviously an outcome of the performance of the larger economy, there is the need to focus on economic performance rather than on protectionism which can only do more harm to the already bad state of affairs on the economic front.

Indian Economy-Agriculture related

22. CSIR Floriculture Mission

- » Prelims: CSIP Floriculture Mission; TRIFED; APEDA
- » Mains: Potential and challenges of floriculture in India

Context:

- Union Minister launches CSIR Floriculture Mission.

Background:

Potential of floriculture sector:

- The Indian floriculture market was worth Rs 15700 cr in 2018. The market is projected to reach Rs 47200 cr by 2024.
- Floriculture has the potential to provide employment to a large number of people through nursery raising, floriculture farming, entrepreneurship development for nursery trade, value addition and export.

Concerns with floriculture sector in India:

- Despite the fact that India has diverse agro-climatic and edaphic conditions, and rich plant diversity, it shares only 0.6 % of the global floriculture market.
- At least 1200 million USD worth of floriculture products are being imported by India every year from different countries.

Details:

- Under this mission, the available knowledge base in CSIR Institutes will be utilized and leveraged to help Indian farmers and industry re-position itself to meet the export requirements.
- The infusion of latest technologies in the field of floriculture shall be the main focus area of the mission

- The mission has been approved for implementation in 21 States and Union Territories.
- It is being implemented in collaboration with the following organisations:
 - * Indian Council of Agricultural Research (ICAR)-Directorate of Floriculture
 - * Khadi and Village Industries Commission (KVIC)
 - * Agricultural and Processed Food Products Export Development Authority (APEDA), Ministry of Commerce
 - * Tribal Cooperative Marketing Development Federation of India Ltd. (TRIFED)
 - * Fragrance and Flavour Development Centre (FFDC), Kannauj, Ministry of Micro, Small and Medium Enterprises (MSME)
 - * Universities
- The mission will focus on commercial floral crops, seasonal/annual crops, wild ornaments and cultivation of flower crops for honey bee rearing. Some of the popular crops include Gladiolus, Canna, Carnation, Chrysanthemum, Gerbera, Lilium, Marigold, Rose, Tuberose, etc.
- The CSIR Floriculture Mission is expected to create opportunity for entrepreneurship development in floriculture.



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INTERNATIONAL RELATIONS

International Relations: Relations between India and neighbouring countries

1. Maitri Setu

- » Prelims: Maitri setu; Feni river
- » Mains: Significance of Bangladesh in ensuring better connectivity to India's North eastern states
- The bridge 'MaitriSetu' has been built over the Feni River which flows between the Indian boundary in Tripura State and Bangladesh.
- The name 'MaitriSetu' symbolizes the growing bilateral relations and friendly ties between India and Bangladesh.
- The construction was taken up by the National Highways and Infrastructure Development Corporation Ltd at a project cost of Rs. 133 Crores.
- The 1.9 km long bridge joins Sabroom in India with Ramgarh in Bangladesh.

Significance

- It is poised to herald a new chapter for trade and people to people movement between India and Bangladesh.
- With this inauguration, Tripura is set to become the 'Gateway of North East' with access to Chittagong Port of Bangladesh, which is just 80 Kms from Sabroom.

Context

- PM inaugurated 'MaitriSetu'

International Relations: Relations between India and neighbouring countries

2. India and Japan back in new Sri Lanka port project

- » Prelims: Map based facts
- » Mains: Challenges to India Sri Lanka relationship- China factor

Context

Sri Lanka has announced that it would develop the West Container Terminal (WCT) at the Colombo Port, along with India and Japan.

Details:

- Approval has been granted to develop the WCT with private investors nominated by India and Japan.
- The decision comes a month after the Rajapaksa government ejected the two partners from a 2019 tripartite agreement to jointly develop the

East Container Terminal (ECT), citing resistance to foreign involvement.

- Sri Lanka had backed out of an agreement with India and Japan to develop the East Container Terminal (ECT) at the Colombo Port. Both India and Japan had expressed displeasure about Colombo unilaterally pulling out of the 2019 agreement.

West Container Terminal (WCT) development:

- In the ECT project agreed upon earlier, the Sri Lanka Ports Authority (SLPA) was to hold a majority 51%, but in the WCT proposal, India and Japan will be accorded an 85% stake, as is the case in the nearby Colombo International Container Terminal (CICT).
- China Merchants Port Holdings Company Limited holds an 85% stake in CICT.
- While the ECT was partially in use, the WCT has to be built from scratch, requiring a much higher investment.
- The WCT is adjacent to the China-run CICT and just a couple of kilometres away from the China-backed Port City being built on reclaimed land.
 - * This makes WCT a strategically desirable spot for India.

Timing of Sri Lanka's move:

- The alternative offer comes at a time when Sri Lanka is seeking support from India at the ongoing UN Human Rights Council session, where a resolution on its rights record will soon be put to vote.

International Relations: Relations between India and neighbouring countries

3. The anatomy of a spring ceasefire

- » Prelims: Shimal agreement; LoC
- » Mains: Thaw in the relationship between India and Pakistan- Reasons and way forward

What's in News?

- India and Pakistan have issued a joint statement for the first time in years, announcing that they would observe the 2003 ceasefire along the Line of Control (LoC). The announcement has triggered widespread speculation about the durability, significance and implication for the bilateral relations in general.

Indication of peace:

- While the development comes with a surprise factor, there have been some indications about warming up of relations between the traditional rivals.
- Pakistan Army Chief had stated that "It is time to extend hand of peace in all directions"; and on the Indian side, the Army Chief "with our continuous engagement with Pakistan, we will be able to prevail over them (for border peace)... as unsettled borders help no one".
- India allowed the use of its airspace by Pakistan Prime Minister Imran Khan's special aircraft to fly to Sri Lanka just a day before the ceasefire announcement.
- In Colombo, Mr. Khan said, "Our only dispute is Kashmir and it can only be resolved through dialogue."

Significance of the ceasefire:

Specifics of the declaration:

- Two distinct features make the recent ceasefire announcement different:
 - * This was a joint statement by the two DGsMO.
 - * Unlike the previous declarations, the recent agreement mentions a specific date, i.e., the night of February 24-25, to begin the ceasefire.

In the wake of growing ceasefire violations:

- It is one of the most significant military measures by India and Pakistan in over 18 years to reduce violence along the LoC in Kashmir.
- The agreement is path-breaking from a conflict management point of view.
 - * It comes in the wake of over 5,000 ceasefire violations in 2020 (the highest in 19 years since 2002).
- Also, the November 2003 ceasefire agreement was also announced in the wake of a high level of violence.

Geo-political significance:

- New Delhi was stuck in an ugly two-front situation and a feeling of being boxed in by an inimical Pakistan and an aggressive China.
- Dealing with it was neither easy nor practical.
- That the Indian Army had to redeploy forces from the western border with Pakistan to the northern border with China is indicative of the serious material challenges it could throw up.
- The best way to deal with the two front challenge then, New Delhi could have reasoned, was to defuse at least one front. The LoC was a natural candidate.

Return to back channel:

- What is also significant to note about the ceasefire agreement between the two DGMOs is that this was preceded by high-level contacts through the backchannel.

A brief history:

- The history of India-Pakistan ceasefire pacts and war termination agreements is both complex and instructive.
- The Karachi agreement of 1949, which ended the first war between the newly formed India and Pakistan, was the first ceasefire agreement between the two countries which, signed under the good offices of the United Nations, created the India Pakistan boundary in Kashmir called the Ceasefire Line or CFL.
- The United Nations Military Observer Group in India and Pakistan (UNMOGIP) was mandated to monitor the ceasefire along the CFL.
- The 1965 India-Pakistan war also ended in a ceasefire, but since the status quo ante bellum was restored after the Tashkent Agreement, the CFL in Kashmir remained unaltered.
- However, the India-Pakistan war of 1971 would change that. The ceasefire which ended the 1971 war was enshrined into the Simla Agreement the following year.
- But unlike 1965, status quo ante bellum was not restored by the Simla Agreement, a decision that would have important implications for bilateral relations.
- The Suchetgarh Agreement of 1972 delineated the 'line of control' in Jammu and Kashmir which resulted from the ceasefire of December 1971 thereby renaming the CFL as the LoC.
- By this smart move, Indian negotiators not only changed the nomenclature of the India-Pakistan dividing line in Kashmir and the physical alignment of the border in Jammu and Kashmir, but also made the UNMOGIP presence in Kashmir irrelevant.
- The UN force was mandated to ensure a ceasefire on the CFL, but there was no CFL after 1972, and, more so, the UN was not even a party to the Simla Agreement unlike the Karachi Agreement.

Way Forward:

- A ceasefire does not observe itself. It requires a clearly articulated and mutually-agreed-upon set of rules and norms for effective observance along with an intent to observe them.
- The latest ceasefire is an expression of such an intent, but without the rules and norms to enforce it.
 - * The Simla Agreement or the Suchetgarh Agreement do not have those rules either.

- The Karachi Agreement, on the other hand, has clearly laid down provisions on how to manage the CFL which, of course, was overtaken by the LoC.
- Ironically, therefore, armed forces deployed on either side of the LoC in Kashmir often have to resort to the strictures enshrined in the long-defunct Karachi Agreement to observe the ceasefire mandated by the Simla Agreement. This needs to change.
- Now that ceasefire has been declared, the next logical step is to arrive at a set of rules to govern that ceasefire.
- An unwritten ceasefire, experiences from conflict zones around the world show, tend to break down easily and trigger tensions in other domains.

International Relations: Relations between India and neighbouring countries

4. China gives green light for first downstream dams on Brahmaputra

- » Prelims: Brahmaputra river geography
- » Mains: Challenges to India China bilateral relationship

Context:

- A draft of China's new Five-Year Plan (FYP) 2021-2025 has given the green light for the first dams to be built on the lower reaches of the YarlungZangboRiver, as the Brahmaputra is known in Tibet before it flows into India.

Details:

- The draft outline of the FYP for 2025 and long-range objectives through the year 2035, specifically mentions the building of hydropower bases on the lower reaches of the river as among the priority energy projects to be undertaken in the next 5 years.
 - * The lower reaches refer to the sections of the river in Tibet before it flows into India.
- The inclusion of the projects in the draft plan suggests the authorities have given the go-ahead to begin tapping the lower reaches for the first time.
 - * This marks a new chapter in the hydropower exploitation of the river.
- Other major projects include the construction of coastal nuclear power plants and power transmission channels.
- The draft is all set to be formally approved.

Concerns for India:

- The FYP's backing for the projects also suggests that a number of long-pending proposals from Chinese hydropower companies to build dams on the lower reaches, including near the border with India, may be given approval.
- India has expressed concerns to China over the four planned dams on the upper and middle reaches.
- However, Indian officials have said the dams are not likely to greatly impact the quantity of the Brahmaputra's flows in India because:
 - * They are only storing water for power generation.
 - * The Brahmaputra is not entirely dependent on upstream flows with an estimated 35% of its basin in India.
- Dams on the lower reaches and at the Great Bend would, however, raise fresh concerns because of the location across the border from Arunachal Pradesh and the potential impact downstream.

Note:

- In 2015, China operationalised its first hydropower project at Zangmu in Tibet.
- Three other dams at Dagu, Jiexu and Jiacha are being developed, all on the upper and middle reaches of the river.

International Relations: Relations between India and neighbouring countries

5. Remove the wedges in India-Bangladesh ties

- » Prelims: Map based questions
- » Mains: Challenges to India Bangladesh relationship; Progress made and recommendations for deepening of ties; Significance of Bangladesh to India's Neighbourhood first policy.

Introduction

- 2021 marks 50 years since the independence of Bangladesh. India has played a key role in Bangladesh's Liberation War and the friendship continues to grow. India lent its support on the political, diplomatic, military and humanitarian front, and India's soldiers gave up their lives and an estimated 10 million Bangladeshi refugees took shelter in India.

Tracing the journey of the relationship

- The relationship between India and Bangladesh has vacillated through highs and lows depending on the regimes in power.
- It had remained cordial until the assassination of Bangladesh's founding President Sheikh Mujibur

Rahman in 1975, followed by a period of military rule and the rise of General Ziaur Rahman who became President and also assassinated in 1981.

- It thawed during the period of 1982-1991 when a military-led government by General H.M. Ershad ruled the country.
- Since Bangladesh's return to parliamentary democracy in 1991, we have seen drastic developments. In the last decade, India-Bangladesh relations have warmed up, entering a new era of cooperation, and moving beyond historical and cultural ties to become more assimilated in the areas of trade, connectivity, energy, and defence.

Achievements and Progress

- Both the countries have solved the border issues amicably by ratifying the historic Land Boundary Agreement in 2015, where enclaves were exchanged allowing inhabitants to choose their country of residence and become citizens of either India or Bangladesh.
- The Bangladesh government led by Prime Minister Sheikh Hasina has uprooted anti-India insurgency elements from its borders, making the India-Bangladesh border one of the region's most peaceful.
- This has allowed India to make a massive redeployment of resources to its more contentious borders elsewhere along India's borders and tension prone areas.

Bilateral trade between India and Bangladesh

- Bangladesh today is India's biggest trading partner in South Asia with exports to Bangladesh in FY 2018-19 at \$9.21 billion and imports at \$1.04 billion.
- India has offered duty-free access to multiple Bangladeshi products.
- India has extended three lines of credit to Bangladesh in recent years amounting to \$8 billion for the construction of roads, railways, bridges, and ports.

Issues

- In the last eight years until 2019, only 51% of the first \$800 million line of credit has been utilised whilst barely any amount from the next two lines of credit worth \$6.5 billion has been mobilised.
- This delay and progress is due to red-tapism from India's end and from Bangladesh's side, it may be due to the slow implementation of the project.

The connectivity boost

Connectivity between the two countries has greatly improved.

- A direct bus service between Kolkata and Agartala runs a route distance of 500 km, as compared to the 1,650 km it would have run through the Chicken's Neck, to remain within

India.

- There are three passenger and freight railway services running between the two countries, with two more routes on their way to be restored.
- Recently, a 1.9-kilometre long bridge, the MaitriSetu, was inaugurated by Prime Minister Narendra Modi, connecting Sabroom in India with Ramgarh in Bangladesh.

Enhanced cooperation in shipping and inland water trade.

- Bangladesh allows the shipment of goods from its Mongla and Chattogram (Chittagong) seaports carried by road, rail, and waterways to Agartala (Tripura) via Akhura; Dawki (Meghalaya) via Tamabil; Sutarkandi (Assam) via Sheola, and Srimantpur (Tripura) via Bibirbazar.
- This allows landlocked Assam, Meghalaya and Tripura to access open water routes through the Chattogram and Mongla ports.

Bones of contention

- Despite the remarkable progress, the unresolved Teesta water sharing issue looms large.
- Border killings are yet to stop. The year 2020 saw the highest number of border shootings by the Border Security Force. The shots are fired at civilians, usually cattle traders, who are usually unarmed, trying to illegally cross the border.
- The government's proposal to implement the National Register of Citizens across the whole of India may result in a bleak atmosphere between the countries.
- It remains to be seen how India addresses the deportation of illegal Muslim immigrants, some of whom claim to have come from Bangladesh.

China's influence in the region

- In spite of its 'Neighborhood First Policy', India has been losing its influence in the region to China.
- Sri Lanka, Nepal and the Maldives, once considered traditional Indian allies, are increasingly tilting towards China due to the Asian giant's massive trade, infrastructural and defence investments in these countries.
- Bhutan also does not abide by Indian influence as evinced by its withdrawal from the BBIN (Bhutan-Bangladesh-India-Nepal) motor vehicles agreement.
- China, in lieu of its cheque-book diplomacy, is well-entrenched in South Asia, including Bangladesh, with which it enjoys significant economic and defence relations.

Way forward

- India-Bangladesh relations have been gaining positive momentum over the last decade.

- Going forward India has to be generous enough to let the water flow (the Teesta issue has to be settled) and the issues concerning illegal migration has to be addressed by well-established protocols of both countries.
- Trade could be more balanced if non-tariff barriers from the Indian side could be removed.
- These small but important steps can remove long-standing snags in a relationship that otherwise is gradually coming of age in 50 years.

Conclusion

- To make the recent gains irreversible, both countries need to continue working on the three Cs — cooperation, collaboration, and consolidation.

International Relations: India's bilateral relations

6. 'Include Chabahar on key corridor'

- » Prelims: INSTC; Chabahar port; Map based questions
- » Mains: Significance of India Iran relationship

Context:

- India wants Chabahar port to be included in the 13-nation International North South Transport Corridor that extends from India to Russia.

International North South Transport Corridor (INSTC:)

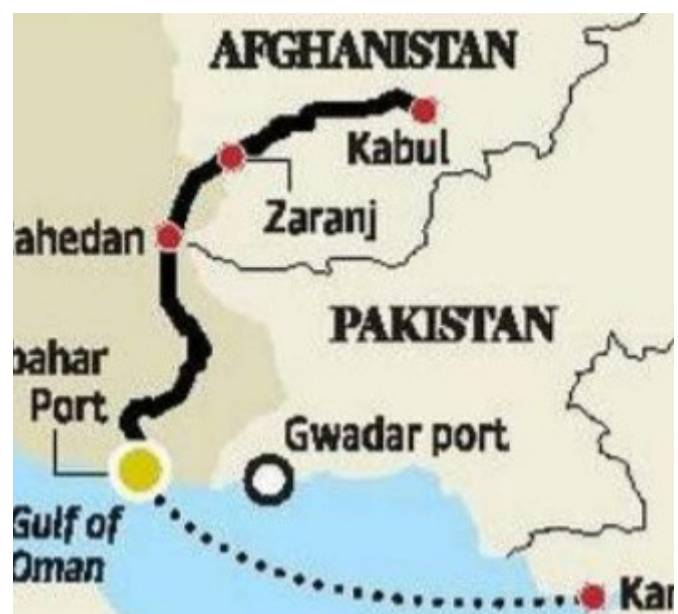
- INSTC is a corridor to increase trade between India and Russia.
- This trade route is 7200 km long.
- The transport of freight is through a multi-mode network of Road, Ship, and Railways.
- This route connects India and Russia through Iran and Azerbaijan.



- India has expressed that it also wants the INSTC membership to be expanded by including Afghanistan and Uzbekistan.
- INSTC goes via Iran's biggest port Bandar Abbas. India has pitched in for Chabahar port also to be included in the INSTC.
- India's External Affairs Minister proposed that the land route via Kabul and Tashkent would form the INSTC's Eastern corridor.
- It is opined that establishing an eastern corridor through Afghanistan would maximise its potential.
- The Chabahar Port has already handled 123 vessels and 18 lakh tons of cargo.

Chabahar Port:

- Chabahar Port is located in Sistan and Baluchestan province in the Southeastern part of Iran, on the Gulf of Oman.
- Chabahar port is about 170 km away from Gwadar Port built in Pakistan by China.
- The Chabahar Port, inaugurated in December 2017, had opened a new strategic transit route between India, Iran and Afghanistan that bypassed Pakistan.
- The port is a gateway to an overland trade corridor through Iran to Afghanistan. It will enable India to play a larger role in Afghan reconstruction, which has been restricted hitherto by Pakistan's refusal to allow India overland access through its territory to Afghanistan.
- Situated at the mouth of the Gulf of Oman on Iran's Makran coast, it gives Iran direct access to the Indian Ocean.



International Relations: India's bilateral relations

7. India, Japan space agencies review ties

- » Prelims: LUPEX mission
- » Mains: Space diplomacy

Context:

- Bilateral meeting between the Indian Space Research Organisation (ISRO) and the Japan Aerospace Exploration Agency (JAXA).

Background:

India-Japan space collaboration:

- India and Japan are working on a joint lunar polar exploration (LUPEX) mission.
 - * The Lunar Polar Exploration mission is a robotic lunar mission concept by the Indian Space Research Organisation and Japan Aerospace Exploration Agency that would send a lunar rover and lander to explore the South Pole region of the Moon in 2024.

Details:

- Indian and Japanese space agencies have reviewed cooperation in earth observation, lunar cooperation and satellite navigation, and also agreed to explore opportunities for cooperation in "space situational awareness and professional exchange programme".
- With respect to earth observation collaboration, ISRO and JAXA have signed an Implementing Arrangement for collaborative activities on rice crop area and air quality monitoring using satellite data.

Additional information:

Space diplomacy:

Italy:

- India and Italy have decided to explore opportunities in earth observation, space science and robotic and human exploration.

Australia:

- India and Australia are in discussions for Australia to host vital tracking infrastructure to support India's planned Gaganyaan manned space flight mission.
- Such space diplomacy will only help further consolidate the Comprehensive Strategic Partnership between India and Australia.

International Relations: India's bilateral relations

8. A robust economic relationship

- » Mains: Potential of India U.S. economic partnership

The article talks about the future of the India-USA economic relationship under the new administration in the US.

- Under the new U.S. administration, the economic relationship with India can be expected to be important as India has enjoyed bipartisan support in the U.S.
- Both the countries will see gains in terms of GDP, employment, and productivity, with a closer economic partnership, given the complementary natures of their economies.

Industry Perspective:

- From the industry perspective, a robust collaborative agenda would rest on a comprehensive set of actions that can take bilateral trade in goods and services to the desired goal of \$500 billion.
 - * In the five years to 2019, bilateral trade grew at a Compound Annual Growth Rate (CAGR) of 7.7% per year to \$146 billion.
 - * If the same rate of growth is assumed, the \$500 billion target will be achieved by 2036.
 - * This is doable if the right policy actions are taken.

Areas for collaboration:

The Confederation of Indian Industry has outlined key areas for collaboration.

Healthcare:

- A collaborative response to the pandemic would contribute to the global containment of the virus.
- As India becomes the hub of global vaccine distribution, building confidence in the Indian IPR regime, reviving the U.S.-India Health Dialogue, and mutually recognising standards and approvals will help drive healthcare exchanges.

Trade Agreement:

- The macro trade architecture can be strengthened with a broad trade agreement.
- The U.S.-India Trade Policy Forum meetings can be revived.
- Convergence on issues such as market access must be discussed.
- There is potential for flexibility from both sides for restoring the Generalised System of Preferences which would help lower duties for certain Indian products.
- The two countries should consider initiating discussions on a free trade agreement.

Mobility of Professional Labours:

- Recent regulations in the U.S. have impacted labour mobility which can be addressed through immigration reforms for employment-based visa backlogs and smooth and timely processes.
- The MoU on labour cooperation signed in 2011 could be updated in line with India's recent labour regulatory changes.
- This may also be a good time to reconsider a totalisation agreement pertaining to social security, given that both have already entered into such agreements with many of the same partner countries.

Defence Industry Ties:

- Defence industry ties can be stepped up in coordination with industry, as both sides benefit from U.S. technology and Indian manufacturing in this sector.
- A defence dialogue including the private sectors of both sides could help in co-production and co-development in the defence and aerospace sectors.

Small Scale Industries:

- Smaller U.S. companies can find significant new opportunities for investments in India and sourcing from India.
- A U.S.-India SME CEOs Forum can be set up to catalyse such partnerships.

Climate Change:

- Clean energy and climate change are also areas where India has made rapid strides.
- This is now among the high priorities of the U.S. administration.
- The U.S.-India Strategic Energy Partnership should be geared towards joint investments in industrial decarbonisation, carbon dioxide removal and green hydrogen.
- The programmes of Partnership to Advance Clean Energy Research, Partnership to Advance Clean Energy Deployment and Promoting Energy Access through Clean Energy must be relaunched.

Partnership in Digital Economy:

- A digital economy partnership is critical.
- India has proved its mettle in this space with new opportunities opening up in robotics, space, AI and electric vehicles.
- It is also important to disseminate information on India's IPR regime improvements and work towards taking India off the U.S. Trade Representative IPR priority watchlist.

Conclusion:

- From an industry perspective, U.S.-India collaborations in certain areas will bring many gains.
- Other opportunities in the bilateral economic relationship include education, innovation and R&D, and agricultural trade and technology.
- In this backdrop, it is necessary to institute relevant dialogue mechanisms at the earliest.

International Relations: India's bilateral relations**9. Aligning a missile deal with destination Manila**

- » Prelims: BrahMos missile; CAATSA
- » Mains: Challenges, opportunities and impact of India's export of defence equipment to ASEAN countries.

Context:

- India and the Philippines signing the "Implementing Arrangement" for "procurement of defense material and equipment procurement". This agreement lays the groundwork for sales of defence systems through the government-to-government route.
- Philippines is looking to buy the BrahMos cruise missile from India.

Background:**BrahMos:**

- The BrahMos cruise missile is manufactured by BrahMos Aerospace Limited, a joint venture between India and Russia.
- It is the first supersonic cruise missile to enter service. It is capable of attaining a speed of Mach 2.8 (almost three times the speed of sound), it has a range of at least 290 km (The new version can reach up to 400km).
- The high speed would make it difficult for air defence systems utilising surface-to-air missiles to intercept the BrahMos while making it easier for the BrahMos to target and neutralise even advanced fighter jets.
- Efforts to increase the speed and range of the missile in its next iterations are under way, with a goal of achieving hypersonic speeds (at or above Mach 5) and a maximum range of 1,500 km.

Significance of the deal:

- The deal for BrahMos missile will be of great significance for multiple reasons.

Export as a goal:

- The BrahMos is a highly desirable product for other countries to procure as well. Countries such as Vietnam, the Philippines, Indonesia, the United Arab Emirates, Argentina, Brazil, and

South Africa have so far shown an interest in acquiring the BrahMos systems.

- Exporting of the system would boost the credibility of India as a defence exporter and help it meet the target of \$5 billion in defence exports by 2025.

Geo-political impact:

- The export of the BrahMos would help elevate India's stature as a regional superpower.
- The export to the Philippines would caution China and act as a deterrent to Beijing's aggressive posturing in the Indo-Pacific region.
- Other nations threatened by Chinese belligerence may come forward to induct the BrahMos into their arsenal, thereby boosting India's economic, soft, and hard power profile in the region and providing the Indo-Pacific with a strong and dependable anchor with which they can protect their sovereignty and territory.

Challenges:

- Two major roadblocks still remain in the proposed deal.

Threat of CAATSA sanctions:

- Given that the NPO Mashinostroyeniya is one of the listed Russian entities under the U.S.'s Countering America's Adversaries Through Sanctions Act (CAATSA) the export of the BrahMos missile systems may attract sanctions. Hesitant of being sanctioned, countries may shy away from purchasing the BrahMos.

Financing the systems:

- A regiment of the BrahMos, including a mobile command post, four missile-launcher vehicles, several missile carriers, and 90 missiles, reportedly costs around \$275.77 million (Rs. 2,000 crore). The cost of the systems has been a major hurdle in moving forward to reach a deal with the Philippines.
 - * India has offered a \$100 million line of credit to the Philippines.
- Ravaged by the COVID-19 pandemic, many countries which are interested in the BrahMos would find it difficult to purchase it.

Conclusion:

- With India determined to develop itself as a hub of defence manufacturing, how it handles the sale of the BrahMos would be an important factor in its potential emergence as a net provider of regional security in the Indo-Pacific.

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

10. U.S., China spar at Alaska meet

- » Mains: Issues of contention between U.S. and China; Impact on India's interests

Context:

- U.S. Secretary of State and National Security Adviser's meet with their Chinese counterparts in Alaska, in the first face-to-face interaction between the Biden administration and China.

Details:

- The Biden administration's first bilateral engagement with China got off to a rocky start.
- The U.S. side opened with remarks that included references to China's actions in Tibet, Hong Kong, Xinjiang and accused Beijing of economic coercion.
- The Chinese side questioned the U.S. narrative of China's role in the world and expressed its own concerns about U.S. actions — domestic and international.
- The U.S. side spoke about the rules-based international order, stating that China's actions threaten the rules-based order that maintains global stability.
- The Chinese side, in a counter-argument, said that the international community were following a UN-led order, not the so-called 'rules-based' international order.
- Concerns were raised that the U.S. was wanting to create an advantage for itself going into the talks by imposing sanctions on Chinese and Hong Kong officials.
 - * The U.S. State Department had announced sanctions on March 16, 2021, in response to Beijing's move to decrease the proportion of democratically elected lawmakers in Hong Kong's legislature.

Key takeaways:

- The main takeaway from Alaska is that any reset in ties from the turbulent Trump era is unlikely.
- There are signs of cautious engagement between the two countries. Both sides are still seeking spaces to work together amid the rancour.
 - * Both, for instance, could still agree to cooperate on issues like climate change, the global economic recovery, and Afghanistan.

How would it affect India's diplomacy?

- There is an emergence of a drawing of battle lines between Washington and its allies on one side, and Beijing and its main ally when it comes to the Indo-Pacific and Eurasia, Russia on the other side.

- This will particularly pose a test for India's diplomacy.
- It would affect India's defence supplies from Russia, with the U.S. making it clear that importing Russian equipment like the S-400 missile defence system will attract sanctions as well as the U.S. withholding high-tech exports.
- While India confronts its own problems with China amid the disengagement process along the Line of Actual Control (LAC), it has still made clear it does not want to be part of any alliances.
- India's balancing act is reflected in India's varying multilateral engagements, ranging from the Quad to groupings like RIC (Russia-India-China), the BRICS, and the China and Russia-led Shanghai Cooperation Organisation.
- The U.S.-China divide will also mean a tightrope walk for India at the UN Security Council, where it is serving a two-year term as a non-permanent member, as the split between the U.S., the U.K. and France on the one hand and Russia and China on the other grows ever wider, as seen in response to the Myanmar coup.

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

11. The surge of geopolitics in South Asia's power trade

- » Prelims: SAARC
- » Mains: Potential of power trade in South Asia; challenges.

Context

- India has released new rules governing the trade of electricity across its borders. They define the contours of the South Asian electricity market, placing clear limits on who can buy from and sell into India.

Details:

- This has ramifications for the electricity markets of Bangladesh, Bhutan, and Nepal, which, to varying degrees, have aligned their energy futures with the Indian market.
- The new rules show that India's approach is unmistakably political.
- It attempts to balance China's growing influence in the region with developmental aims.

Rules on ownership:

- The ownership of power plants wishing to sell to India is of central importance.
- The rules strongly discourage the participation of plants owned by a company situated in a third country with whom India shares a land border and does not have a bilateral agreement on power sector cooperation with India.

- Chinese companies hoping to establish plants in Nepal, Bhutan, or Bangladesh will have a hard time making good on their investments with the Indian market cut off.
- The rules place the same security restrictions on tripartite trade. Eg.: from Bhutan to Bangladesh through Indian territory.
- Also, the rules establish elaborate surveillance procedures to detect changes in the ownership patterns of entities trading with India.
- With this, South Asia's electricity politics has hit a holding pattern after several years of unpredictability.

Guidelines on electricity trade:

- India used the framework of the South Asian Association for Regional Cooperation (SAARC) to make historical moves towards liberalising electricity trade.
- But, China soon began to make its presence felt in the region, and India responded by imposing stringent restrictions that dissuaded everyone other than Indian and government entities from participating.
- This move threatened to weaken the private sector participation and promising joint ventures across the region.
- Nepal and Bhutan protested for years, leading to new guidelines in 2018 that tried to find a middle ground.
 - * These rules formalise that balancing act.
 - * They allow private sector participation but exclude Chinese investments.

India-centricity no advantage:

- The institutional structure that has emerged over the last decade is India-centric.
- The Government of India, through ministries, regulators, planning bodies and utilities, determines the rules of the road.
- India's geographic centrality combines with its economic heft to give it a natural advantage in determining the shape of the market.
 - * All electrons must pass through it and most electrons will be bought by it.
- Therefore, India will enjoy pre-eminent rule-setting powers, but continually attract the wrath of its smaller neighbours who feel their economic growth is being stunted.

Countering China:

- The likely first battle will be in Southeast Asia, where China presently has great influence.
- A considered, stable institutional model will likely surpass anything China has to offer.

- It is worth considering releasing the vice-like grip on South Asia, aimed at countering China, by creating a rule-based regional institution that can counter Chinese offerings.

Way Forward:

- These rules provoke some larger questions that must be tackled soon.
- An ad hoc design also makes the Indian project less attractive to countries looking to sign up to a power trading project.
- India's ambition of anchoring a global super-grid called One Sun One World One Grid, or OSOWOG needs an institutional vision.
 - * It aims to begin with connections to West Asia and Southeast Asia and then spread to Africa and beyond.
 - * The logic underpinning OSOWOG is sound. Renewable energy transitions benefit from grids that cover vast areas and diverse geographic conditions.
 - * Multi-country grids allow for the unpredictable outputs from renewable energy plants to be balanced across countries, thus avoiding expensive country-specific balancing technologies such as hydropower and gas plants.
- Political realities will constantly collide with, and damage, expansive visions of borderless trade. Impartial institutions for planning, investments and conflict resolution are crucial to multi-country power pools.

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

12. China, Iran sign a 25-year 'strategic pact'

- » Prelims: Strategic cooperation pact between China and Iran
- » Mains: Impact on India's interest

Context:

- China and Iran signing of a 25-year "strategic cooperation pact".

Details:

- The agreement covers 'political, strategic and economic' components and seeks to deepen cooperation.
- The agreement would establish a blueprint for reciprocal investments in the fields of transport, ports, energy, industry and services.
- The agreement comes amid a major push from China to back Iran, as it deals with the continuing weight of sanctions from the U.S. administration.

- * Recently China and Russia called for the U.S. to unconditionally return to the Joint Comprehensive Plan of Action (JCPOA) as soon as possible and revoke the unilateral sanctions against Iran.

- * The two nations have proposed the establishment of a regional security dialogue platform to converge a new consensus on resolving the security concerns of countries in the region.

China's West Asian push:

- The agreement came during Chinese Foreign Minister tour to West Asia including Saudi Arabia, Turkey, Iran, the UAE, Bahrain and Oman.
- China has proposed a five-point initiative on achieving security and stability in the Middle East advocating mutual respect, upholding equity and justice, achieving non-proliferation, jointly fostering collective security, and accelerating development cooperation in the West Asian region.
- China has been keen to deepen its Belt and Road Initiative in the region. China is looking to conclude a free trade agreement with the Gulf Cooperation Council.
- China's trade with Arab States reached \$240 billion last year, establishing it as the region's largest trading partner and a major buyer of crude oil.

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

13. The vital but delicate task of reviving the Iran deal

- » Prelims: JCPOA
- » Mains: Concerns/ challenges associated with the revival of Iran nuclear deal; Recommendations

Context:

- U.S. President Joe Biden administration's Iran policy.

Background:

Joint Comprehensive Plan of Action:

- The Joint Comprehensive Plan of Action (JCPOA, or the Iran nuclear deal) was the result of negotiations from 2013 and 2015 between Iran and P5+1 (China, France, Germany, Russia, the United Kingdom, the United States and the European Union, or the EU).
- The deal was hailed as a diplomatic success given that Iran was then estimated to be months away from accumulating enough highly enriched uranium to produce one nuclear device.

- The JCPOA obliged Iran to accept constraints on its enrichment programme in return for a partial lifting of economic sanctions. The Iranian nuclear programme would be verified by an inspection regime under the International Atomic Energy Agency (IAEA).

U.S. policy reversal:

- The U.S. administration under Mr. Trump pulled out of the deal in May 2018 and embarked on a policy of 'maximum pressure' to coerce Iran back to the negotiating table.
- The U.S. pushed ahead with its sanctions, widening their scope to cover nearly all Iranian banks, industries and even important individuals.

E-3 stance:

- The U.S. decision was criticised by all other parties to the JCPOA (including the European allies) because Iran was in compliance with its obligations under the nuclear deal.
- The E-3 (France, Germany, the U.K.) and the EU promised to find ways to mitigate the U.S. decision.

Policy under new U.S. administration:

- Biden has consistently advocated a return to the JCPOA provided Iran returns to full compliance.
- Joe Biden has been a strident critic of the U.S. withdrawal from the nuclear agreement with Iran. He had promised during his presidential election campaign that subject to Iran's compliance with its obligations, the U.S. would re-enter the agreement.

Concerns:

- The Nuclear deal is complicated and time is running out as both Iran and the U.S. struggle to overcome the current impasse.

Tehran's strategy of 'maximum resistance':

- Tehran's 'strategic patience' has been wearing out as the anticipated economic relief from the E-3/EU failed to materialise. As the U.S. sanctions began to hurt, Tehran shifted to a strategy of 'maximum resistance'.
- Iran has been moving away from JCPOA's constraints incrementally by expanding its nuclear capabilities.
 - * A recent IAEA report has confirmed that 20% enrichment had begun as had production of uranium metal at Isfahan.
- Following the drone strike on Islamic Revolutionary Guard Corps commander Gen. Qasem Soleiman, Tehran announced that it would no longer observe the JCPOA's restraints, though its cooperation with the IAEA would continue.

Failed promises of relief:

- The E-3's promised relief Instrument in Support of Trade Exchanges (INSTEX), created in 2019 to facilitate limited trade with Iran has been a disappointment.
- The first transaction under INSTEX took place only in March 2020.
- EU-Iran trade fell from €18 billion in 2018 to less than a third in 2019 and dropped further last year.

Events in Iran:

- COVID-19 pandemic has had a detrimental impact on the Iranian economy which was already contracting due to the U.S. sanctions.
- Iran has also been witness to a series of unexplained fires and blasts at a number of sensitive sites including one at the Natanz nuclear facility and another at Khojir, a missile fuel fabrication unit. Recently, Mohsen Fakhrazadeh, a senior nuclear scientist and head of the Research and Innovation Organisation in the Iranian Defence Ministry was killed outside Tehran amid rumours of external intelligence agencies' involvement. The above events have hardened the stance of the conservatives in Iran.
- Iranian Parliament, dominated by the conservatives, passed a bill seeking enrichment to be raised to 20% and suspending implementation of some of the special inspection provisions with the IAEA within two months if sanctions relief was not forthcoming.
- There seems to be little appetite for more negotiations in Iran. Mr. Trump's policy failed to bring Iran back to the negotiating table and only strengthened the hardliners in Iran.

Elections in Iran:

- Iranian elections are due in June 2021 and it is likely that President Hassan Rouhani's successor may not be from the 'moderate' camp. This would only make negotiations tougher.

Threat of breakdown in talks:

- If the U.S. waits for Iran to return to full compliance before lifting sanctions or Iran waits for the U.S. to restore sanctions relief before returning to full compliance, it can only lead to one outcome — the collapse of the JCPOA with Iran going nuclear like North Korea. Such an outcome would have major reverberations in the region and beyond.

Way forward:

Creating a conducive atmosphere for talks:

- Positive steps along multiple tracks are necessary for creating a conducive atmosphere.
 - * Iran should consider releasing European and American nationals currently in custody in Iran.

- * The U.S. should support Iran's applications to the International Monetary Fund for COVID-19 relief and for supply of vaccines under the international COVAX facility.
- * The U.S. could consider removing sanctions on Iranian political leaders.

Role of regional nations:

- Oman, Qatar and Kuwait need to play a diplomatic role in facilitating talks between the U.S. and Iran, with help from the EU and the UN.

E-3/EU's role:

- The E-3/EU need to fast track deals worth several hundred million euros stuck in the INSTEX pipeline.
- The EU should pursue a more independent foreign policy in this issue by taking the lead in future negotiations.

Iran's actions:

- Iran needs to refrain from any further nuclear brinkmanship. The IAEA and the E-3/EU should work on a parallel reversal of steps taken by Iran to ensure full compliance with the JCPOA.

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

14. Ending the war in Yemen

- » Prelims: Yemen map based facts
- » Mains: Concerns with the Yemen war; geopolitical aspects

Context

Ending the crisis in Yemen, which amidst a multipolar civil war and Saudi bombing, has descended into chaos and is witnessing a humanitarian catastrophe.

Details:

- One of the first key foreign policy decisions that President Joe Biden took after assuming office was to end the U.S.'s support for Saudi Arabia's six-year-long war on Yemen.
- He took several measures such as:
 - * Halted weapons sales to Saudi Arabia.
 - * Appointed a Special Envoy for Yemen.
 - * Removed the Shia Houthi rebels, who control the northwestern parts of the Arab country, from the list of foreign terrorist organisations.

The war in Yemen:

- The crisis in Yemen is not only about the Saudi-Houthi conflict. It has many more dimensions: humanitarian, civil, geopolitical and sectarian.
- When Saudi Arabia, the UAE and their allies went to Yemen in March 2015, they had a clearly defined objective: drive the Houthis, who are backed by Iran, out of the capital Sana'a and stabilise the country under the government of Abdrabbuh Mansur Hadi that they support.
- The Saudi-led coalition imposed a blockade on Yemen, which they hoped would eventually weaken the Houthis, and started a bombing campaign aimed at wrecking the rebels militarily.
- This campaign was a failure as the Houthis entrenched themselves in the north-west despite the military and economic challenges.
- But the Saudi-backed government failed to consolidate its position even in the south.
- A separatist group, the Southern Transitional Council (STC), has established its rule in southern Yemen.
 - * The UAE, which backs the STC, has pulled out of the Saudi-led coalition.

Issue:

- The humanitarian situation in Yemen is worsening by the day.
- The war has killed over 10,000 people and pushed the country to the brink of famine.
- According to the UN, 50,000 Yemenis are starving to death and 16 million will go hungry this year. They are depending on food assistance to survive, but the war is making it difficult for aid groups to operate in the country.
- Many more are dying due to preventable diseases as Yemen lacks proper health infrastructure and essential medicines.
- Continued Houthi rocket and drone attacks have left a hole in Saudi Arabia's national security umbrella.

Way Forward:

- The last six years of war prove that the Saudi strategy of blockade and bombing was a failure.
- The Houthis continued to amass weapons, even technologically advanced drones which they use to attack Saudi targets across the border, despite the blockade, while the Yemeni people continue to suffer.
- Finding a solution to such a vexed, multipolar conflict will not be easy.
- Their immediate focus should be on tackling the humanitarian situation in Yemen.

- Even the limited humanitarian work cannot be sustained if there is no reprieve in the fighting.

Role of the U.S:

- The Houthis, if they want international legitimacy, should start talks with other stakeholders.
- A ceasefire is in everybody's interest but the question is who initiates it.
- The Biden administration should use its leverage to pressure Saudi Arabia to lift the blockade, a key Houthi demand, as a confidence-building measure and push for talks for a lasting ceasefire.
- Once a ceasefire between the two main rival blocs is achieved, the U.S. and its regional allies could call for a multilateral conference involving all stakeholders to discuss Yemen's future.
- Yemen can find a way out of the current crisis provided the war is brought to an immediate end and the country is given diplomatic assistance.

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

15. The Afghan endgame

- » Mains: Challenges to the peace deal; India's stake and India's stance on the issue

Context:

- U.S. Afghanistan Policy under the Presidentship of Joe Biden.

Details:

- As per the U.S. -Taliban deal, May 1 is the deadline for pulling out all American troops from Afghanistan. However, given the continued violence in Afghanistan, there are growing doubts over U.S. pull out from Afghanistan.
 - * No U.S. troops have been targeted by Taliban militants in the 2020, but violence against Afghan civilians, particularly women, journalists, students and activists has gone up manifold, and despite the peace agreement, more than 3,000 civilians were killed in 2020.

Options available for the U.S.:

- The U.S. could negotiate with the Taliban for an extension of the agreement, offering other incentives like the release of more prisoners and the delisting of sanctioned Taliban terrorists. The other option is that the U.S. could scrap the 2020 agreement and back the Ashraf Ghani government to continue towards a negotiated settlement, even as U.S. troops remain in Afghanistan to stabilise the security situation.

- * The recent statements by senior U.S. administrators make it clear that the U.S. is not in favour of completely scrapping the 2020 agreement. The U.S. has shown impatience with the Ghani government, believing that it is dragging its feet on intra-Afghan negotiations.

- Notably, the U.S. President has stated that he did not foresee U.S. troops staying in Afghanistan "for a long time" or until 2022, but that adhering to the May 1 commitment at this point would be "hard".

Dialogue platforms:

- Apart from the intra-Afghan negotiations in Doha, there have been other ongoing efforts to resolve the deadlock in Afghanistan.
- "Troika" (U.S., Russia and China) along with Pakistan, Turkey, Qatar and Afghanistan and Taliban leaders.
- The U.S. secretary of state has also proposed another mechanism for regional envoys to be led by the United Nations, which would include India and Iran as well.

Afghanistan government's plan:

- Afghanistan President Ashraf Ghani has proposed his own peace plan.
- The plan would involve a full ceasefire, inviting the Taliban to participate in early elections in Afghanistan, and then the serving President Mr. Ghani would hand over power to the elected government.
- The Afghanistan government has reached out to India for support. The Current Afghan administration has repeatedly reiterated the significance of India in the peace process. India is an important development partner of Afghanistan.

India's stand:

- India's position has been to back an "Afghan-owned, Afghan-led, Afghan-controlled" peace process. It has always backed the elected government in Kabul, and it has not yet held talks with the Taliban directly. India has been pitching for constitutional methods that guarantees a democratic process and rights of women and minorities.
- Notably, India has not foreclosed the option of talking to the Taliban if it does join the government in Afghanistan.
- Though the Indian government has not yet announced a special envoy on Afghanistan who could be a part of the UN-led process for regional countries, India has made it clear that it seeks to be an integral part of the process.

*Military exercises***16. Exercise Desert Flag**

- » Prelims: Ex Desert Flag
- Ex Desert Flag is an annual multi-national large force employment warfare exercise hosted by the United Arab Emirates Air Force.
- The Indian Air Force participated for the first time in Exercise Desert Flag-VI along with the air forces of the United Arab Emirates, the United States of America, France, Saudi Arabia, South Korea and Bahrain.
- The aim of the exercise was to provide operational exposure to the participating forces while training them to undertake simulated air combat operations in a controlled environment.

*Military exercises***17. Exercise DUSTLIK II**

- » Prelims: DUSTLIK exercise

Context:

- The India – Uzbekistan joint military exercise “DUSTLIK II” commenced at Ranikhet (Uttarakhand).

About Ex DUSTLIK:

- This was the Second Edition of the annual bilateral joint exercise of both armies. The first edition was held in Uzbekistan in 2019.
- Both contingents shared their expertise and skills in the field of counter-terrorist operations in mountainous/rural/urban scenario under UN mandate.
- This joint exercise will provide impetus to the growing military and diplomatic ties between the two nations and also reflects the strong resolve of both nations to counter-terrorism.

*Military exercises***18. Exercise Vajra Prahar**

- » Prelims: Ex Vajra Prahar
- The 11th edition of the Indo-US Joint Special Forces Exercise VAJRA PRAHAR 2021 was conducted at Special Forces Training School located at Bakloh, Himachal Pradesh.

Details

- VajraPrahar is the joint military exercise between the special forces of India and the United States (US).

- The aim of VajraPrahar is to enhance military cooperation between the two countries and also to capitalise on the rich repository of experiences of each other armies
 - * By enhancing interoperability between the two forces
 - * By mutually exchanging tactics between the two forces
 - * By sharing the best military practices between the two forces
 - * By developing joint strategies
 - * By conducting operations in a counter-insurgency and counter-terrorism environment

*International Relations: Relations between India and neighbouring countries***19. Taking the long view with China**

- » Prelims: Pangong Tso, Map based information
- » Mains: Managing relations with an assertive China

Context:

- Disengagement of Indian and Chinese troops on the north and south banks of Pangong Tso.

Details:

- As per the agreement, both sides will cease their forward deployments in a “phased, coordinated and verified manner” and will move back to their permanent bases. The process would be jointly monitored.
- Any structures that had been built by both sides since April 2020 in both north and south bank area will be removed and the landforms will be restored.
- Both sides have also been agreed to a “temporary moratorium” on military activities on the north bank, including patrolling to the traditional areas, which will be resumed only when an agreement is reached in diplomatic and military talks between the two countries.

Significance:

- The disengagement may help end the nine-month-long stand-off in eastern Ladakh. With Pangong emerging as the focal point of the stand-off, the disengagement in the Pangong Tso area is expected to be the first step in addressing outstanding problems at Hot Springs, Gogra and Depsang.
- For India, Pangong positions are critical to maintaining a hold on Chushul Valley. The Chushul sector is critical as it lends room for tank manoeuvres owing to its flat terrain. Over the years, India has strengthened its defences on the south bank through deployment of tanks.

India-China relations:**Rise of China:**

- China has been emerging as a major military and economic power not only regionally but also globally.
- The Chinese renminbi may become a global reserve currency. The BRI countries are using the renminbi in financial transactions with China, and can be expected to use it in transactions with each other. China is the world's largest trading economy.
- China could soon become the world's largest economy.
- The European Union created its own cross-border clearing mechanism for trade with China overcoming the U.S.'s hindrance. China has stitched together an investment agreement with the EU and with most of Asia. The EU's reaching out to China despite misgivings of the U.S. means the West has given up on containing the rise of China.
- The China-led Asian Infrastructure Investment Bank has increased its membership to 100 countries. China is now the second-biggest financial contributor to the UN and has witnessed immense growth in R&D domain.

Foreign policy challenge for India:

- India has to engage with China which is consolidating an expanding Belt and Road Initiative (BRI) while trying to balance off China through appropriate partnerships.

Way forward for India:**Ensuring strategic autonomy:**

- India has a "special and privileged strategic partnership" with Russia, and a "comprehensive global strategic partnership" with the U.S, thus balancing its interests.
- India's participation in the Shanghai Cooperation Organisation, led by Beijing and Moscow and designed to resist the spread of Western interests is balanced by its participation in the U.S.-led Quadrilateral Security Dialogue (Quad), with its anti-China stance.
- Realism dictates that India does not need to compromise on its strategic autonomy.

Issue based approach:

- India's policy towards China should be guided by the notion of China as a partner, competitor, and economic rival depending on the policy area in question.

- Within the United Nations, India's interests have greater congruence with China's interests rather than the U.S.'s and the EU's.

Playing a bridging role:

- Instead of an alternate development model, India should move the Quad towards supplementing the infrastructure push of the BRI in line with other strategic concerns in the region.
- For example, developing their scientific, technological capacity and digital economy, based on India's digital stack and financial resources of other Quad members, will resonate with Asia and Africa.

Focus on domestic development:

- India needs to focus on achieving a \$5 trillion economy, shift to indigenous capital military equipment, and also realize the goals set under the new Science, Technology and Innovation Policy.
- Domestic growth will only make India stronger at the international stage and augur well for India's negotiating prowess.

International Relations: Relations between India and neighbouring countries/ International Organizations**20. UNHRC vote on Sri Lanka**

- » Prelims: UNHRC-Functions, membership, powers
- » Mains: India's relation with Sri Lanka

Context:

- Resolution on Sri Lanka's human rights record put to vote at the UN Human Rights Council.

Background:**Concerns over human rights in Sri Lanka:**

- The human rights situation in Sri Lanka has worsened since Gotabaya Rajapaksa became President in 2019.
- Tamil communities in the north and the east fear increasing abuses.
- A report by the Office of the United Nations High Commissioner for Human Rights noted that Sri Lanka is "on alarming path towards recurrence of grave human rights violations" with respect to the Tamil minority issues.

Human Rights Council:

- The Human Rights Council is the principal United Nations intergovernmental body responsible for human rights. Established by General Assembly, it replaced and assumed most mandates, mechanisms, functions and responsibilities previously entrusted to the Commission on Human Rights.

- The Office of the United Nations High Commissioner for Human Rights (OHCHR) is the secretariat for the Human Rights Council.

Membership:

- The Council is made of 47 Member States, which are elected by the majority of members of the General Assembly of the United Nations through direct and secret ballot.
- The Council's Membership is based on equitable geographical distribution.
- They serve for a period of three years and are not eligible for immediate re-election after serving two consecutive terms.

Functions:

- The UNHRC, headquartered in Geneva, Switzerland, has two key functions —
 - * The council passes non-binding resolutions on human rights issues through a periodic review of all 193 UN member states called the Universal Periodic Review (UPR),
 - * It oversees the expert investigation of violations in specific countries (Special Procedures).

Universal Periodic Review:

- The Universal Periodic Review (UPR) is a unique process that involves a periodic review of the human rights records of all 193 UN Member States.
- The UPR is a significant innovation of the Human Rights Council which is based on equal treatment for all countries. It provides an opportunity for all States to declare what actions they have taken to improve the human rights situations in their countries and to overcome challenges to the enjoyment of human rights.
- The UPR also includes a sharing of best human rights practices around the globe.

India's dilemma:

- The Tamil National Alliance (TNA) said that its hopes are high that India will vote for the UN resolution on promoting reconciliation, accountability and human rights in Sri Lanka.
- Sri Lankan administration had sought India's support at the highest levels to defeat the resolution.

- The Sri Lankan administration is counting on India's support, which is a member of the UNHRC.
- Though it is widely predicted that India might abstain in the voting process, given India's own principle against country-specific resolutions and growing geopolitical concerns in the strategic island nation. India could still play a crucial role in negotiations among members of the council, and potentially play a decisive role.
- China, which is also currently a member of the 47 member UNHRC, has assured Sri Lanka of its support.

Voting at UNHRC:

- India abstained from the vote on Sri Lanka's rights record at the United Nations Human Rights Council.
- The resolution on 'Promoting reconciliation, accountability and human rights in Sri Lanka' was adopted after 22 states of the 47-member Council voted in its favour.
- While 14 countries, including India, Japan and Nepal, abstained from voting, 11 countries, including China, Pakistan, Russia and Bangladesh voted against the resolution, and in support of the Sri Lankan government.
- Sri Lanka is resisting the process envisaged in the resolution to prosecute war criminals through an international evidence gathering and investigation mechanism.

Sri Lanka's Response:

- Sri Lanka described the draft resolution as "unwarranted, unjustified and in violations of the relevant articles of the United Nations' Charter".

Why did India abstain from voting on the resolution at UNHRC?

- India did not want to upset its neighbour.
- India seems to have utilized the opportunity to preserve its diplomatic space and to contain the pervasive influence of China over Sri Lanka even while maintaining its support for the Tamil minority to achieve equality, justice, dignity and peace.
- India has not been comfortable with externally mandated investigative mechanisms.

- India's concerns in Sri Lanka have always been different from the rest of the international community, informed by a sense of the long-term well-being of the Tamils, and that power-sharing does foster reconciliation. Hence its emphasis is on devolution rather than accountability.

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ART AND CULTURE

Art and Culture - Architecture

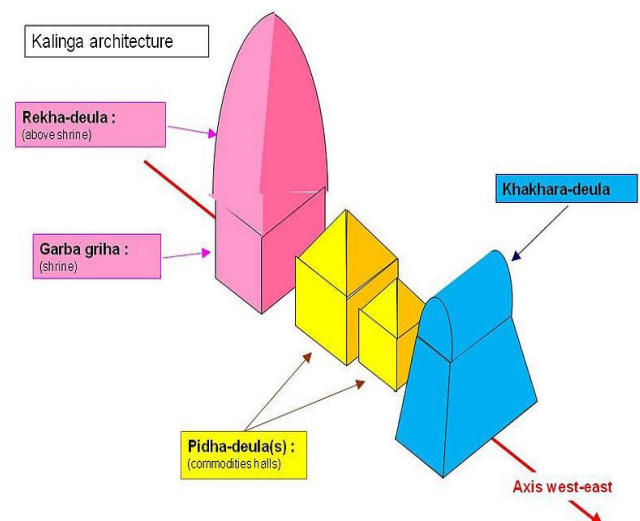
1. Sun Temple at Konark

- » Prelims: Kalinga style of architecture: Features, Important personalities
- » Mains: Regional styles of temple architecture; influence on Nagara and Dravidian styles of temple architecture
- The Konark Sun temple is dedicated to the Hindu sun god Surya, and, conceived as a giant stone chariot with 12 wheels, it is the most famous of the few sun temples built in India.
- It was built around 1240 or 1250 CE by King Narasimhadeva I (r. 1238-1264 CE) of the Eastern Ganga dynasty.
- It was declared a UNESCO World Heritage Site in 1984.
- Architecture:
 - * The temple is built in the Kalinga style of temple architecture, which is a sub-type of the Nagara style.
 - * Its shikhara which was said to be 70m high fell in the 19th century.
 - * The jagamohana (mandapa) has survived. This is the largest enclosed space in Hindu architecture although it is not accessible any more.
 - * The temple is set on a high base. There are detailed carvings. There are 12 pairs of gigantic wheels sculpted with spokes and hubs representing the chariot wheels of the sun god. The whole temple resembles a processional chariot.
 - * On the southern wall, there is a huge sculpture of Surya or sun god made of greenstone. It is believed that there were 3 more such images in different directions made out of different stones. The fourth wall had the doorway from which the sun rays would enter the garbhagriha.
- The Konark Sun Temple is depicted on the reverse side of the Indian currency note of Rs 10 to signify its importance to Indian cultural heritage
- The temple was called 'Black Pagoda' in European sailor accounts as early as 1676 because it looked a great tower which appeared black.
- This temple, along with the Puri Jagannath Temple, served as important landmarks for sailors in the Bay of Bengal.

- » Prelims: Important places of cultural relevance in India; Deula style
- Lingaraja Temple is a Hindu temple dedicated to Shiva and is one of the oldest temples in Bhubaneswar, Odisha.
 - * In the sanctum sanctorum, the linga of Lord Shiva is regarded as 'Swayambhu' (self-originated) and worshipped as both Lord Shiva and Lord Vishnu.
 - * It is said that when construction of Lingaraj Temple was about to be completed, Jagannath culture started growing in Odisha. Hence, the presiding deity here is known as Hari-Hara
- Built by King Jajati Keshari of Soma Vansh, the main tower of this temple measures 180-feet in height.
 - * The temple was built by the kings from the Somavamsi dynasty, with later additions from the Ganga rulers.
- The temple marks the culmination of the temple architecture in Bhubaneswar which was the cradle of the Kalinga School of temple architecture
 - * It is built in red stone

Deula style

- The temple is built in the Deula style that has four components namely, vimana (structure containing the sanctum), jagamohana (assembly hall), natamandira (festival hall) and bhoga-mandapa (hall of offerings), with all four in axial alignment with descending height



Art and Culture - Architecture

2. Lingaraja Temple

Art and Culture - Festivals

3. Nowruz

- » Prelims: Nowruz; UNESCO Intangible cultural practices
- It is the Iranian New Year
- It is also known as the Persian New Year
- It usually occurs on March 21 or the previous or following day, depending on where it is observed.
- The festival, which marks the first day of spring, is celebrated across regions that once made up the ancient Persian empire, including parts of Iraq, Turkey, Syria, Iran and Afghanistan
- In India, the Parsi community, who follow Zoroastrianism, celebrate Navroz with full fervour
 - * In India, prominent numbers of the Parsi community still remain in Mumbai and Gujarat,
 - * People decorate their houses and wear new clothes on the occasion of Navroz. A visit to the Fire Temple, the place of worship of the Parsi community, is a ritual followed on Navroz

What are the origins of Navroz?

- It dates back as far as the 6th Century BC, back when the Iranian community were homogeneously Zoroastrians.
- Once the community divided over the course of history, people of Iranian origin worldwide continued following Zoroastrian traditions and with that the Iranian New Year as well.

What is the significance of Navroz?

- It is also marked as the day King Jamshid was crowned as the King of Persia. King Jamshid holds a great significance in Zoroastrianism and the day of his coronation is generally considered to be the beginning of the New Year among Iranian people.
- It is interestingly the first day of the Aries constellation.
- Navroz is also the day of the Spring equinox and the rituals are performed based on the movements of the sun during the course of the day.

Art and Culture - Festivals

4. Bhagoria Festival

- » Prelims: Bhagoria festival
- It is celebrated by the tribal people of the Indian states Madhya Pradesh & Maharashtra
- The Bhagoria Festival celebrated by the local tribes includes Bhil, Bhilala, Pateliya etc.
- Bhagoria Festival has an agricultural significance attached to it, it coincides with the end of harvesting of crops. So people celebrate it to mark the completion of harvesting.
- The unwed boys and girls of the tribe prepare for this fest that serves the purpose of a marriage bureau by establishing links between prospective brides and bridegrooms

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



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

SCIENCE AND TECHNOLOGY

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

1. Artificial Photosynthesis

- » Mains: Significance of artificial photosynthesis in climate action

Context:

- Artificial photosynthesis to provide solutions for carbon capture and conversion.

Details:

- Scientists have found a method to mimic nature's own process of reducing carbon dioxide in the atmosphere, namely photosynthesis, to capture excess carbon dioxide in the atmosphere.
- This artificial photosynthesis (AP) harnesses solar energy and converts the captured carbon dioxide to carbon monoxide (CO), which can be used as a fuel for internal combustion engines.
- In artificial photosynthesis (AP), scientists are essentially conducting the same fundamental process in natural photosynthesis but with simpler nanostructures. However, there are plenty of hurdles to overcome as a successful catalyst to carry out AP.
- A team of scientists from JNCASR has designed and fabricated an integrated catalytic system based on a metal-organic framework (MOF-808) comprising a photosensitizer (molecules which absorb light and transfer the electron from the incident light into another nearby molecule) that can harness solar power and a catalytic centre that can eventually reduce CO₂.
- The developed catalyst exhibited excellent visible-light-driven CO₂ reduction to CO with more than 99% selectivity.
- The catalyst also oxidizes water to produce oxygen (O₂).
- The photocatalytic assembly, when assessed for CO₂ reduction under direct sunlight in a water medium without any additives, showed superior performance of CO production.
- Being heterogeneous, the integrated catalytic assembly can be reused for several catalytic cycles without losing its activity.

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

2. JNCASR team develops potential drug candidate for Alzheimer's

- » Prelims: Alzheimer's Disease

Context:

- Researchers from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru, have developed a small molecule that helps disrupt and reduce formation of amyloid plaques in the brains of mice with Alzheimer's Disease.

Alzheimer:

- Alzheimer's Disease is a progressive and irreversible disorder of the brain, which affects memory and thinking skills. Usually, in people, the symptoms start manifesting when they are in their sixties, though the onset is much earlier.
- The World Alzheimer Report 2015 notes that in 2015, over 46 million people worldwide were living with dementia. The report estimated that this number would increase to more than 131.5 million by 2050.
- One main feature of the disease is the deposition of amyloid plaques and neurofibrillary tangles in the brain.

Research study:

- Amyloid precursor proteins which play a critical role in the formation of the amyloid plaques were targeted by the researchers.
- The candidate molecules TGR60-65 were screened through in vitro and cellular assays and were found to check the growth of amyloid plaques and also dissolve preformed ones.
- The data from these experiments revealed superior activity of TGR63 molecule and this molecule was taken up for further animal studies in mice, which also proved the effectiveness of TGR63 molecule in treating Alzheimer's Disease in mice. The team observed that the molecule TGR63 reduced amyloid plaques in mice brains and reversed cognitive decline.
- The group is planning to take this molecule TGR63, which is a potential drug candidate for Alzheimer's Disease, forward for clinical studies.

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

3. Optical monitoring of power line health

- » Prelims: Raman Thermometry;

Context:

- Researchers at IIT Madras have demonstrated that by using Raman thermometry on fibre optic cables, they can achieve monitoring of power transmission cables.

Raman thermometry:

- In the Raman effect, when light is scattered off an object, say a molecule, two bands are observed, with higher and lower frequency than the original light, called the Stokes and anti-Stokes bands, respectively.
- By studying the relative intensity of the two bands, it is possible to estimate the temperature of the object which scatters the light. This principle is used in Raman Thermometry.
- Any current flowing through a conductor would cause a temperature rise due to the Joule heating effect. Hence the flow of current through the power cables results in heating of the power cables.

Significance:

- The use of Raman thermometry technique allows the operators to get the results for actual temperature measurements over tens of kilometres.
- Alternative methods of measuring the temperature of power cables include using a thermal camera to manually monitor their length, which is cumbersome. The present method devised by the team is both economical and provides real-time information.

Awareness in the field of communication technology**4. Telecommunication spectrum**

- » Prelims: Characteristics of spectrum bands

Context:

- India's first auction of telecommunications spectrum in five years.

Telecom spectrum:

- Telecom spectrum stands for the portion of the electromagnetic wave range that is suitable for communication purposes.
- The different spectrum bands differ in terms of the frequency of these waves.
 - * Frequency is a measure of the number of times the waves repeat themselves in a second. It is expressed in terms of hertz. Hence hertz is a measure of the number of cycles per second, and 1 megahertz stands for 1 million hertz.

Characteristics of spectrum bands:

- Spectrum bands have different characteristics, and this makes them suitable for different purposes.
- In general, low-frequency transmissions can travel greater distances before losing their integrity, and they can pass through dense objects more easily. However, less data can be transmitted over these radio waves.

- Higher-frequency transmissions carry more data, but are poorer at penetrating obstacles.
- The 700 MHz band, as also 1,800 MHz, 2,100 MHz, and 2,300 MHz bands, are seen playing an important role in the 5G rollout.
- In telecommunications, 5G is the fifth generation technology standard for broadband cellular networks, that promises to provide faster speeds lower latency.

Awareness in the field of Space**5. Martian 'blueberries' find a parallel on Earth**

- » Prelims: Mars missions

Context:

- NASA successfully landed its Perseverance rover on mars.

Background:

- In 2004, NASA's Mars exploration rover 'Opportunity' found several small spheres on Mars, informally named Martian blueberries. The study of the mineralogy noted that they were made of iron oxide compounds called haematites.
 - * Similar haematite concretions have been found in Kutch, Gujarat. These have been called the Jhuran formation.

Inference:

- Haematite concretion is normally formed through precipitation from aqueous fluids. The presence of haematites suggests that there was water present on Mars. Water is believed to have disappeared from Mars rocks about three billion years ago.
- Haematite is known to form in oxidising environments. The Martian blueberries also indicate that the planet had an atmosphere with oxygen as haematites need oxygen to stabilise. Available evidence suggests that there was indeed more oxygen than the present day levels.

Conclusion:

- Studies from the newly landed Perseverance rover may help find new clues and signs of life and other organic compounds, thus helping us paint a detailed picture of the history of Mars.

Awareness in the field of Space**6. Currents on Enceladus**

- » Prelims: Enceladus; Cassini-Huygens mission
- Enceladus is one of Saturn's moon.
- Cassini spacecraft has previously sampled water from Enceladus's Polar Regions.

- The Cassini–Huygens space-research mission, commonly called Cassini, involved a collaboration between NASA, the European Space Agency, and the Italian Space Agency to send a space probe to study the planet Saturn and its system, including its rings and natural satellites.

Awareness in the field of biology and medicine

7. Egg cells

- » Prelims: Egg cells
- Egg cells are the largest cells in the body.
- A new study deciphers how these cells grow to such sizes. 'Nurse' cells, connected to the oocyte, dump their contents into the oocyte (egg cell), thereby causing it to expand

Initiatives in news

8. AIM-PRIME

- » Prelims: AIM-PRIME; AIM

Context:

- Atal Innovation Mission launches 'AIM-PRIME', in partnership with BMGF & Venture Center.

Details:

- AIM-PRIME (Program for Researchers on Innovations, Market-Readiness & Entrepreneurship) is an initiative to promote and support science-based deep-tech startups & ventures across India.
- It has been launched by the Atal Innovation Mission (AIM) in partnership with the Bill & Melinda Gates Foundation (BMGF). The initiative will be implemented by Venture Center – a non-profit technology business incubator.
- The first cohort of the program is open to technology developers (early-stage deep tech start-ups, and scientists/engineers/clinicians) with strong science-based deep tech business ideas. The program is also open to CEOs and senior incubation managers of AIM Funded Atal Incubation Centres that are supporting deep tech entrepreneurs.
- The AIM-PRIME program is specifically tailored for the rapid scaling up of deep-tech science ventures in India, providing not just the necessary intellect and support but also the exposure they rightly deserve.

Program Benefits:

- The benefits of this program are aimed at addressing specific issues through training and guidance over a period of 12 months.

- Candidates selected for the program will get access to in-depth learning via a comprehensive lecture series, live team projects, exercises, and project-specific mentoring.
- They will also have access to a deep tech startup playbook, curated video library, and plenty of peer-to-peer learning opportunities.

Initiatives in news

9. Global Bio India

- » Prelims: BIRAC
- » Mains: strength and opportunities of India's biotechnology sector

Context:

- Union Minister inaugurated the second edition of the Global Bio-India

Details:

- The online event showcased the strength and opportunities of India's biotechnology sector at the national level and to the global community.
- The theme for 2021 is "Transforming lives" with the tag line "Biosciences to Bio-economy".
- This event was co-organised by the Department of Biotechnology, Ministry of Science & Technology, Government of India along with its Public Sector Undertaking, and Biotechnology Industry Research Assistance Council (BIRAC) in partnership with Confederation of Indian Industry (CII), Association of Biotechnology Led Enterprises (ABLE) and Invest India.

Initiatives in news

10. India Science Research Fellowship (ISRF)

- » Prelims: Indian Science Research Fellowship (ISRF)
- This fellowship is a platform to establish research cooperation with neighbouring countries of India, which is one of the mandates of DST's International Science and Technology Cooperation.
- The ISRF programme has provided an opportunity for young researchers from neighbouring countries to get access to the state of art facilities available in the Indian institutes/universities
- It has been implemented since 2015

Context:

- Scholars have been awarded the Indian Science Research Fellowship (ISRF) 2021.

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

11. ISRO puts Brazil's Amazonia-1, 18 other satellites into orbit

- » Prelims: PSLV, New Space India Ltd., Indian National Space Promotion and Authorization Center (IN-SPACe)
- » Mains: Potential of commercial space programme for the economy and international diplomacy

Context:

- The Indian Space Research Organisation (ISRO) successfully launched Brazil's optical earth observation satellite, Amazonia-1, and 18 co-passenger satellites from the Satish Dhawan Space Centre at Sriharikota.

Details:

- Among the 18 co-passenger satellites, five are from India and 13 from the U.S.
 - * The Satish Dhawan SAT (SDSAT) built by Space Kidz India, a nano-satellite intended to study the radiation levels, space weather and demonstrate long-range communication technologies.
 - * The UNITYsat, a combination of three satellites for providing radio relay services.
- The satellites were carried onboard the Polar Satellite Launch Vehicle PSLV-C51. It is the 53rd flight of ISRO's workhorse launch vehicle, PSLV.
- This is the first dedicated mission of its commercial arm, New Space India Ltd.
 - * New Space India Ltd. was set up as a PSU under the Department of Space in 2019.

Significance:

Space co-operation between India and Brazil:

- The successful launch of Brazil's Amazonia-1 satellite by ISRO marks a new high point in space cooperation between the two countries that began nearly two decades ago.
- The Indian Prime Minister called it a historic moment in India-Brazil space cooperation.
- The unique relationship between both countries has ensured support for each other's satellites and the use of each other's ground stations, including tracking India's Chandrayaan-1&2 missions and the 2013 Mangalyaan Mars Orbiter Mission using Brazilian earth stations Alcantara and Cuiaba.

Impetus to commercial space operation:

- This particular mission is special because the current mission comes under the new space reform announced by the Government of India.
- This mission comes in the backdrop of the formation of the Indian National Space Promotion and Authorization Center (IN-SPACe) — a regulatory agency.
- With the recent launch, a new chapter has begun in India's space history.
- India has so far launched 342 foreign satellites from 34 countries using its Polar Satellite Launch Vehicle platform and many of them have involved ISRO's first commercial entity, the Antrix Corporation.
- There is a potential explosion of market opportunities from space applications on the anvil for India.

Way Forward:

- Similar to how unfettered access to the Internet has produced industries that were inconceivable, space applications and mapping have not yet been exploited, in terms of the opportunities that they can create.
- NSIL has a broad ambit and will be involved in collaborations spanning from launches to new space-related industries.
- NSIL is also expected to be more than just a marketer of ISRO's technologies; it is to find newer business opportunities and expand the sector itself.
- NSIL must endeavour to be continuously in start-up mode. It must conceive of ways to aid space start-ups to reach out to rural India and facilitate more recruits from India's young to facilitate careers in space applications and sciences.
- It must see itself both as an Indian ambassador and disruptor in the space arena.

SECURITY AND DEFENCE

Security Establishments

1. In need of full-time heads

- » Prelims: Central Armed Police Forces- Mandate and governing ministry
- » Mains: Concerns associated with central forces functioning without regular chiefs; recommendations

Context:

- The article expresses concerns over the fact that many Central forces are functioning without regular chiefs.

Details:

- Central armed police forces like the Central Reserve Police Force (CRPF), Border Security Force (BSF), National Security Guard (NSG) and important national organizations like the Central Bureau of Investigation (CBI) and the Bureau of Police Research and Development (BPR&D), have been either functioning without a regular chief or such chiefs have been given additional in-charge duties.

Concerns:

Adverse impact on the forces:

- The process of appointments is marked by long delays. Since most appointees to the top posts are at the fag end of their service, they are left with just a few months or a year or so to head these organisations. There is little they can do within their short tenures.
- The lack of seriousness in posting the right kind of officers with not only the required skill and experience but also the time could have an adverse impact on the efficiency of these forces.
- Officers holding provisional charge shy away from taking major policy decisions and prefer to leave such matters to the next person in charge.

Impact on India's internal security:

- The fact that many Central Forces are functioning without regular chiefs, could impact their efficiency which in turn could have a detrimental impact on India's internal security scenario.
- The concerned agencies play a pivotal role in maintaining internal security.
 - * The Border Security Force (BSF) is India's primary border guarding organisation on its border with Pakistan and Bangladesh. It is charged with guarding India's land border with Pakistan and Bangladesh during peacetime and preventing transnational crimes. It is also involved in combating

militants in Jammu and Kashmir and the Northeast.

- * NSG comprising personnel from the Army and the Central Armed Police Forces come into action in times of crisis such as during the Mumbai attacks of 2008. It is also entrusted with the responsibility of providing security to certain high-risk personalities.

Recommendations:

- The following measures could be taken to speed up appointment decisions and also to ensure effective personnel in the posts which could play a decisive role in enhancing the efficiency of these forces.

Choosing from a reserve list:

- A panel of officers cleared by the Union Public Service Commission could be always kept ready and the officers for the top posts could be chosen from this panel.
- The government could consider announcing the next chief of these organisations at least three months in advance which will help smoothen the transition process.

Mandating prior experience in the organization:

- Preferably, the officers being considered for the top posts should be from among the officers who have served in these organisations earlier. This would help ensure that the chiefs are aware of the organizational challenges before they take up the top post. This would help augment their effectiveness.

Ensuring sufficient tenure:

- The government should consider providing a minimum tenure of two years or till superannuation, whichever is later. This will help ensure sufficient tenure for the chief to implement some reforms.

Defence equipment

2. INS Karanj

- » Prelims: Scorpene class submarines; Project 75

Context:

- INS Karanj commissioned into the Indian Navy.

About INS Karanj:

- It is the third stealth Scorpene class Submarine inducted into the Navy.

- It is the third submarine of the first batch of six Kalvari-class submarines for the Indian Navy.
- INS Karanj would form part of the Western Naval Command's Submarine fleet and would be another potent part of the Command's arsenal.
- It is a diesel-electric attack submarine based on the Scorpène class, designed by French naval defence and energy group DCNS and manufactured by Mazagon Dock Limited, an Indian shipyard in Mumbai.
- INS Karanj is part of Project 75.
 - * Project 75 is an indigenous project for the construction of 6 attack submarines for the Indian Navy.
 - * The \$3.75 bn project is supported by the Department of Defence Production, which in turn is part of the Ministry of Defence. The Naval Group of France is lending its technological expertise to the project.

Defence Equipment

3. Indian Naval Landing Craft Utility (LCU) L58

» Prelims: LCU L58

Context:

- Indigenously built Indian Naval Landing Craft Utility L58 commissioned at Port Blair.

About L58:

- LCU L58 is the eighth and last ship of the Landing Craft Utility (LCU) Mark IV Class.
- The ship was indigenously designed and built by GRSE, Kolkata.
- The LCU 58 is an amphibious ship which can carry 160 troops, in addition to its crew.
- With a displacement of 900 tons, the ship is capable of carrying various types of combat vehicles such as Main Battle Tanks (MBTs), BMPs, Armoured Vehicles, trucks, etc.
- The ship measures 63 meters in length and is fitted with two MTA 4,000 series engines, which are capable of propelling the ship at speeds of up to 15 knots (28 kmph).
- The ship is also fitted with an advanced Electronic Support Measure (ESM) suite to intercept enemy radar transmissions, an advanced Integrated Bridge System (IBS) and a sophisticated Integrated Platform Management System (IPMS), which allow single station monitoring of the ship's navigational and machinery equipment respectively.
- The main armament of the ship includes two indigenously manufactured 30 mm CRN 91 guns which are controlled by a Stabilised Optronic

Pedestal (SOP), an electronic day-night director sight manufactured by Bharat Electronics Limited (BEL).

- In addition, the ship is fitted with six Machine Gun Posts to neutralise air, surface and sub-conventional threats.
- The LCU 58 would be based at Port Blair and will be deployed in a variety of roles such as Beaching, Search and Rescue, Disaster Relief, Coastal Patrol and Surveillance operations along the Andaman and Nicobar Group of Islands, Bay of Bengal and in the Indian Ocean.

Defence Equipment

4. Technology for air-to-air missiles tested

» Prelims: Ramjet technology

What's in News?

- The Defence Research and Development Organisation (DRDO) successfully carried out a flight demonstration based on Solid Fuel Ducted Ramjet (SFDR) technology from Integrated Test Range, Chandipur, off the Odisha coast.

Solid Fuel Ducted Ramjet (SFDR) technology:

- It is a missile propulsion technology.
- It includes a thrust modulated ducted rocket with a reduced smoke nozzle-less missile booster.
- The thrust modulation in the system is achieved using a hot gas flow controller.
- The system utilises a solid fuelled air-breathing ramjet engine.
- At present only a handful of countries have the technology

Significance:

- Successful demonstration of SFDR technology has provided DRDO with a technological advantage, which will enable it to develop long range air-to-air missiles
- This kind of propulsion system drastically enhances the range with a higher average speed.
- The missiles which use such a system are also able to carry a larger payload due to the absence of an oxidiser.
- Unlike a solid-propellant rocket, the Ramjet takes up oxygen from the atmosphere during flight.

Defence Equipment

5. DAC to take up deals for armed drones, submarines

» Prelims: Reaper and predator drones; Sea Guardian drone; Project 75I

Drones:

- India is seeking to acquire 30 MQ-9 Reaper or Predator B armed drones from the U.S., 10 each for the three services.
 - * MQ-9B has an endurance of 48 hours and a range of over 6,000 nautical miles. It comes with nine hard-points, capable of carrying sensors and laser-guided bombs besides air-to-ground missiles, with a maximum payload of two tonnes.
- The Navy had inducted two MQ-9B Sea Guardian unarmed drones on lease under emergency procurement.

Project-75I:

- The Project 75I-class submarine is a follow-on of the Project 75 Kalvari-class submarine for the Indian Navy.
- Under this project, the Indian Navy intends to acquire six diesel-electric submarines, which will also feature advanced air-independent propulsion systems to enable them to stay submerged for a longer duration and substantially increase their operational range.
- The P75I Scorpene-class diesel-electric/air-independent propulsion (AIP) submarines are based on the Scorpene-class submarines, which were designed by French naval shipbuilding firm DCNS in partnership with Spanish shipbuilding firm Navantia.
- The new submarines are being built by Mazagon Dock in Mumbai, using the technology and training provided by DCNS.
- The Indian Navy intends to use the submarines for missions such as area surveillance, intelligence gathering, anti-submarine warfare, anti-surface warfare and minelaying operations.

Defence Procurement**6. 'India's arms imports down by 33%'**

- » Prelims: Arms trade statistics related to India

Context:

- According to a report from a Swedish think tank, Stockholm International Peace Research Institute (SIPRI), India's arms imports decreased by 33% between 2011–15 and 2016–20.

Key findings of the report:

- Despite a fall in imports, India continues to remain the second-largest arms importer after Saudi Arabia.
- A drop in arms imports between 2011–15 and 2016–20 seems to be mainly due to its complex and lengthy procurement processes, combined with its attempts to reduce its dependence on Russian arms by diversifying its network of arms suppliers.

- Russia was the largest arms supplier in both periods.
- Russia's deliveries dropped by 53% between the two periods and its share of Indian arms imports fell from 70 to 49%.
- The U.S. was the second-largest arms supplier to India in 2011–15 but in 2016–20, India's arms imports from the U.S. were 46% lower than in the previous five-year period, making the U.S. the fourth-largest supplier in 2016–20.
- France and Israel were the second and third largest arms suppliers in 2016–20.

India's plans over the next 5 years:

- As India perceives increasing threats from Pakistan and China and as its ambitious plans to produce its own major arms have been significantly delayed, it is planning large-scale programmes for arms imports.
- Based on its outstanding deliveries of combat aircraft, air defence systems, ships and submarines, India's arms imports are expected to increase over the coming 5 years.

Miscellaneous**7. Future force for future wars**

- » Mains: Hybrid warfare; third offset strategy

Context:

- Prime Minister Narendra Modi recently asked the country's top military leadership to develop the military into a future force while taking note of the rapidly changing technological landscape.

Background

- Earlier, wars used to be easy to define. One could say whether the country was engaged in war or was it at peace. We could identify whom we were fighting with and at which front.
- The character of war was demonstrated depending upon the norms and ideology of society, technology, and anonymity.
- Now, times have changed leading to what is called 'hyper', 'hybrid', 'compound', 'non-linear', 'fourth-generation', 'next-generation' and 'contactless' war.

Hybrid warfare

- It is an emerging, but ill-defined notion in conflict studies.
- It refers to the use of unconventional methods as part of a multi-domain war fighting approach.
 - * Hybrid warfare also refers to using non-military tools to achieve dominance or damage, subvert or influence.
 - » These tools include "information pollution, perception management and propaganda."

Traditional Idea

- The term hybrid warfare originally referred to irregular non-state actors with advanced military capabilities.
- For example, in the 2006 Israel-Lebanon War, Hezbollah employed a host of different tactics against Israel.

Modern hybrid war

- Practitioners apply “conventional capabilities, irregular tactics and formations, use of cyber warfare and terrorist acts including indiscriminate violence, coercion, and criminal activity” simultaneously.
- Under this model, war takes place in a variety of operating environments, has synchronous effects across multiple battlefields, and is marked by asymmetric tactics and techniques.
- These tactics are difficult to defeat for militaries that lack the flexibility to shift mindsets on a constant basis, especially since the interconnected nature of modern society is such that hybrid war takes place on distinct battlefields.

War, at its core, is organised violence, waged for political purposes. The real purpose is domination.

Third Offset Strategy

For peace to prevail or be enforced, the development of future force capability based on a Third Offset Strategy was announced by the U.S. in 2014.

- It deals with multi-threat and multi-actor security environment.
- It consists of cutting-edge technology, exploration of new operational concepts for utilising such technology, and retaining the best and brightest in human resource to achieve the objective of peace. Although still in its inchoate stages, it focuses on promising technology areas such as robotics and system autonomy, miniaturisation, Big Data, and advanced manufacturing.
- It provides for autonomous learning systems, collaborative decision-making between humans and machines, assisted human operations, advanced manned-unmanned systems operations, network-enabled autonomous weapons, and high-speed projectiles.

Way forward

- To prepare for accelerated future wars, countries need to master the ‘hybridised effect’ of warfare that our adversaries are increasingly adopting.
- Confluence technology and a whole-of-government approach, which are absent, need to drive new strategies and tactics.

Cyber Security**8. Cyber-attack on Indian Power Grid Utilities**

- » Prelims: CERT-In; Red Echo; Trojans
- » Mains: Concerns associated with cyber security in India; Threat of new age hybrid war; Recommendations

Context:

- Reports of State-sponsored Chinese hacker groups targeting Indian power grid utilities.
 - * In the lead up to the deadly clash along the Line of Actual Control (LAC), they has been a noticeable increase in malware targeting the government, defence organisations and the public sector.
- A possible hacking of the power systems in Telangana by a China-based group was averted by the power utilities of the State by taking timely precautionary measures following an alert issued by the Computer Emergency Response Team of India (CERT-In).

Background:

- United States-based cybersecurity firm Recorded Future had reported that a group linked to the Chinese government, which it called ‘Red Echo’, had targeted 10 vital nodes in India’s power distribution system and two seaports.
- It has raised the possibility that the massive power outage in Mumbai in October 2020 could have been the result of an attack by this Chinese state-sponsored group.

Details:

- The Maharashtra Power Minister Nitin Raut has announced that a State Cyber Cell probe found 14 Trojan horses in the servers of the Maharashtra State Electricity Transmission Company, with the potential to disrupt power distribution.

Modus operandi:

- RedEcho was using the AXIOMATICASYMPTOTE server infrastructure to carry out its intrusions into the networks of Indian organisations,
- AXIOMATICASYMPTOTE servers act as command-and-control centres for a malware known as ShadowPad.
- ShadowPad is a backdoor Trojan malware, which means it opens a secret path from its target system to its command-and-control servers. Information can be extracted or more malicious code delivered via this path. ShadowPad is built to target supply-chain infrastructure in sectors like transportation, telecommunication, energy and more.
- Trojanised softwares, or softwares that have dangers hidden in them are the primary mode of delivery for ShadowPad.

Trojan Programs:

- A Trojan horse or Trojan is a type of malware that is often disguised as legitimate software.
- Trojans can be employed by cyber-thieves and hackers trying to gain access to users' systems.
- It is a program that generally impairs the security of a system.
- Trojans are used to create back-doors (a program that allows outside access into a secure network) on computers belonging to a secure network so that a hacker can have access to the secure network.

Targets:

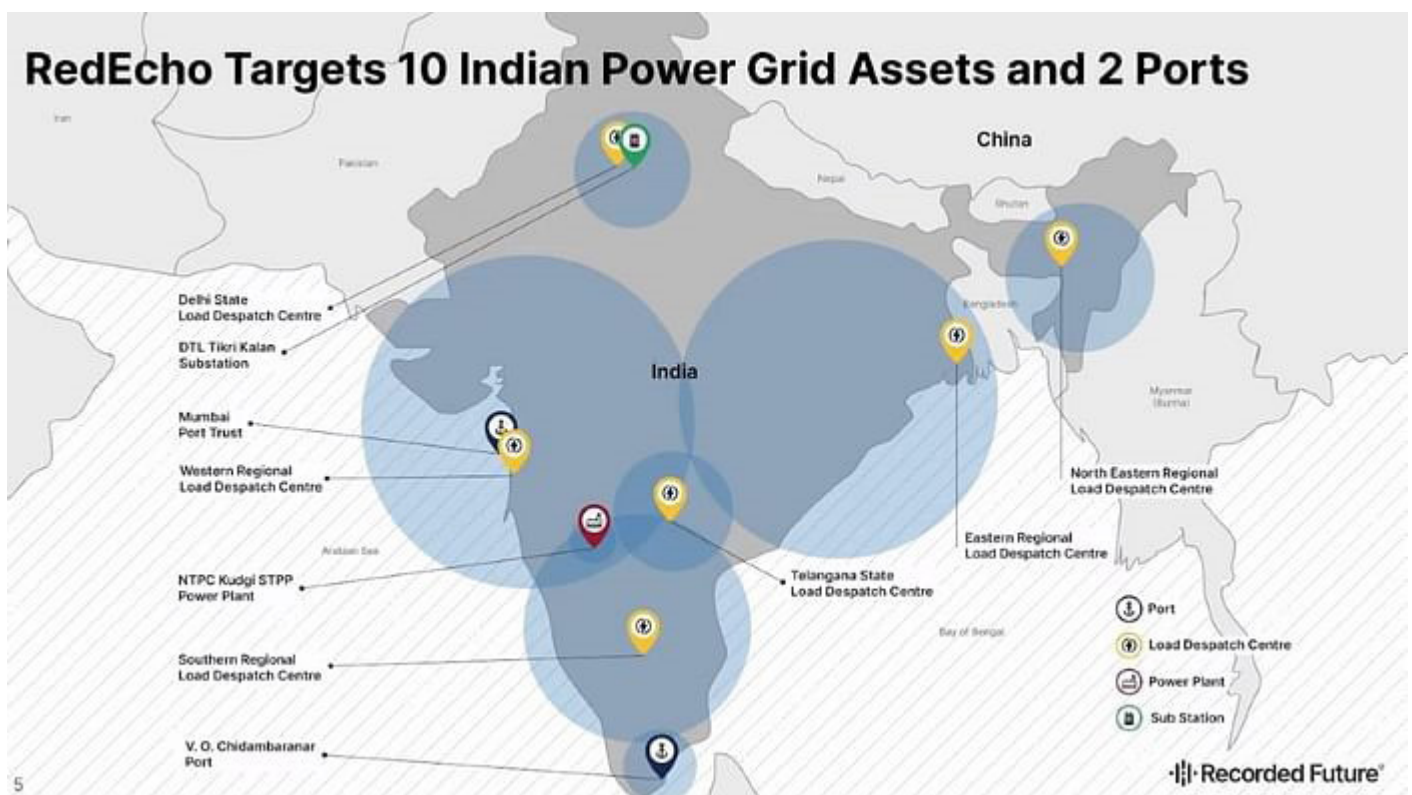
- Suspected targets include: Power System Operation Corporation Limited, NTPC Limited, NTPC Kudgi STPP, Western Regional Load Despatch Centre, Southern Regional Load Despatch Centre, North Eastern Regional Load Despatch Centre, Eastern Regional Load Despatch Centre, Telangana State Load Despatch Centre, Delhi State Load Despatch Centre, DTL Tikri Kalan (Mundka), Delhi Transco Ltd (substation), V. O. Chidambaranar Port and Mumbai Port Trust.
- All the twelve targeted entities have been classified as critical infrastructure by the National Critical Information Infrastructure Protection Centre (NCIIPC).

The Chinese link:

- RedEcho group was Chinese state-sponsored.
- RedEcho has an overlapping modus operandi with several other known Chinese groups such as APT41, Winnti group and Barium.
 - * Many security firms have noted with high confidence that 'APT41' carries out Chinese state-sponsored espionage activity in addition to financially motivated activity potentially outside of state control.

Concerns:

- RedEcho's intrusions were part of a sustained strategic and targeted campaign against Indian organisations.
- Though the kind of infrastructure sought to be accessed by Red Echo, such as Regional Load Despatch Centres, has minimal espionage possibilities, they pose significant concerns over potential pre-positioning of network access to support Chinese strategic objectives.
- Prepositioning in cyber warfare means to have malware assets in crucial places that can be called on when an actual attack is launched.



Indian infrastructure targeted by 'RedEcho'. (Image Courtesy: Recorded Future)

An analysis of Chinese offensive capabilities in cyberspace:

- Across the world, Beijing does appear to be engaged in a major cyber offensive, directed not only against countries like India but against many advanced nations as well.
- Chinese cyber espionage sets no limitations on targets. Hacking groups aligned with the Chinese have been sending out malicious email attachments that were directed to disturb vaccine distribution supply chains around the world. Their objective seems to have been targeting vaccine research, gaining future access to corporate networks, and seeking sensitive information relating to COVID-19 vaccine distribution.
- Several thousands of U.S. organisations were hacked in an unusually aggressive Chinese espionage campaign. The Chinese group, Hafnium, which has been identified as being responsible for this breach, exploited a series of flaws in the Microsoft software, enabling attackers to gain total remote control over affected systems.

Cyberwarfare by others:

- The West, the United States, and Russia are also accused of acting similarly to what China is accused of doing. Other western countries also do engage in cyber espionage but little is publicized.
- The U.S. in the past has criticized Russia for related acts of cyber reconnaissance.
 - * Russia's cyber interference in the U.S. presidential elections in 2016.
 - * Russia is the prime suspect in one of the greatest data breaches concerning the U.S. Federal government, involving the Departments of Defence, Energy, State, Homeland Security, Treasury, etc.
 - * The 'SolarWinds hack' is one where the hackers secretly broke into SolarWind's systems and added malicious code into the company's software system.
- Unprecedented hack of Ukraine's Power Grid
 - * The attacks were carried out by skilled cybersecurity professionals, who had planned their assaults over many months, testing the quality of the malware, carrying out detailed logistics planning, and conducting a very sophisticated operation.

Cyber Security institutional structure in India:

- In the last two decades, significant efforts have been made by India to craft institutional machinery focusing on cyber resilience spanning several government entities.
- The National Security Council, usually chaired by the National Security Adviser (NSA), plays a key role in shaping India's cyber policy ecosystem.

- The NSA also chairs the National Information Board, which is meant to be the apex body for cross-ministry coordination on cybersecurity policymaking.
- The National Critical Information Infrastructure Protection Centre established under the National Technical Research Organisation in January 2014 was mandated to facilitate the protection of critical information infrastructure.
- In 2015, the Prime Minister established the office of the National Cyber Security Coordinator who advises the Prime Minister on strategic cybersecurity issues.
- India's Computer Emergency Response Team (CERT-In), which is the nodal entity responding to various cybersecurity threats to non-critical infrastructure comes under the Ministry of Electronics and Information Technology (MEITY).
- The Ministry of Defence has recently upgraded the Defence Information Assurance and Research Agency to establish the Defence Cyber Agency, a tri-service command of the Indian armed forces to coordinate and control joint cyber operations, and craft India's cyber doctrine.
- The Ministry of Home Affairs oversees multiple coordination centres that focus on law enforcement efforts to address cybercrime, espionage and terrorism.

Concerns associated with cyber security in India:

Lack of robust institutional structure:

- The institutional framework, while seeking to create an 'all of government' approach to countering and mitigating cybersecurity threats at the national level, has also resulted in concerns around:
 - * Effective coordination
 - * Overlapping responsibilities
 - * Lack of clear institutional boundaries and accountability.

Earlier attacks on India:

- India has been attacked by suspected Chinese state-sponsored groups multiple times in the past.
 - * In 2009, a suspected cyber espionage network dubbed GhostNet was found to be targeting the Tibetan government in exile in India, and many Indian embassies.
 - * The vast cyber-espionage operation extensively targeted Indian entities, including military establishments, news publications, and even the National Security Council Secretariat itself. It was found with clear evidence that confidential documents had been accessed by the attackers.

- There were a number of subsequent attacks that targeted India. Such as:
 - * Stuxnet which had also taken down nuclear reactors in Iran.
 - * Suckfly, which targeted not just government but also private entities including a firm that provided tech support to the National Stock Exchange.
 - * Dtrack which first targeted Indian banks, and later the Kudankulam nuclear power plant (Tamil Nadu) in 2019.

Lack of doctrine on cyber conflicts:

- India is yet to clearly articulate a doctrine that holistically captures its approach to cyber conflict. That is, for conducting offensive cyber operations, or the extent and scope of countermeasures against cyber-attacks.
- Unlike India's approach to other global security regimes like the 'No First Use' nuclear posture, the rules of engagement for targeted cyber-attacks are unclear.
- While it might seem like secrecy and ambiguity would provide a tactical advantage when engaging in cyber operations, in an increasingly unstable geopolitical scenario, the absence of a credible cyber deterrence strategy is undesirable.
 - * In such a scenario, states and non-state actors alike remain incentivised to undertake low-scale cyber operations for a variety of purposes — espionage, cyber-crime, and even the disruption of critical information infrastructure.

Way forward

Strengthening the Institutional Framework:

- There is a need for clarity about the institutional framework in India's National Cyber Security Strategy, which has been drafted by the NSC and is yet to be released.
- Ensuring coherence and coordination between these different actors should be its primary goal.

International engagement:

- India must involve itself in a precise articulation of how international law applies to cyberspace.
- This could mould the global governance debate to further India's strategic interests and capabilities.
- In particular, this should include:
 - * Positioning on non-binding norms.
 - * Positioning on legal obligations on red lines with respect to cyberspace-targets that should be considered illegitimate due to their significance for human life, such as health-care systems, electricity grids, water supply, and financial systems.

ENVIRONMENT AND ECOLOGY

Environmental Pollution and degradation

1. Working towards climate justice in a non-ideal world

- » Prelims: Paris climate agreement provisions; Carbon Neutrality
- » Mains: Challenges in climate action; recommendations to overcome these challenges

Context:

- The article discusses the global climate action in general and issues related to India in particular.

U.S. review of climate action:

- The election of Joe Biden as U.S. President has catapulted climate change to the top of the global agenda, after the tumultuous years for global climate action under President Trump, who had the U.S. pull out of the Paris Climate deal.
- The new U.S. administration under Joe Biden has promised to "lead a major diplomatic push" to increase global climate ambition.
- Interestingly, the U.S. is not just returning back to the Paris Accord with its voluntary commitments but is taking the extra step forward through its call to reconvene the Major Economies Forum (MEF) starting with a Leaders' Climate Summit in the coming months. This amounts to a strong step forward to get the major emitters to agree to stronger climate commitments.
 - * The MEF, was first convened in March 2009 to rope in major emitters. Given the serious unwillingness of emerging economies to be labelled "major emitters" saw the meeting retitled "Major Economies Meeting" given the link between GDP and GHG.

Global climate action:

- All countries have been asked to commit to net zero (GHG emissions) by 2050 with credible plans to ensure meeting this domestic target. The Chinese had set a target to achieve net zero emissions by 2060.
- The UN Secretary-General has called on countries to declare national climate emergencies apart from building a coalition for a carbon-neutral world by 2050. As of today, countries representing around 65% of global CO₂ emissions have already agreed to this.

General challenges for climate action:

- The effectiveness of the proposed plans and their implementation will depend on the compliance of the member nations which depends on a number of factors; this gives rise to uncertainty.

- The negotiations between the developing countries and the developed countries over the principle of differentiated responsibilities and recognition of historical responsibilities has resulted in a stall.
- There is the distinct possibility of the EU imposing carbon border levies on those who do not take on high carbon cut-down targets and do so unilaterally if there is no global agreement. More developed countries could join in. In such a scenario, World Trade Organization rules that presently exclude the use of tariffs on environmental grounds will certainly get modified. This will only further complicate the climate negotiations.
- The lack of adequate finances for climate action has been a perennial issue in the climate discourse with the developed countries reneging their commitments towards the Global climate fund.

India's stand:

- India has an extraordinarily small carbon footprint in per-capita terms. India's per capita CO₂ emission stands at around 2 tons.
- India has been a global record setter in pushing renewable and has been an active participant in climate negotiations representing the interests of the developing nations. It has been a strong orator of the principle of differentiated responsibilities and recognition of historical responsibilities.

Concerns for India:

Balancing the two imperatives:

- India housing a huge population and pursuing huge development imperatives would need fine balancing between the two imperatives of economic growth and environmental sustainability.
- India will have to sustain its economic growth to lift millions out of poverty while ensuring it does not irreversibly alter the environmental state. This could require India to reduce its reliance on the cheaper coal-produced electricity while also ensuring universal access to electricity to all its citizens.

Complex negotiations:

- There has been very little acceptance of the principle of differentiated responsibilities and recognition of historical responsibilities among the major emitters.

- There has been very little leeway in the negotiations given that the various countries have stuck to their stands on the climate action front.

Climate Injustice:

- The new proposals seem to focus on current and future emissions, and in keeping with the contract and converge approach, allows practical considerations to trump fairness by not only giving a short shrift to historical responsibility but also denying priority access to the remaining carbon space for developing countries.
- More than 75% of the carbon space available to humankind to keep global temperature rises to 1.5° C has already been taken up by the developed world and China.

Difficulty in accessing climate finance:

- Despite being eligible for climate finance given its developmental level and potential for climate action, it is very unlikely that real politics would allow a major economy like India to benefit from climate action fund flows or receive any form of concessional climate finance.

Recommendations:

Finance:

- All countries could pay into a global fund amounts based on their carbon emissions over and above the global per-capita average of five tons. Those above the global average would pay, while those below would receive money.
- Such a mechanism would ensure certain equity and would also disincentive coal in a big way while incentivising renewable.

Market incentives:

- Alternatives such as emission trading need to be promoted as they incentivize the adoption of greener options in places where it is viable, thus ensuring efficient climate action.

Conclusion:

- Climate justice is an imperative for India, and it needs to leverage its green and pro-nature commitment to ensure carbon and policy space for its developmental and global aspirations.
- India's diplomatic and negotiating efforts must be oriented in this direction.

Environmental Pollution and degradation

2. Bring down benzene emission at fuel outlets, says panel

- » Prelims: Benzene
- » Mains: Measures to control air pollution in urban areas

Context:

- Joint committee appointed by the National Green Tribunal (NGT) to study air pollution in Kerala

Details:

- The committee has recommended the installation of vapour recovery system at fuelling stations and retrofitting of diesel vehicles with particulate filters to improve air quality.
- The report pointed out that petrol refuelling stations were a major source of benzene emissions, volatile organic compounds, and particulate matter 2.5 concentrations.
- Therefore, it suggested that the installation of vapour recovery system is an important step in improving air quality.

Environmental Pollution and degradation

3. Pollution linked to virus spread: Vardhan

- » Mains: Health risks associated with pollution.

Context:

- Union Health Minister's statement on the health risks associated with pollution.

Details:

Ambient air pollution:

- Ambient air pollution is a known risk factor for adverse health outcomes, like chronic cardio-respiratory morbidities. The presence of these morbidities renders the affected population more vulnerable to COVID-19.
- There is emerging evidence to suggest that exposure to ambient air pollutants, especially PM2.5 and NO2, contribute to the spread and virulence of SARS-CoV-2 infections.
 - * Closed indoor spaces provide ideal environments for viral transmission due to the lack of ventilation preventing the dilution of viral particles, and the absence of ultraviolet rays which can potentially inactivate the virus.
- According to the World Health Organization's report of 2018 over 91% of the global population reside in areas where ambient air pollution levels exceed the normal limits prescribed by the WHO, resulting in around 4.2 million annual deaths.

Water pollution:

- The Lancet Commission on Pollution and Health estimates that 1.8 million deaths worldwide are related to "water" (mainly microbiological contamination) and 0.5 million deaths occur due to chemical pollution of water and soil by heavy metals and other man-made chemicals.

Plastic pollution:

- Plastic debris is a major source of water pollution. Given its ubiquitous prevalence, persistence, accumulation in aquatic food chains, and adverse effects on aquatic organisms and potentially to human health it has become an important environmental problem.

Conclusion:

- Research targeted at estimating the burden of pollution and consequent health effects, is essential to design and implement suitable intervention strategies that will enable the achievement of the sustainable development goals associated with health.

Environmental Pollution and degradation

4. Delhi remains most polluted capital: report

- » Mains: Challenge of air pollution in India

Context:

- Report on air pollution by IQ Air.
 - * IQ Air is a Swiss air quality technology company specialising in protection against airborne pollutants, and developing air quality monitoring and air cleaning products.

Details:

- In the 2020 report, 106 countries were evaluated.
- The pollution levels are weighted averages, meaning that the population of a country influences the pollution values reported.

Key findings:

- When ranked by cities, Hotan in China was the most polluted followed by Ghaziabad in Uttar Pradesh.
- Of the 106 monitored countries, only 24 met the World Health Organization annual guidelines for PM 2.5

Indian scenario:

- According to the report, Delhi remained the most polluted capital city in the world.
 - * Notably, Delhi's PM_{2.5} concentration level in 2020 saw a 15% improvement from that recorded in 2019.
- India is the third most polluted country in 2020, unlike in 2019, when it was ranked fifth.
 - * Bangladesh and Pakistan were the countries in 2020 with worse average PM_{2.5} levels than India.
- Of the 15 most polluted cities in the world, 13 were in India.
- In spite of being a pandemic year, 2020 was particularly severe for agricultural burning. Farm fires in Punjab increased by 46.5% over 2019.

Environmental Pollution and degradation

5. NITI Aayog vision for Great Nicobar ignores tribal, ecological concerns

- » Prelims: NBWL; Galathea Bay Wildlife Sanctuary; Coastal Regulation Zone; Shompen
- » Mains: Concerns associated with the development of Great Nicobar island and recommendations

Context:

- The Standing Committee of the National Board for Wildlife (NBWL) has denotified the entire Galathea Bay Wildlife Sanctuary to build port, trade zone on the Great Nicobar Island.

Details:

- As part of the NITI Aayog-piloted 'holistic' and 'sustainable' vision for Great Nicobar Island, about 244 sq. km. of the island area would be developed as a trade zone.
- The phase I of the project spread over 150 sq. km area of the island would include an airport complex, a trans-shipment port (TSP) at South Bay, a parallel-to-the-coast mass rapid transport system and a free trade zone and warehousing complex.
- The Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) would act as the nodal agency.

Concerns:

Ecological concern:

- Significant changes have been effected to the legal regimes for wildlife and forest conservation to allow for the development of the envisaged project. This could have an adverse impact on the ecology of the island.
 - * Apart from the National Board for Wildlife (NBWL) denotifying the entire Galathea Bay Wildlife Sanctuary, an Environment Ministry expert committee has approved a "zero extent" Ecologically Sensitive Zone (ESZ) for the Galathea NP to allow use of land in the south-eastern and south-western part of the island for the NITI Aayog plan. It proposes a zero extent ESZ for nearly 70% of the periphery of the park.
- The phase I of the project would lead to clearance of the pristine forest on about 18% of the 910 sq. km. island, and will cover nearly a quarter of its coastline. The envisaged project seems to overlook the ecological uniqueness of the island.
 - * Galathea Bay is included in Coastal Regulation Zone (CRZ)-I, the zone with maximum protection.
 - * The park, part of a UNESCO World Heritage Site, houses a range of forest types, and has one of the best preserved tropical rainforests in the world.

- * The beaches on the island, like at the mouth of the river Galathea in South Bay, are among the most prominent nesting sites globally of the Giant leatherback. It for this reason that the bay was declared a wildlife sanctuary in 1997. India's National Marine Turtle Action Plan has listed Galathea Bay as one of the 'Important Coastal and Marine Biodiversity Areas' and 'Important Marine Turtle Habitats' in the country.
- The envisaged project could prove detrimental to the biodiversity of the island.
 - * The park is home to 648 species of flora and hosts 330 species of fauna including rare and endemic ones such as the Nicobar wild pig, Nicobar tree shrew, the Great Nicobar crested serpent eagle, Nicobar paradise flycatcher and the Nicobar megapode.
 - * The Nicobar megapode is a globally endangered bird unique to the Nicobars. Recent study on this species have documented 90% of this ground nesting bird's nests to be within a distance of 30 m from the shore. The study had recommended that the entire west and southern coast of Great Nicobar be protected for the megapode and other wildlife like nesting marine turtles.

Tribal concerns:

- The Galathea Bay Wildlife Sanctuary is home to the indigenous Shompen community. The envisaged project poses threat to the Shompen community.
- The proposed project areas are important foraging grounds for the hunter-gatherer nomadic community. Large forest areas on the island could become inaccessible and useless for the Shompen.

Geological vulnerability:

- The available evidence seems to suggest that issues of the geological vulnerability of the islands have not been factored in.
- The island remains vulnerable to Tsunami given its proximity to the geologically active ring of fire region. This raises questions over safety of life, property and the investments in this zone.
 - * 8-metre-high tsunami waves have been observed at the Great Nicobar coast on December 26, 2004. There are also evidences of land subsidence of about 3-4 m post the Tsunami. Loss of life and property then was limited because the Great Nicobar coast is largely uninhabited.

Way forward:

- The project will need to ensure that the welfare and integrity of Shompen community is given priority as envisaged in the Shompen Policy of 2015.

- There is the need to protect the park from an ecological, environmental and biodiversity point of view.
- The project should factor in the complex ecological, social and geological vulnerabilities of the region while planning and implementing the project.

Environmental Pollution and degradation

6. Mining threat looms over Aravalis in Haryana

- » Prelims: Aravalli location based facts
- » Mains: Concerns associated with mining in the Aravalis and remedial measures

Context:

- Haryana State government's moves to seek Supreme Court's permission to resume mining in the Aravalli hill region.

Details:

- The State government has moved the Supreme Court to seek permission to begin mining in the Aravalis in Gurugram, Faridabad and Nuh.
 - * Mining has been banned in Gurugram and adjoining districts for more than a decade now as per the Supreme Court orders.

Concerns:

- The environmentalists have strongly opposed legalising of mining in the Aravalis in the National Capital Region based on the following arguments.

Impact on air quality:

- The environmentalists argue that the move to legalize mining could cause colossal damage to the environment, especially when the region is already grappling with poor air quality.
- Faridabad has the worst air quality in Haryana and figures among the most polluted cities in the world. Gurugram, too, had topped the list of most polluted cities in the world in 2018. It is also argued that Gurugram and Faridabad have a high population density, but low per capita forest cover. The ban on mining in Gurugram and Faridabad, had resulted in a significant improvement in the forest cover.
- The destruction of the Aravalis would worsen the NCR air pollution situation. The poor air quality could have a detrimental impact on the city residents' health.

Impact on groundwater resources:

- The Aravalis with their natural cracks and fissures have the potential to accommodate two million litres of water per hectare in the ground every year.

- The resumption of mining in the region could prove detrimental to the already fast depleting groundwater level in the region posing a water security threat to the residents of the region.

Impact on wildlife:

- The wildlife surveys show that Gurugram and Faridabad hills act as a significant wildlife habitat and corridor, especially for the leopards. There is also movement from and into the Asola wildlife sanctuary. The resumption of mining here will be disastrous for the wildlife.
 - * The Aravalli mountain range is a biodiversity hotspot with 400-odd species of trees, shrubs and herbs; 200-odd native and migratory bird species; 100-odd butterfly species; 20-odd reptile species and 20-odd mammal species, including leopards.

Desertification:

- The Aravalli mountain range is the only natural barrier against desertification.
- The resumption of mining activity in the region would lead to further deforestation in the region further exacerbating the threat of desertification in the region.

Threat posed by illegal mining:

- A very high number of illegal mining have been reported from the state.
- Mining, when earlier allowed, was carried out in a haphazard manner without adhering to the norms causing huge damage to the environment and the wildlife.

Counter-arguments:

- As per the Economic Survey of Haryana 2020-21, the collection from mining for 2020-21 till January is Rs. 770.00 crore, the highest since 2005-06. This amounts to a substantial stream of revenue for the state government.
- The mining in this region would not just help meet the demand for construction material but also generate employment.

Way forward:

Selecting suitable areas for mining:

- Mining should not be done in NCR districts adjacent to Delhi which are important wildlife habitats and corridors, have poor air quality and high population. Mining should also not be allowed in thick forest areas. Mining should be confined to isolated hillocks in distant areas with minimal impact on wildlife corridors and air quality.
- This would result in minimum damage to environment and help ensure sustainable development.

- A survey needs to be conducted to identify the possible areas for mining.

Creating conservation zones:

- The government could consider notifying 50,000 acre of Aravalis as deemed forest and retaining all Aravalis in south Haryana as natural conservation zone.

Afforestation measures:

- The government should come up with a three-year road map to take the legal native forest cover in the State to 20% as per the Haryana Forest Department policy target. This move could help offset some of the negative impacts of deforestation carried out for mining operations.

Conservation efforts

7. International Day of Forests

- » Prelims: International Day of Forests; FAO
- The United Nations observes March 21 as the International Day of Forests, commemorating the green cover around the world and reiterating its importance. The theme of the International Day of Forests for 2021 is "Forest restoration: a path to recovery and well-being".
- The Day celebrates and raises awareness of the importance of all types of forests. On this day, countries are encouraged to undertake local, national and international efforts to organize activities involving forests and trees, such as tree-planting campaigns.
- The Day is celebrated by the United Nations Forum on Forests and the Food and Agriculture Organization of the United Nations (FAO), in collaboration with governments, the Collaborative Partnership on Forests and other relevant organisations in the field.
- This year's theme aims to emphasise how restoration and sustainable management of forests can help address climate change and the biodiversity crisis.

Environmental conservation efforts

8. Framework for testing water launched

- » Prelims: Jal Jeevan Mission; Parameters that would be tested under the proposed framework
- » Mains: Measures needed for controlling water pollution

Context:

- The drinking water quality testing, monitoring and surveillance framework and guidelines.

Details:

- The guidelines are part of the water quality monitoring framework rolled out by the Jal

Jeevan Mission.

- * Of the Rs. 3.6 lakh crore Jal Jeevan budget, 2% has been earmarked for quality monitoring.
- The guidelines mandate a network of NABL accredited labs to be set up in every State, district and block over the next year. At the panchayat level, teams of women in the village water and sanitation committees will be given field testing kits.
- Detailed testing protocols and standards have been laid out to check for chemical and biological contaminants.
- The various parameters that could be tested include the water sample's pH level, turbidity, alkalinity, hardness, presence of chloride, sulphate, iron, arsenic, fluoride, nitrate and coliform bacteria.
- All results of testing will be fed into the Water Quality Information Management System.

Significance:

- The guidelines cap tariffs to ensure that they remain within reach of common man. Hence, citizens can now get the water quality in their taps tested at reasonable rates.
- The samples tested by members of the public, as well as government officials, will create a nationwide database of water quality.
 - * According to a 2018 assessment by the Central Groundwater Board, Chemical and biological contaminants are present in more than half of all blocks in India.
- A local official will be deputed to take remedial action in case of contamination.

Challenges:

- Lack of adequate accredited testing laboratories.

Environmental conservation efforts

9. Water, the looming frontier

- » Prelims: Nal se Jal scheme
- » Mains: Concerns associated with water resources in India and remedial measures

Context:

- NITI Aayog and WaterAid have found that over 70% of India's surface and groundwater is contaminated by human and other waste.

Details:

- NITI Aayog and WaterAid report note the likelihood of the water resources carrying viruses.
- The primary reason for the contamination is excessive human activity leading to environmental degradation.

Concerns:

Depletion of water resources:

- Unsustainable anthropogenic activities have destroyed the natural resources.
- Our development model is always focused on artificial infrastructure, building highways, industrial plants, high-rise structures. This has had an adverse impact on the natural water resources. As a result, we are running out of natural resources at an alarming pace.

Water pollution:

- The continued dumping of sewage water into the rivers and lakes have resulted in alarming levels of water pollution.
- The unsustainable usage of fertilizers in the agricultural sector has led to nitrogen pollution in water bodies and to subsequent algal blooms and fish deaths.

Role in spreading infection:

- Industrialized farming makes a zoonotic outbreak likely. The practice of keeping animals locked together for mass production of meat produces an artificial environment that can give birth to mutations in dormant viruses.
- Once the virus has found its way into the human population, it is bound to proliferate in wastewater.
 - * In England, Wales and Scotland, several wastewater samples were tested and were found to carry traces of SARS-CoV-2.
 - * Remnants of the virus have also been detected in raw sewage across Sydney.
 - * Research at the University of Stirling in Scotland indicates that the SARS-CoV-2 virus can spread through sewage water.
- Water-transmitted viral pathogens like astrovirus, hepatitis A and norovirus proliferate in unhygienic conditions.
 - * Unlike in the developed world, a huge section of the population in India uses polluted water from sources like rivers, lakes, or groundwater for drinking.

Freshwater sources:

- There are two unpolluted freshwater sources left in the country.
 - * The water lying below our forests
 - * The aquifers that lie below the floodplains of rivers.
- Both these sources provide natural underground storage and are renewable – the rains provide natural recharge year after year and it is this recharge that can be used to water our cities and towns.

Way forward:

- Humans must conserve and use our natural resources judiciously.

Conservation of available resources:

- The freshwater resources, once lost, will be lost forever. Therefore, forests and floodplains must be declared as water sanctuaries and measures for their conservation must be assigned utmost priority. Need to safeguard the forests and natural habitats.

Sustainable usage:

- The water usage should be well within the annual natural recharge capacity to ensure that there is no depletion in ground water levels.
- There is the need to design and implement a sustainable and cautious development model.

Water purification strategies:

- Since most of the water sources are contaminated, the only way to purify water for human consumption is through Reverse Osmosis (RO).
 - * Notably, though RO removes contaminants, it also takes out all the healthy minerals and nutrients required by the human body. This makes RO an unhealthy and exorbitantly priced proposition.
- To neutralize the virus, ultraviolet aquaguard treatment may be a viable proposition.
 - * Ultraviolet aquaguard treatment won't take out chemical contaminants and it is also costly.

Governmental measures:

- The government has announced a Rs. 3 lakh crore 'Nal se Jal' scheme to provide drinking water connections to every rural household by 2024. This is a welcome initiative in ensuring clean water supply to people.

Environmental conservation efforts**10.SC questions delay in setting up environment regulator**

- » Prelims: Environment (Protection) Act, 1986; EIA
- » Mains: The criticality of environmental regulations and concerns associated with the attitude towards environmental regulation

Context:

- The Supreme Court's notice to the Centre on a public interest plea to set up a national environmental regulator under the Environment (Protection) Act, 1986.
- The Supreme Court has asked the government to explain why it had not set up an independent environment regulator to oversee green clearances.

Background:

- In the 'Lafarge mining case' of 2011, the Supreme Court had ordered the setting up of a national environment regulatory body to ensure independent oversight of green clearances.
- The court had asked the Centre to appoint a national regulator for:
 - * Appraising projects
 - * Enforcing environmental conditions for approvals
 - * Imposing penalties on polluters
- The court had made a strong argument in favour of an independent environmental regulatory mechanism.

Concerns:**Government's reluctance to set up a national environmental regulator:**

- Successive governments have preferred to ignore the Supreme Court's observations on the need for a national environmental regulator.
- In 2011 and 2014, the Centre had rebuffed the apex court on the question of forming an independent regulator, contending that its orders in the Lafarge mining case were only in the nature of a suggestion.

Ease of doing business over environmental conservation:

- The current official policy seems to privilege ease of doing business over environmental conservation.
 - * The environmental clearances under forest, wildlife, air and water quality laws seem to be heavily weighted in favour of promoters.
 - * Prominent environmentalists have pointed out major concerns with respect to the draft Environmental Impact Assessment (EIA) Notification 2020.
 - » The 2020 notification reduces civil society's role in the EIA process. It does not encourage the public to voice its views and report violations. The EIA seems to overlook the views of communities that would be displaced, and are ill-equipped to assess the loss of biodiversity and ecosystem services such as clean air, water and farm productivity.
 - » The EIA process even as per the 2006 notification has been critiqued for neglecting the inherent conflict of interest in its provisions given that the proponent of a project is itself responsible for producing the EIA report.

- » There are serious questions being raised over the credibility of the EIA process, given the increasing instances of the EIA report being produced with the help of dubious expertise and manipulated data.

Concerns with respect to regulations:

- The laggardly pace at which the multiple departments process project proposals has not only resulted in the raising of transaction costs but has also created a sense of uncertainty among the investors. This has aided in the clamour to dispense with regulation.

Conclusion:

- The government must recognise the limits to extractive growth and work towards preserving the integrity of the environment. India cannot afford to do degrade its forests, rivers, wetlands and air, whose health is vital for its large population.
- The Centre and States must acknowledge the conflict between the need for economic growth and environmental conservation.
- Administrative reforms can aid in sustainable environment management and the setting up of a neutral national environmental regulator could be the first step in this direction.

Environmental conservation efforts

11. Climate Change and Natural disasters

- » Mains: Link between climate change and natural disasters; Remedial measures

Context:

- The recent natural disasters like the Himalayan glacier flooding that overwhelmed Uttarakhand, the cold snap that paralysed Texas, have brought to light the impact of the human induced global warming.

Impact of Global Warming and Climate Change:

India:

- The melting of the Himalayan glaciers that prompted the floods and landslides in Uttarakhand have the fingerprints of global warming.
- In 2013, glacial flooding caused over 6,000 deaths in Uttarakhand during the monsoon months.
- Similarly, Kerala ignored a landmark study calling for regulation of mining, quarrying and dam construction in ecologically sensitive places, which contributed to the massive floods and landslides in 2018 and 2019.
- As glacier cover is replaced by water or land, the amount of light reflected decreases, thus aggravating global warming tendency.

- Global warming is a contributor to the sweltering heat in cities like Delhi and Hyderabad, or the floods in Chennai or Kerala.
- Studies had flagged ice loss across the Himalayas, and the dangers to densely populated catchments.

World:

- The United States has already witnessed many deadly avalanches since the beginning of 2021.
- The extreme cold weather in Texas, the double-digit negative temperatures seen in Germany earlier this year are connected to Arctic-peninsula warming, at a rate almost twice the global average.
 - * Usually, there is a collection of winds around the Arctic keeping the cold locked far to the north. But global warming has caused gaps in these protective winds, allowing intensely cold air to move south.

Concerns:

- Natural disasters are bound to become more frequent and intense due to climate change. They pose enormous risks to human life and property.
- India is particularly vulnerable to the risk of climate change.
 - * While HSBC ranks India at the top among 67 nations in climate vulnerability (2018), Germanwatch ranks India fifth among 181 nations in terms of climate risks (2020).
- Despite the overwhelming evidence available pointing to the grave risks posed by climate change, appropriate policy responses have been lacking.
 - * India's public spending does not reflect the potential impact of climate change.
 - * Uttarakhand government and the Centre have been diluting, instead of strengthening, climate safeguards for hydroelectric and road projects.
 - * While COVID-19 triggered the mobilisation of trillions of dollars in financing, the equally frightening climate scenario has not been able to mobilize such resources.
 - * Global warming is still seen as a danger that lies over the horizon.

Way Forward:

Recognizing the role of climate change:

- When the cause and effect are connected, responses are usually swift. Hence there is the need to explicitly link the climate change with the increasing number of natural disasters through scientific evidences.

- Policymaking needs to connect the dots between carbon emissions, atmospheric warming, melting glaciers, extreme floods and storms.
- This will only raise awareness about the issue of climate change and hopefully push governments to take more focussed measures at mitigating and adapting to climate change.

Sustainable development model:

- Development must not lead to environmental degradation.
- A green growth strategy must be emphasized upon to ensure a sustainable growth and development model.
- Policies for climate mitigation must be explicitly included in the government budget. Growth targets should include timelines for switching to cleaner energy.

Mitigation measures:

- For India, the third-largest carbon emitter after China and the United States, a decisive switch is needed from highly polluting coal and petroleum to cleaner and renewable power sources.
- China has announced carbon neutrality by 2060, Japan and South Korea by 2050. India is yet to announce a target.
- The acceleration of hazards of nature should prompt countries to advance those targets, ideally by a decade.

Climate adaptation:

- Climate adaptation needs to be a priority.
- India's Central and State governments must increase allocations for risk reduction, such as better defences against floods, or agricultural innovations to withstand droughts.
- The government needs to launch a major campaign to mobilise climate finance.

Conclusion:

- Sustainable growth depends on timely climate action.

Species in news - Fauna

12. Whale Sharks

- » Prelims: Whale shark- Habitat and conservation status

Context:

- A recent study published in Nature states that the global population of sharks and rays has decreased by over 70% in the past five decades.

Details:

- The large decrease in the global population of sharks and rays can be attributed to their intentional hunting and also due to the rising instances of by-catch during fishing expeditions.

- India is now the second-largest shark fishing nation in the world, following Indonesia.

Whale Shark:

- The whale shark is a slow-moving, filter-feeding carpet shark and the largest known extant fish species. It is the largest living non-mammalian vertebrate.
- The whale shark is found in the open waters of the tropical oceans. They feed almost exclusively on plankton and small fishes, and pose no threat to humans.

Conservation status in India:

- In a conservation attempt, whale sharks were included in Schedule I of the Wildlife (Protection) Act of India, 1972, rendering the capture and killing of whale sharks a cognisable offence. It was the first-ever species to be protected under this act, after which the Ganges Shark, spartooth shark were added to the list.

Species in news - Fauna

13. New species of red algae seen in west, south east Indian coast

- » Prelims: Hypnea indica and Hypnea bullata ; applications of seaweed

Context:

- Two new species of seaweed named Hypnea indica and Hypnea bullata have been discovered by a group of marine biologists.
 - * The study also reports one other species of Hypnea for the first time in Indian coasts, Hypnea nidifica.

Details:

- While Hypnea indica was discovered Kanyakumari in Tamil Nadu, and Somnath Pathan and Sivrajpur in Gujarat, Hypnea bullata was discovered from Kanyakumari and Diu island of Daman and Diu.
- The seaweeds are part of the genus Hypnea or red seaweeds. The genus Hypnea consists of calcareous, erect, branched red seaweeds.
- They grow in the intertidal regions of the coast, namely the area that is submerged during the high tide and exposed during low tides.

Threats:

- Several recent studies have shown that algae with calcareous mineral deposits are prone for the damage from ocean acidification – an aftermath of climate change. As carbon dioxide in the atmosphere gets dissolved in ocean waters, the seawater becomes more acidic. Algae like Hypnea cannot survive in acidic seawater.

Significance:

- Species of Hypnea contain the biomolecule carrageenan, which is widely used in the food industry.

Species in news-Fauna**14. Researchers find new butterfly species**

- » Prelims: Nacaduba sinhala ramaswamii

Context:

- A new species has been added to the expanding list of butterflies in India.
- "Nacaduba sinhala ramaswamii" found in the Agasthyamala in the Western Ghats a decade ago has been added to the Journal of Threatened Taxa.

Details:

- The new taxon of Lycaenid butterflies belongs to the Nacaduba genus.
- Line Blues are small butterflies belonging to the subfamily Lycaenidae and their distribution ranges from India and Sri Lanka to the whole of southeastern Asia, Australia and Samoa.
- It is the first time that a butterfly species was discovered by an all-Indian research team from the Western Ghats.

Species in news-Fauna**15. SC bats for Great Indian Bustard**

- » Prelims: Great Indian Bustard: Range, threat and conservation status

Context:

- The Supreme Court has intervened on the issue of the Great Indian Bustard deaths.
 - * A large number of Great Indian Bustards have been dying after colliding with power lines running through their diminishing natural habitats in Gujarat and Rajasthan.

Great Indian Bustard:

- The Great Indian Bustard (*Ardeotis nigriceps*) is a bustard native to the Indian subcontinent.
- Bustards are large terrestrial birds found in dry grasslands and steppe regions.
- It is among the heaviest of flying birds in existence.
- It is listed as critically endangered in the IUCN Red List.

Species in news-Fauna**16. Himalayan serow**

- » Prelims: Himalayan Serrow; Manas tiger reserve

Context:

- Spotting of Himalayan Serrow in Assam.

Details:

- Himalayan Serows have been spotted in the Manas Tiger Reserve.
- The Serow has been spotted for the first time in the tiger reserve or anywhere else in Assam.
- Principal Chief Conservator of Forest for areas under the Bodoland Territorial Council stated that the sighting augurs well for the health of the tiger reserve.

Himalayan Serow:

- Himalayan serow is a goat-antelope.
- The Himalayan mammal is a high-altitude dweller usually found 2,000-4,000 metres above sea level.

Sightings of rare animals:

- The black-necked crane was also recently sighted in Manas.
 - * The Buddhists revere the bird that nests in the Tawang region.
- Critically endangered white-bellied heron was also spotted.
- Birders had sighted the colourful Mandarin duck in the Maguri-Motapung wetland near eastern Assam's Dibru-Saikhowa National Park.
 - * This duck was last spotted in Assam 118 years ago.
- The sightings of rare animals and birds in Manas is an outcome of better access to remote parts of the protected area where extremists and hunters once ruled.

Manas Tiger Reserve:

- The Reserve is contiguous with the 1,057-sq. km. Royal Manas National Park in Bhutan.

Species in news-Flora**17. Gregarious bamboo flowering in Wayanad poses threat**

- » Prelims: Wayanad Wildlife sanctuary; Mudumalai tiger reserve

Context:

- The gregarious flowering of bamboo inside the Wayanad Wildlife Sanctuary (WWS) and the nearby Mudumalai Tiger Reserve and Gudalur forest division in Tamil Nadu.

Background:

Life cycle of bamboo:

- Thorny bamboo (Bamboosa bambos) is a monocarpic (flowering occurs only once in the life cycle) plant belonging to the Poaceae family (grass family), and its flowering cycle varies from 40 to 60 years.
- The Bamboo flower and die.
- Profuse natural regeneration occurs from seeds after gregarious flowering. Seeds have no dormancy, and they can undergo germination under favourable conditions soon after seed fall. Protection from fire and grazing is essential for proper establishment of seedlings.

Details:

- Bamboo groves in the Wayanad Wildlife Sanctuary, have fully bloomed marking the mass destruction of bamboo groves.
- The bamboo groves in the Wayanad forest are the mainstay of herbivores like elephants, wild gaur in the Nilgiri biosphere during summer.
 - * Nilgiri biosphere is a major tiger and elephant habitat.
- With the advent of the season, migration of wild animals starts from the adjacent sanctuaries in Karnataka and Tamil Nadu to Wayanad due to shortage of fodder and water.

Concerns:

- The gregarious flowering may adversely affect migration in the Nilgiri biosphere.
- The mass destruction of the bamboo groves by affecting the food chain may pose a threat to wildlife and ecology of the region.
- The seeds could germinate into new shoots provided they have a favourable environment. Forest fires and grazing could disturb the germination process.

Places in news**18.U.P., M.P. sign agreement on Ken-Betwa interlinking work**

» Prelims: Panna National Reserve

Concerns:

- The governments of Uttar Pradesh and Madhya Pradesh have signed an agreement that nudges forward a long-stalled multi-crore, controversial project to link the Ken and the Betwa rivers.

Ken-Betwa interlinking Project:

- The project aims to irrigate the water-deficient Bundelkhand region, spread over both States, and provide electricity.
- The project involves transferring surplus water from the Ken river in Madhya Pradesh to the

Betwa in Uttar Pradesh and irrigating 3.64 lakh hectares in the Bundelkhand region of both States.

- The project involves building a 77-metre-tall and a 2-km-wide Dhaudhan dam and a 230-km canal.

Environmental concerns:

- Nearly 8,650 hectares of forest land including part of Panna National Park in Madhya Pradesh will be submerged if the project is to become a reality.
- It will also have an adverse impact on tiger reserves and wildlife sanctuaries in the region. It would also affect the habitat of vultures and jackals.
- This has led to widespread opposition from conservationists. After years of protests, however, it was finally cleared by the apex wildlife regulator, the National Board for Wildlife, in 2016.

Places in news**19.Eviction of prawn gherries restarts at Chilika Lake**

» Prelims: Chilika lake

Concerns:

- The Odisha government has started evicting illegal prawn enclosures in Chilika Lake.
 - * A few years ago, satellite imageries had found 14,590 hectares of the lagoon under manmade gherries for illegal prawn cultivation.

Significance:

- Eviction of illegal enclosures is likely to improve the ecological health of the lake.
 - * Endangered Irrawaddy dolphins are the first beneficiaries of the eviction drive. The mammals can move unhindered in Chilika Lake. In the Rambha sector, dolphins were sighted for the first time in three decades after the eviction drive.
 - * Besides, there was a sudden increase in the population of ducks who prefer to dive in open water.

Chilika Lake:

- Chilika Lake is Asia's largest brackish water lagoon.
- It is the largest coastal lagoon in India and the largest brackish water lagoon in the world after the New Caledonian barrier reef.
- The lake is located at the mouth of the Daya River.
- It is a designated Ramsar Site under Ramsar Convention.
- The endangered Irrawaddy Dolphins are found in the lake.

*Places in news***20. Pong Dam Wildlife Sanctuary**

» Prelims: Pong dam Wildlife sanctuary

Context:

- As many as 27 migratory birds have been reported dead on account of avian influenza in the Pong Dam Wildlife Sanctuary area of Himachal Pradesh.
- * Earlier in January 2021, avian influenza (H5N1) led to the death of over 5,000 migratory birds in the Pong Dam Wildlife Sanctuary area.

Pong Dam Wildlife Sanctuary:

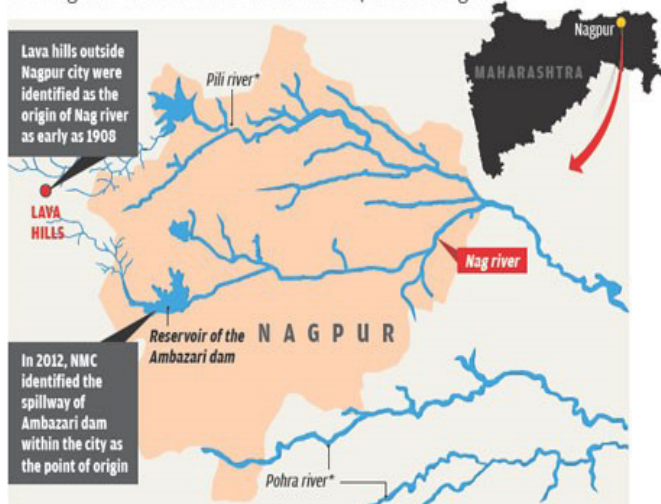
- The Pong Dam also called the Beas dam is an artificial embankment Dam constructed across the Beas river in Himachal Pradesh.
- The Reservoir created by the dam is called Maharana Pratap Sagar and is a renowned Bird Sanctuary.
- Pong Dam Wildlife Sanctuary is also a Ramsar Site.
- Maharana Pratap Sagar is located in the wetland zone of Shivalik Hills.

*Places in news***21. Nag River**

- » Prelims: Pench river system
- The Nag River, which flows through Nagpur city, thus giving its name to the city, is now a highly polluted water channel of sewage and industrial waste.
- Forming a part of the Kanhan-Pench river system, the Nag River originates in Lava hills

Diluting the truth

Government bodies had attempted to denotify the upper stretch of the Nag and had identified a dam as its point of origin



Source: Pradhyumna Sahastrabhojane, EcoCity Foundation; * Tributaries of the Nag

Context:

- The Nag River Pollution Abatement Project has been approved

Details:

- The Nag River Pollution Abatement Project, approved under the National River Conservation Plan, will be implemented by the National River Conservation Directorate (NRCD).
- It will reduce the pollution level in terms of untreated sewage, flowing solid waste and other impurities flowing into the Nag River and its tributaries.

*Initiatives in News***22. Earth Hour**

- » Prelims: Earth Hour; WWF
- The annual tradition of shutting down electric lights for one hour was started by the World Wide Fund for Nature (WWF) and it is now known as 'Earth Hour'.
- This year Earth Hour was held on March 27, 2021.
- The aim was to encourage individuals, communities, and businesses to turn off all non-essential lights for an entire hour. The goal of this activity is to spread awareness about sustainability and climate change.

*Initiatives in News***23. Sub-Mission on Agroforestry (SMAF) Scheme**

- » Prelims: SMAF-objectives and significance; silk varieties in India

Context:

- MoU between the Ministry of Agriculture and Farmers' Welfare and the Central Silk Board on a convergence model for the implementation of Agroforestry in the silk sector under the ongoing Sub-Mission on Agroforestry (SMAF) Scheme.

Sub-Mission on Agroforestry (SMAF):

- The scheme was launched to encourage tree plantation on farmlands along with crops/cropping system to help the farmers get additional income and make their farming systems more climate-resilient and adaptive.
- It is being implemented with a funding pattern of 60:40 between Centre and State Govt. for all States excepting NE & Hilly states, where it is 90:10 and 100% in case of UTs & National Level Agencies.

- Under the scheme, assistance to farmers is given through the state governments for nursery development, boundary plantation and block plantation of prominent tree species to promote, inter-alia, fruits bearing tree-borne oilseeds, medicinal & aromatic plants, silk & lac rearing host plants, in addition to timber species, so that farmers get early returns.
- This scheme has been implemented as part of the recommendation of the National Agroforestry Policy 2014. This sub-mission is under the National Mission for Sustainable Agriculture (NMSA).
- It is implemented by the Department of Agriculture, Cooperation and Farmers' Welfare.
- SMAF aims to encourage farmers to plant multi-purpose trees together with the agriculture crops for:
 - * Climate resilience
 - * Additional source of income to the farmers
 - * Enhanced feedstock to inter alia wood-based and herbal industry
- Hence, there is a concerted effort to include medicinal, fruits, fodder, tree-borne oilseeds, lac host, etc. in addition to the longer rotation timber species.

SMAF Objectives:

- To encourage and expand tree plantation in a complementary and integrated manner with crops and livestock to improve productivity, employment opportunities, income generation and livelihoods of rural households, especially the small farmers.
- To ensure the availability of quality planting material like seeds, seedlings, clones, hybrids, improved varieties, etc.
- To popularise various Agroforestry practices/models suitable for different agro-ecological regions and land use conditions.
- To create database, information and knowledge support in the area of agroforestry.
- To provide extension and capacity building support to the agroforestry sector.

Details:

- The signing of this MoU aims to incentivize the farmers to take up sericulture based Agroforestry models.
- This is especially targeted for augmentation of sericulture host plants e.g. Mulberry, Asan, Arjuna, Som, Soalu, Kesseru, BadaKesseru, Phanat, etc. to be cultivated both as block plantations and border or peripheral plantations on farmlands.

- The Central Silk Board will act as a catalyst to promote Agroforestry in the silk sector.

Significance:

- The proposed linkage will add another dimension to agroforestry for faster returns to the growers as well as support the production of the range of silks that India is famous for.
- Planting sericulture based tree species on the farm bunds and rearing silkworms has the potential of creating additional income opportunities for farmers.

Initiatives in News

24. Jal Shakti Abhiyan: Catch the Rain Campaign

» Prelims: Jal Shakti Abhiyan

Context:

- Jal Shakti Abhiyan: Catch the Rain campaign to be launched on the occasion of 'World Water Day' (22nd March).

About the Campaign:

- The Campaign will be undertaken across the country, in both rural and urban areas, with the theme "catch the rain, where it falls, when it falls".
- It will be implemented from 22nd March 2021 to 30th November 2021 – the pre-monsoon and monsoon periods in the country.
- It will be launched as a Jan Andolan to take water conservation to the grassroots level through people's participation.
- It is intended to nudge all stakeholders to create rainwater harvesting structures suitable to the climatic conditions and subsoil strata, to ensure proper storage of rainwater.

About World Water Day:

- The idea for a World Water Day was put forward in 1992, at the Rio de Janeiro United Nations Conference on Environment and Development. It was here that the March 22 date was agreed upon and finalised.
- The first World Water Day was held in 1993.
- World Water Day 2021 theme: 'Valuing Water'

Initiatives in News**25. Water Quality Information Management System (WQMIS)**

» Prelims: WQMIS

Context:

- The Ministry of Jal Shakti launched the Water Quality Information Management System (WQMIS).

About Water Quality Information Management System (WQMIS):

- The Ministry (as part of the Jal Jeevan Mission), along with launching a framework and guidelines for testing, monitoring and surveillance of drinking water quality, had also launched the WQMIS.
- WQMIS is an online portal that provides detailed information on laboratories for this purpose. It also gives people access to data on water quality.
- The guidelines specify work to be done in terms of surveillance and monitoring at the state, district, block/tehsil and village levels.
- The guidelines have been prepared in consultation with the Indian Council of Medical Research (ICMR).
- The basic water quality parameters prescribed under the guidelines are pH value, total dissolved solids, turbidity, chloride, total alkalinity, total hardness, sulphate, iron, total arsenic, fluoride, nitrate, total coliform bacteria, e. coli or thermo-tolerant coliform bacteria.

Initiatives in News**26. Project RE-HAB**

- » Prelims: Project RE-HAB
- » Mains: Man animal conflict- concerns and remedial measures

Context:

- KVIC rolls out Project RE-HAB to prevent elephant-human conflict using honey bees.

Background:

Elephant-Human conflict:

- Nearly 500 people die every year due to elephant attacks in India.
- This is nearly 10 times more than the fatalities caused by big cats across the country.
- From 2015 to 2020, nearly 2500 people have lost their lives in elephant attacks.

- Out of this, nearly 170 human fatalities have been reported in Karnataka alone.
- On the contrary, nearly one-fifth of this number, i.e. around 500 elephants have also died in retaliation by humans in the last 5 years.

Project RE-HAB:

- Khadi and Village Industries Commission (KVIC) launched a unique project of creating "bee-fences" to mitigate human – elephant conflicts.
- The pilot project RE-HAB was launched at four locations around village Chelur in Kodagu district of Karnataka.
- These spots are located on the periphery of Nagarhole National Park and Tiger Reserve and prone to human-elephant conflicts.
- RE-HAB is an acronym for Reducing Elephant – Human Attacks using Bees.
- Project RE-HAB is a sub-mission under KVIC's National Honey Mission.
- While the Honey Mission is a programme to increase the bee population, honey production and beekeepers' income by setting up apiaries, Project RE-HAB uses bee boxes as a fence to prevent the attack of elephants.

Objective:

- To thwart elephant attacks in human habitations using honey bees and thus reducing loss of lives of both, humans as well as elephants.

How it works?

- KVIC has set up 15-20 interspersed bee boxes at each of the four locations in the passage ways of elephant-human conflict zones to block the entrance of elephants to human habitations.
- The boxes are connected with a string so that when elephants attempt to pass through, a tug or pull causes the bees to swarm the elephant herds and dissuade them from progressing further.
- Bee boxes have been placed on the ground as well as hung from the trees to block the passage of elephants.
- High resolution, night vision cameras have been installed at strategic points to record the impact of bees on elephants and their behavior in these zones.

Miscellaneous**27. Energy meet calls for faster shift to renewables**

» Prelims: World Energy Transitions Outlook report

Context:

- World Energy Transitions Outlook report published by the International Renewable Energy Agency (IRENA).

Details:

- The report notes that the COVID-19 crisis offers an unexpected opportunity for countries to decouple their economies from fossil fuels and accelerate the shift to renewable energy sources.
- It proposes energy transition solutions for the narrow pathway available to contain the rise of temperature to 1.5 degree Celsius.
- IRENA observed the emergence of a new energy system based on renewable technologies and complemented by green hydrogen and modern bioenergy.
- It estimated that by 2050, 90% of total electricity needs would be supplied by renewables, followed by 6% from natural gas and the remaining from nuclear.

Miscellaneous**28. IIT-Delhi researchers develop technology to recycle e-waste**

» Mains: addressing e-waste concerns.

Context:

- The researchers at the Indian Institute of Technology, Delhi have developed a zero-emission technology to manage and recycle e-waste to wealth.

Details:

- The team adopted a methodology that uses e-waste as an "Urban Mine" for metal recovery and energy production.
- The e-waste is shredded and pyrolyzed to yield liquid and gaseous fuels, leaving behind a metal-rich solid fraction.
- On further separation using a novel technique, the leftover solid residue yields a 90-95% pure metal mixture and some carbonaceous materials.
- The carbonaceous material is further converted to aerogel for oil spillage cleaning, dye removal, carbon dioxide capture, and use in supercapacitors.
- The technology is an outcome of a Department of Science and Technology-funded project and developed technology.

Institutions**29. Central Ground Water Board (CGWB)**

» Prelims: CGWB

- Central Ground Water Board is an organisation under the Department of Water Resources, River Development, and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India.
- Its mandate is to develop and disseminate technologies, and monitor and implement national policies for the scientific and sustainable development and management of India's ground water resources, including their exploration, assessment, conservation, augmentation, protection from pollution and distribution, based on principles of economic and ecological efficiency and equity.
- CGWB is the national apex agency entrusted with the responsibilities of providing scientific inputs for management, exploration, monitoring, assessment, augmentation and regulation of ground water resources of the country.
- It was established in 1970 by renaming the Exploratory Tube wells Organization under the Ministry of Agriculture. It was merged with the Ground Water Wing of the Geological Survey of India during 1972.
- The Board is implementing the National Aquifer Mapping and Management program (NAQUIM), which envisages mapping of aquifers (water bearing formations), their characterization and development of Aquifer Management Plans to facilitate sustainable management of ground water resources.

Miscellaneous**30. World Wildlife Day**






» Prelims: World Wildlife day; CITES

- Mains: 'Forests and Livelihoods: Sustaining People and Planet'
- In 2013, the United Nations General Assembly had proclaimed March 3rd as UN World Wildlife Day to celebrate and raise awareness about animals and plants.
- 3rd March was chosen as the day, since on this day in 1973, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was adopted.

- The theme for the 2021 celebrations is 'Forests and Livelihoods: Sustaining People and Planet'.
- The theme highlights the role of forests, forest species and ecosystems services in sustaining the livelihoods of hundreds of millions of people globally, and particularly of indigenous and local communities with historic ties to forested and forest-adjacent areas.
- The idea behind the World Wildlife Day is to celebrate diversity and raise awareness about animals and plants going extinct.

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-  **Comprehensive news analysis**
-  **Video analysis of "The Hindu"**
-  **PIB summary and analysis**
-  **Topic of the day**
A brief analysis of important topics for the exam
-  **This day in history**
A brief note on a major event that happened in the history of India and the world on this date

Weekly Updates

-  **Economy this week**
Round-up of business newspapers
-  **Gist of RSTV debates**
-  **Gist of economic and political weekly magazine**
-  **GK and current affairs quiz**

Monthly Updates

-  **BYJU'S current affairs magazine**
Compilation of current affairs
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Extracts of articles and points from "YOJANA" and "KURUKSHETRA"
-  **Issues in news**
Comprehensive articles that focus on all the important issues in news

HEALTH ISSUES

Issues relating to health

1. We need to urgently invest in public health

- » Mains: Issues in public health system; recommendations

Context:

- The efforts of healthcare personnel, from ASHA workers to highly specialised intensive care physicians, have saved countless lives and made India proud.
- The article throws light upon how the pandemic has demonstrated the importance of healthcare and public health in times of a health crisis.

Details

- That healthcare is science-based was convincingly demonstrated.
- Lab diagnosis, clinical assessments, management discriminating between useful and useless therapeutic modalities all gave society a glimpse of how modern medicine works.
- A good grounding in theory, long years in basics and specialisation, and apprenticing to gain experience in ethical, evidence-based medical practice are essential for the making of caring medical and nursing professionals.

Healthcare and public health:

- While the health-care capability in India ranks among the world's best, it is not the case when it comes to public health. There is a need to distinguish between the two.
- Healthcare refers to the transaction between one caregiver and one sick person at a time.
- For public health, the client is the community at large and the goal is disease prevention and control.
- Disease control is the deliberate, intervention-based and quantified reduction of disease burden. It has to be data-driven.
- Reliable data must be collected from all sources including every healthcare provider, for monitoring disease burden by diagnosis and outcomes; for this exercise, the total population is the denominator.
 - * For instance, data collection for HIV control is sample-based, under the unique Indian design of sentinel surveillance, established in 1986 and still continuing.
 - * Counting of acute flaccid paralysis (AFP) and laboratory tests for polioviruses were crucial for polio elimination in India.

Issues:

- The health management system in India does not have a way of prospectively collecting data on all diseases and deaths by diagnosis.
 - * That is precisely the task of public health.
- There is no comprehensive and quantified profile of any disease in the entire population, including those under vertical programmes — tuberculosis, malaria, leprosy, AIDS.
- The sero-surveys on random samples was an attempt to derive the totality of infections. It reported widely disparate figures and failed to give us a reasonably reliable picture.
- In the absence of public health infrastructure, India's AIDS Task Force designed and successfully applied 'social vaccine' during the HIV/AIDS epidemic and this was continued by the National AIDS Control Organization (NACO).
- Sadly, there was no crosstalk between the COVID-19 programme and NACO; hence principles of social vaccine, so effectively deployed in AIDS prevention, were not adopted for COVID-19 prevention.

Way Forward:

- Social vaccine is the way forward. Social vaccination is another function of public health.
- Where India fell short is timely and comprehensive public education with authoritative and authentic information communicated effectively to the public for self-motivated behaviour modification.
- For COVID-19, there are non-pharmacological preventive interventions such as face masks, hand hygiene, physical distancing.
- Pharmacological prevention is by vaccination.
- Now, during the COVID-19 vaccine roll-out, authentic health education regarding vaccination is conspicuously lacking, leading to considerable vaccine hesitancy among even healthcare staff.
- Post-vaccination surveillance, vital for assessing vaccine efficacy and safety, must be conducted. There exists this lacuna in public health.
- COVID-19 has strong social determinants of infection transmission. In countries where public health is given equal status with healthcare, public health addresses both social and environmental determinants and controls these diseases.

- India's style of mounting ad hoc responses only when there is a pandemic is no longer tenable. Currently, our healthcare institutions are cluttered with too many infectious diseases that are amenable to control if only we had public health.
- Investment in public health will result in health, wealth and prosperity.

Issues Relating to health

2. 'Move health to Concurrent list'

- » Prelims: Subjects under concurrent list of the schedule 7 of the Indian constitution
- » Mains: Suggestions related to health sector in India

Context:

- Fifteenth Finance Commission's Chairman's address at the NATHEALTH summit.

Suggestions:

Healthcare to be shifted to Concurrent List:

- Chairman of the Fifteenth Finance Commission, N.K. Singh asserted that Health should be shifted to the Concurrent list under the Constitution.
 - * He opined that bringing health into the Concurrent list would give the Centre greater flexibility to enact regulatory changes and reinforce the obligation of all stakeholders towards providing better healthcare.

Set up developmental finance institution (DFI) dedicated to healthcare:

- He suggested that a DFI dedicated to healthcare investments be set up.
 - * DFI would increase healthcare access in tier-2 and tier-3 cities and also come in with technical assistance that ensures proper usage of funds, he said.

Enhance government spending on health:

- He made a case for increasing the government's spending on health to 2.5% of GDP by 2025.
- He said primary healthcare should be a fundamental commitment of all States in particular and should be allocated at least two-thirds of such spending.

Universalising healthcare insurance:

- He emphasised the importance of universalising healthcare insurance as a large section of the society still remained uncovered.
 - * While the PMJAY covers the bottom two income quintiles, commercial insurance largely covers the top-income quintile, thereby creating a missing middle class.

- * This refers to people in the middle two income quintiles, where the population is not rich enough to afford commercial insurance and not poor enough to be covered under government-sponsored health insurance schemes.

Diseases in news

3. Gestational Diabetes

- » Prelims: Gestational diabetes; Colombo declaration
- » Mains: Concerns associated with gestational diabetes

Context:

- March 10 is observed as National Gestational Diabetes Awareness Day.

About National Gestational Diabetes Awareness Day:

- India held the world's first national GDM (gestational diabetes mellitus) Awareness Day on March 10, 2019.
- The objective behind this Day is to raise awareness about the link between maternal health and diabetes nationwide, and inviting pregnant women to hospitals and clinics for free screening.
- The idea behind this observance can be traced back to 2016 when the Colombo Declaration was endorsed by more than 300 leaders from South Asian countries.
 - * This declaration raised the need to address the link between diabetes and maternal health.
 - * It also recommended the creation of an annual day to raise awareness about GDM.
- India's National Health Mission is the first government ministry to make the day official.
- The day is celebrated by having training for healthcare professionals, press conferences, awareness raising events, seminars for women's groups, and widespread screening.
- 10 March was chosen as the day since it is the birthday of Dr V Seshiah, a diabetologist who has contributed immensely to gestational diabetes research, policy and implementation.

About Gestational Diabetes:

- Gestational Diabetes Mellitus (GDM) is defined as Impaired Glucose Tolerance (IGT) with the onset or first recognition during pregnancy.
- GDM is also known as Hyperglycemia in Pregnancy (HIP). Gestational diabetes is a condition in which your blood sugar levels become high during pregnancy.

- Of the 3 million women who develop GDM, in 5-10 years after pregnancy, 30 per cent of them have a tendency to develop Type 2 Diabetes, further adding to the number of diabetics in the country.
- The GDM rate in India is 26.3%, which is the highest in the world.

Concerns:

Impact on health of mother and child:

- Gestational diabetes is associated with a significantly increased risk of complications during pregnancy such as preeclampsia (fits during pregnancy), postpartum haemorrhage and sepsis, stillbirths, premature delivery, increased risk of neonatal deaths due to respiratory distress, neonatal hypoglycaemia and birth injuries.
- All these conditions contribute to high maternal and newborn morbidity and mortality.
- Children born to women with gestational diabetes are also at very high risk of obesity, Type 2 diabetes, and cardiovascular diseases.

Impact on health of women post-pregnancy:

- If a woman gets gestational diabetes, it increases the risk of diabetes and cardiovascular diseases in such women.
- Almost half the women with gestational diabetes go on to develop Type 2 diabetes within 10 years without preventive care.
 - * Diabetes is a major public health problem in India with an estimated 7 crore adults with diabetes. Diabetes has a detrimental impact on our health system, economic productivity and the individual's life and family.

Lack of awareness:

- Despite the significant health threat posed by gestational diabetes, there is a lack of public awareness about gestational diabetes as well as low awareness and capacity within the health systems for testing and providing care.
 - * Around 3.5 crore adults in India suffer from prediabetes and remain undiagnosed till late complications set in.

- The NAP-AMR was launched in April 2017.
- The programme is coordinated by the National Centre for Disease Control (NCDC).
- The overarching goal of the National Action Plan on Antimicrobial Resistance (NAP-AMR) is to effectively combat antimicrobial resistance in India, and contribute towards the global efforts to tackle this public health threat.
- Objectives:
 - * Define the strategic priorities, key actions, outputs, responsibilities, and indicative timeline and budget to slow the emergence of AMR in India and strengthen the organizational & management structures to ensure intra- & inter-sectoral coordination with a One Health approach;
 - * Combat AMR in India through better understanding and awareness of AMR, strengthened surveillance, prevention of emergence and spread of resistant bacteria through infection prevention and control, optimised use of antibiotics in all sectors, and enhanced investments for AMR activities, research and innovations; and
 - * Enable monitoring and evaluation (M&E) of the NAP-AMR implementation based on the M&E framework.

Priorities of the Programme:

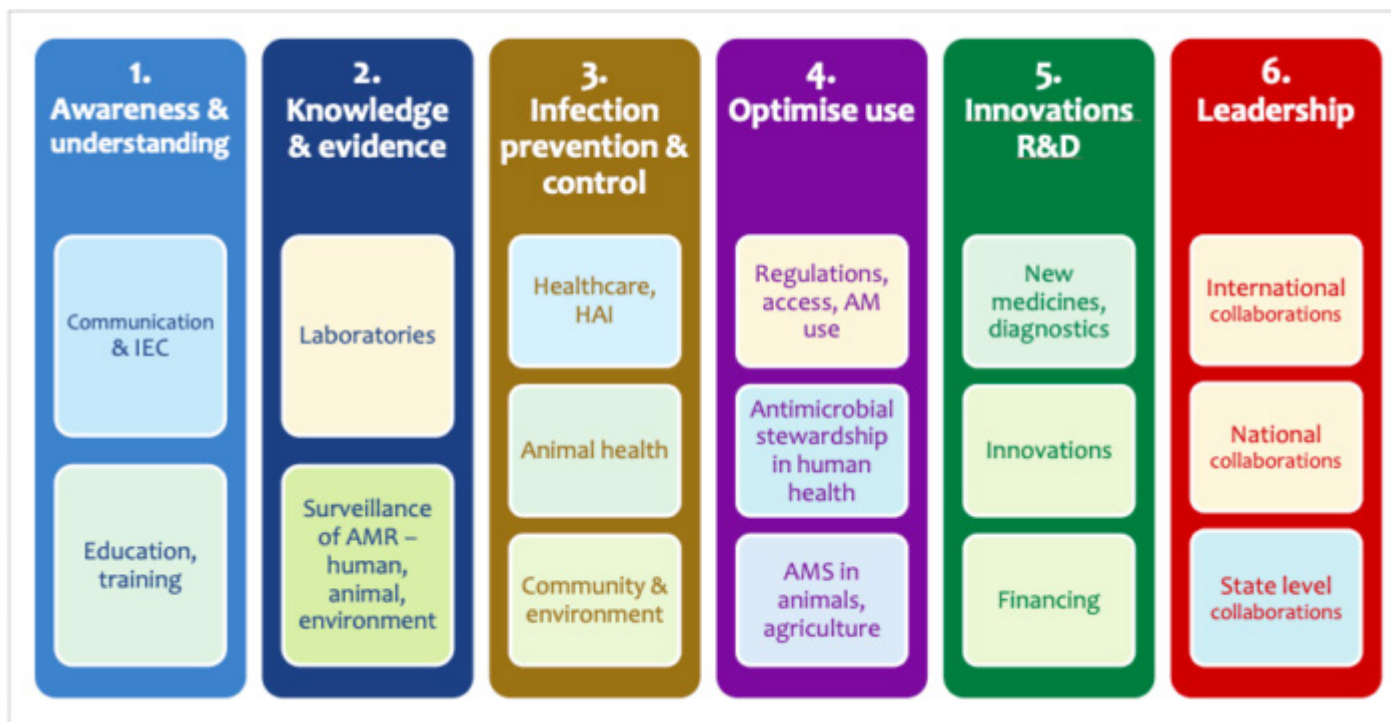


Government Initiatives

4. National Action Plan for Containment of Antimicrobial Resistance (NAP-AMR)

- » Prelims: Antimicrobial resistance; NCDC
- » Mains: Recommendations to address the challenge of AMR

- The programme's focus areas are given in the image below:



Miscellaneous

5. World Hearing Day

- World Hearing Day is held on 3 March each year to raise awareness on how to prevent deafness and hearing loss and promote ear and hearing care across the world.
- World Hearing Day 2021 Theme: Hearing Care for ALL! Screen, Rehabilitate, Communicate.
- The first event was held in 2007. Before 2016 it was known as International Ear Care Day.
- World Hearing Day 2021 will mark the launch of the first-ever World Report on Hearing.
 - * The World Report on Hearing (WRH) has been developed in response to a World Health Assembly resolution adopted in 2017, as a means of providing guidance for Member States to integrate ear and hearing care into their national health plans.
 - * Based on the best available evidence, this report presents epidemiological and financial data on hearing loss; outlines available cost-effective solutions and sets the way forward through 'Integrated people-centred ear and hearing care' (IPC-EHC).
 - * The report is global in its reach while keeping a special focus on low- and middle-income countries, where the number of people with hearing loss is not matched by the availability of services and resources.

SOCIAL ISSUES

Social issues - Related to Children

1. The limits of POCSO

- » Prelims: POCSO act provisions
- » Mains: Sexual violence on children- concerns and recommendations

Context

- A single bench of the Madras High Court recently allowed a petition seeking to quash a case of kidnap, aggravated penetrative sexual assault and aggravated sexual assault of a minor.

Aggravated Penetrative Sexual Assault

- These include cases when a police officer, a member of the armed forces, or a public servant commits penetrative sexual assault on a child.
- It also covers cases where the offender is a relative of the child, or if the assault injures the sexual organs of the child or the child becomes pregnant, among others.

Aggravated sexual assault

- Under the Act, "sexual assault" includes actions where a person touches the vagina, penis, anus or breast of a child with sexual intent without penetration.
- "Aggravated sexual assault" includes cases where the offender is a relative of the child, or if the assault injures the sexual organs of the child, among others.

Minor's consent is 'no consent in eyes of law'

- Under POCSO, the consent of a person under the age of 18 is irrelevant, regardless of the nature and circumstance of the sexual interaction, or the particulars of the person with whom it takes place.
- This means that any sex with a minor is rape.

Sexual tendencies of adolescents

- The act has provisions that criminalize consensual sexual intercourse between two people below the age of 18.
- The court while analyzing the case has taken a view that adolescence and young adulthood form a continuum because of the physical, biological, neurological, and social changes that occur during adolescence.
- So the court came to a conclusion that the relationship of the minor 'victim' with the accused respondent is a loving, rather than an abusive, one.

What did the Court say?

- The judgment echoes the arguments that child rights activists have been making for years: by ignoring the natural sexual tendencies of adolescents, POCSO can and does become a tool for the persecution of young people in consenting sexual relations.
- The judgment concluded that the case could be quashed because it was purely individual in nature and doing so would not affect any overriding public interest.
- It held "Punishing an adolescent boy who enters into a relationship with a minor girl by treating him as an offender, was never the objective of the POCSO Act".

Violation of established precedents

- In following the above-mentioned reasoning the court has ignored the established precedent against quashing cases of rape, a heinous and serious offence, held by the Supreme Court to be a public concern, and not a private matter.

Views of the Parliamentary Committee (Rajya Sabha)

- The committee had considered the POCSO Bill, 2011 and it criticized the clause providing for the possibility of consent in cases of sexual intercourse with minors between the ages of 16 and 18.
- It believed that a uniform age of 18 would ensure that trials of child rape would focus on the conduct of the accused and the circumstances of the offence, instead of putting victims on trial as is often the case when the consent of the victim is in question.
- This would indicate that adolescent sexuality was not meant to be an exception to POCSO's bright-line approach.

Law and Justice

- It has thus forced courts to choose between applying the law and doing justice, especially in cases where the minor victim has willingly eloped with or married the accused or is carrying his child, for imprisoning him would only do her harm.

Way forward

- POCSO should be amended to take such cases into consideration.
- The legislature should take into consideration cases of this nature involving adolescents involved in relationships and swiftly bring in necessary amendments under the Act.

Conclusion

- Therefore, the judgment was intuitively just, even though it was not in line with precedent.
- It highlighted the urgent need for a reconsideration of the absolutist approach of POCSO when it comes to the sexual interactions of adolescents with other young people.

Social issues - Poverty and issue of inequality**2. COVID may have doubled poverty in India**

- » Mains: Impact of the pandemic on poverty and inequality; challenges posed by the rising inequality and recommendations to overcome it.

What's in News?

- A Pew Research study report that uses World Bank projections of economic growth to estimate the impact of COVID-19 on Indian incomes has been released.

Key Findings:

- India's middle class may have shrunk by 1/3rd due to 2020's pandemic-driven recession, while the number of poor people earning less than Rs. 150 per day more than doubled.
 - * In comparison, Chinese incomes remained relatively unshaken, with just a 2% drop in the middle-class population.
- Meanwhile, the number of people who are poor in India (with incomes of \$2 or less a day) is estimated to have increased by 7.5 crores because of the COVID-19 recession.
 - * This accounts for nearly 60% of the global increase in poverty.
- It also noted the record spike in MGNREGA participants as proof that the poor were struggling to find work.
- It warned that the situation may actually be worse than estimated.

Social issues- Related to Women**3. How to treat unpaid work**

- » Mains: Issue of unequal pay- causative factors and recommendations

Introduction

- Women everywhere carry a disproportionately higher burden of unpaid work, namely, unpaid domestic services as well as unpaid care of children, the old and the disabled for their respective households.
 - * Unpaid work can be understood to comprise all productive activities outside the official labour market done by individuals for their own households or for others.

- Women do this job not necessarily because they like it or are efficient in it, but because it is imposed on them by patriarchal norms, which are the roots of all pervasive gender inequalities.
- Though this work contributes to overall well-being at the household level and collectively at the national level, it is invisible in the national database and particularly in national policies.
- This unequal division of unpaid work between women and men is unfair and unjust and it deprives women of equal opportunities as men.

What the government could do?

- First, the government should recognise unpaid work in the national database by a sound time-use survey and use the data in national policies.
 - * The most obvious and simple measures are data collection, presentation and analysis.
- A second step in making visible the importance of unpaid work for society as a whole is imputing its value in monetary terms.
 - * Imputing a monetary value for unpaid work is a necessary condition for its inclusion in national accounts.
- Third, they could relieve women's burden of unpaid work by improving technology (e.g. better fuel for cooking), better infrastructure (e.g. water at the doorstep), shifting some unpaid work to the mainstream economy (e.g. childcare, care of the disabled, and care of the chronically sick), and by making basic services (e.g. health and transportation) accessible to women.
- Also, they could redistribute the work between men and women by providing different incentives and disincentives to men (e.g. mandatory training of men in housework, childcare, etc.) and financial incentives for sharing housework.
- The government can also look at the payment of pension to old women (60+ years).

Indirect policies relating to unpaid work

- A well-known indirect way of recognizing unpaid work is granting to the male breadwinner/head of the household a (minimum) wage level that is supposed to include some 'reward' for his wife's unpaid household work and a compensation for the fact that he has to support his 'non-earning' wife.

Way forward

- The concept of unpaid work and its place in the economy at large deserves more in-depth research and analysis.

Conclusion

- The reality of the huge unpaid contribution of households to economic value needs to be accepted. If policy-makers became aware of all these effects and took them into account, unpaid work would be 'mainstreamed' as a regular element in the policy-making process.

HISTORY

Medieval India - Important personalities

1. **Lachit Borphukan**

- » Prelims: Ahom dynasty and other North east Indian dynasties
- Lachit Borphukan was a commander in the Ahom dynasty, located in present-day Assam.
- He showed exemplary leadership in the Battle of Saraighat (1671).
- The Battle of Saraighat was a naval battle fought between the Mughal Empire and the Ahom Kingdom.
- 24th November is observed as Lachit Diwas in Assam in honour of Lachit Borphukan to commemorate his heroism and the victory of the Assamese army at the Battle of Saraighat.

Medieval India - Important personalities

2. **Savitribai Phule**

- » Prelims: Savitribai Phule related facts
- » Mains: Savitribai Phule -Contribution to social reforms in India; Role of women in social reforms in India
- Savitribai Phule was an Indian social reformer, educationist, and poet from Maharashtra.
- Along with her husband, Jyotirao Phule, she played an important and vital role in improving women's rights in India. She is regarded as the mother of Indian feminism.
- She worked to abolish the discrimination and unfair treatment of people based on caste and gender.
- She is regarded as the first female teacher of India.
- Savitribai and Jyotirao Phule started their own school at Bhide Wada, which became India's first girls' school run by Indians.

Post Independence India - Important events

3. **Amid Bangladesh liberation anniversary, role of India, U.S. in 1971 in spotlight**

- » Prelims: 1971 war; India's treaty with Soviet Union
- » Mains: India Bangladesh relations

Context:

- Bangladesh commemorates 50 years of its Liberation movement.

Background:

- On March 26, 1971 Bangladesh Liberation movement began with the declaration of Independence by the MuktiBahini (Freedom Fighters) led by Sheikh Mujibur Rahman.
- Following which Pakistani troops launched Operation Searchlight that targeted Bangladeshi freedom fighters and activists brutally, with millions of casualties.
 - * Approximately 2 to 3 million people were killed, over 200,000 women were raped in organised rape camps, and over 10 million people were displaced, most finding refuge in India.

Details:

India's response:

- A few days after the Mujib declaration, Prime Minister Indira Gandhi moved a resolution in Parliament condemning the Pakistani crackdown as "genocide".
- The government offered support to the Bangladeshi freedom fighters. The government was also involved in training and arming the MuktiBahini cadres
- The then Prime Minister also played a significant role in garnering international support for the Bangladeshi cause.
- While the U.S. was against India's stand, Mrs. Gandhi found some support in Moscow, and the Indo-Soviet treaty of Peace and Cooperation was signed in August 1971. The Soviet treaty dented India's non-aligned policy, but Soviet naval support and military supplies assisted New Delhi in the 1971 war.

American response:

- The U.S. had a pro Pakistan policy. The U.S. under President Richard Nixon moved its "Seventh fleet" into the Bay of Bengal in an attempt to deter the Indian Army from advancing towards Dhaka (Dacca) during the two-week war in December 1971.

Miscellaneous

4. **Singorgarh Fort**

- » Prelims: Regional kingdoms of central India
- It is an old hill-fort of the Gondwana dynasty which is spread over hills in a forested area.

- Singorgarh fort is located in the Damoh district of Madhya Pradesh.
- The fort was the residence of Gond rulers of Central India.
- Prior to that, the fort was under the Chandela rulers of the Bundelkhand region.
- The fort has a special connection to Rani Durgavati, the queen of Gondwana from 1550 to 1564.

DISASTER MANAGEMENT

Disaster Management Initiatives in India

1. National Cyclone Risk Mitigation Project (NCRMP)

- » Prelims: Recent cyclones in India
- » Mains: India's vulnerability to cyclones; Measures taken to reduce India's vulnerability to cyclones

Context:

- The Government of India has initiated the National Cyclone Risk Mitigation Project (NCRMP) with a view to address cyclone risks in the country.

About NCRMP:

- The overall objective of the Project is to undertake suitable structural and non-structural measures to mitigate the effects of cyclones in the coastal states and UTs of India.
- It is being implemented by the National Disaster Management Authority (NDMA) under the aegis of the Ministry of Home Affairs, along with coordination from the respective state governments and the National Institute for Disaster Management (NIDM).
- The Project has identified 13 cyclone prone States and Union Territories (UTs), with varying levels of vulnerability.
- These States/UT have further been classified into two categories, based on the frequency of occurrence of cyclone, size of population and the existing institutional mechanism for disaster management.
 - * Category I: Higher vulnerability States i.e. Andhra Pradesh, Gujarat, Odisha, Tamil Nadu and West Bengal.
 - * Category II: Lower vulnerability States i.e. Maharashtra, Karnataka, Kerala, Goa, Pondicherry, Lakshadweep, Daman and Diu, Andaman and Nicobar Islands.

The aim of the NCRMP is to reduce vulnerability of coastal communities to cyclones and other hydro-meteorological hazards through:

- Improved early warning dissemination systems
- Enhanced capacity of local communities to respond to disasters
- Improved access to emergency shelter, evacuation, and protection against wind storms, flooding and storm surge in high areas

- Strengthening DRM capacity at central, state and local levels in order to enable mainstreaming of risk mitigation measures into the overall development agenda

The World Bank is assisting with the funding for this Project.

EDUCATION

Issues relating to Education

1. Clustering educational institutes and research centres

- » Mains: National Education Policy- provisions, significance and concerns; significance of cluster based universities

Context:

- The National Education Policy 2020 (NEP) and the provisions regarding the promotion of Research and Development in India.

Off-campus doctoral programmes:

- Though the on campus doctoral students continue to be the mainstay of research in universities, an increasing number of universities also conduct off-campus doctoral programmes in research laboratories.
 - * Example: The Indian Institute of Science's External Registration programme enables employees working in laboratories or industries to register for a doctoral programme under the supervision of its faculty and carry out a major part of research at their workplace.
- The external registration programme is being adopted by more and more higher education Institutes.

NEP proposal:

- The NEP envisions establishing large multidisciplinary universities to promote research and provides the option of setting up clusters of higher education institutes.
 - * Cluster-based universities would increase faculty strength, both in terms of numbers and diversity of disciplines.

Background

- Currently, educational institutions follow the structure of single-stream education. Generally, what happens is that a student who has taken a major is allowed to study relevant subjects.
- He/she can't opt for subjects from other majors. This may restrict students to widen their thinking & learning capability.

Cluster University

- This new concept is dedicated to students who want to discover & learn new things regardless of the field/branch/discipline they're in.

Cluster-based universities:

- The article proposes making workplaces pursuing knowledge-based work a part of a cluster-based university.

Examples in India:

- Homi Bhabha National Institute (HBNI), Mumbai, established in 2005, by the Department of Atomic Energy, is a cluster-based university.
- Academy of Scientific and Innovative Research established in 2011.

International examples:

- Jet Propulsion Laboratory (JPL), California, U.S., is a research and development centre managed by California Institute of Technology (Caltech).
- SOKENDAI (the Graduate University for Advanced Studies) of Japan brings together several research institutions and museums.
- The Paris-Saclay University shares laboratories with several research organisations, including CEA (Atomic Energy and Alternate Energies Commission), INSERM (French Institute of Health and Medical Research) and others.

Significance of cluster based universities:

- The topics of research taken up in cluster based universities are always of relevance to the workplace and are based on the more relevant real life problems.
- Cluster based universities offer the benefit from synergies between the educational institutes and industrial entities. It enables conducting academic research on focussed areas.
- Cluster based universities enable pursuit of academic research and post-academic research in the same university, and results in faster deployment of results of research.
- The cluster-based universities have been ranked among the top universities in the world.

Conclusion:

- Clustering is a promising model to achieve a critical mass in a university to invigorate research.

- India needs to earnestly pursue the model of cluster based universities. Institutions for clustering in a university must be selected based on relevant aspects like, institutes pursuing similar objectives, institutes managed by a Department or a Ministry etc.
- Industry associations must be encouraged to establish research centres based on the cluster system.

Miscellaneous

2. QS World University Rankings

- » Mains: Low ranking of Indian university in global ranking- reasons and corresponding recommendations

Context:

- Union Education Minister addresses at the Unveiling of QS World University Rankings by Subject 2021.

Details:

- Twelve Indian institutions have secured a spot in the top-100 positions in the QS World University Rankings by Subject 2021.
- The 12 institutions are IIT Bombay, IIT Delhi, IIT Madras, IIT Kharagpur, IISc Bangalore, IIT Guwahati, IIM Bangalore, IIM Ahmedabad, JNU, Anna University, University of Delhi, and O.P Jindal University.
- Three Indian Institutes of Technology have entered the group of the top-100 engineering institutes with IIT Bombay grabbing the top position in the Engineering and Technology category.
- IIT Bombay has secured the 49th position, IIT Delhi is at 54th spot, and IIT Madras is at 94th in the same category. MIT, USA has continued to remain in the top position.

About QS World University Rankings:

- The QS World University Rankings by Subject 2021 cover a total of 51 disciplines, grouped into five broad subject areas.
- These rankings are compiled annually to help prospective students identify the leading universities in a particular subject.
- Research citations, along with the results of major global surveys of employers and academics are used to rank universities.

GEOGRAPHY

Geography - Oceanography

1. Slowing currents

- » Prelims: Oceanic currents and their regional impact
- » Mains: Impact of climate change on the global circulation system- Atmospheric and oceanic
- The Gulf Stream, together with its northern extension the North Atlantic Drift, is a warm and swift Atlantic ocean current that originates in the Gulf of Mexico and stretches to the tip of Florida, and follows the eastern coastlines of the United States and Newfoundland before crossing the Atlantic Ocean as the North Atlantic Current.



- The Gulf Stream system conveys warm surface water from equator to the north and the deeper cold, low-salinity water down south. It works like a giant conveyor belt.
- A recent study has revealed the slowing of the Gulf Stream system. It notes that never before in a 1,000 year period as the Gulf Stream system been as slow as it is in the last decade.
- Increased rainfall and melting of the Greenland Ice sheet may have likely contributed to the observed slowing down of the Gulf Stream.

Geography - Study of space

2. Celestial parking lot

- » Prelims: Centaurs; Trojan asteroids.
- A comet-like object that travelled long distances towards the Sun has found a temporary parking space among 'Trojan asteroids'. Such objects, called Centaurs, are icy bodies found between Neptune and Jupiter and warm up and become

active as they near the Sun, looking more like a comet.

- Clusters of Trojan asteroids appear behind and ahead of Jupiter in its orbit. As astronomers continued discovering asteroids hiding in Jupiter's Lagrange points, they continued naming them after heroes of the Trojan War and began referring to them as "Trojan asteroids."

Geography- Climatology

3. Indian monsoon 25 million years ago resembled present day Australia's

- » Prelims: Plate tectonics theory
- » Mains: Features of monsoonal type of climate
- About 180 million years ago, India separated from the supercontinent Gondwana and took a northward journey of about 9,000 km to join Eurasia. The subcontinent moved from the southern hemisphere, crossed the Equator to reach its current position. Due to these changing latitudes, it experienced different climatic conditions.
- India was adapted to an Australian type of monsoon and not the current Indian monsoon system during its voyage. The monsoonal climate in India dates back to only about 25 million years.
- The Australian monsoon alternates between two seasonal phases linked to wind direction. In the winter phase, easterly trade winds bring dry conditions. In the summer, westerly winds bring sustained rainy conditions.

Geography- Mapping

4. Ghoramara Island

- » Prelims: Ghoramara; Sagar island
- » Mains: Threats posed by rising sea level; environmental refugees
- Ghoramara lies near Sagar Island in the Sundarban Delta complex of the Bay of Bengal.
- It's on the verge of vanishing due to rising sea levels and soil erosion induced by adverse climate change.
- With rising sea levels, high tides and floods have been swallowing portions of the island.

Concerns

- Residents of Ghoramara are being forced to migrate as the small island is slowly being submerged by the sea.
- This has rendered thousands of people homeless as 'environmental refugees'.

Miscellaneous**5. Climate Data Services Portal**

- » Prelims: IMD
- » Mains: Use of technology in weather forecasting and its significance

Context:

- World Meteorological Day celebrations.

Details:

- The India Meteorological Department (IMD) celebrated the World Meteorological Day on 23rd
- The Climate Data Services Portal of the IMD was also inaugurated on the occasion.

About the Climate Data Services Portal:

- The Climate Data Services Portal has been developed by IMD, Pune with user-friendly platforms for climate data management and supply to the users.
- It complements fully automated climate data management process from real-time data acquisition to expeditious data dissemination.
- The major components of the portal are:
 - * Real-Time monitoring of weather observations recorded by IMD Observatories.
 - * Encapsulated IMD Metadata Portal, other reports and dashboards
 - * Online access to meteorological data through Data Supply Portal.
 - * Free download facility for Gridded Temperature and Rainfall Data of India.
 - * Climatological Tables, Extremes and Normal.
 - * Information on Monsoon Rainfall and Cyclone frequencies.
 - * Data analytics and info graphics.

About World Meteorological Day:

- The World Meteorological Day (23 March) is celebrated to commemorate the establishment of the World Meteorological Organization (WMO).

- The day highlights the importance of the behaviour of Earth's atmosphere.
- The theme for 2021 is "The ocean, our climate, and weather".

Miscellaneous**6. Suez Canal blockage**

- » Prelims: Map based information; Suez crisis
- » Mains: Repercussions of Suez canal blockage; recommendations

Context:

- The grounding of a container ship in the Suez Canal has blocked off traffic along the critical shipping lane.
 - * The 193-km-long Suez Canal across Egypt's Isthmus of Suez connects the Mediterranean Sea in the north and the Red Sea in south.
 - * The canal offers a more direct route between the North Atlantic and northern Indian Ocean via the Mediterranean and Red seas, thus avoiding the South Atlantic and southern Indian ocean and reducing the journey distance between Asia and Europe.



- The man-made channel has been a critical artery for global trade since 1869

Background:**Construction of Suez Canal:**

- In the mid-19th century, French diplomat and engineer Ferdinand de Lesseps won permission from Egypt's Ottoman-appointed ruler to start building the canal.
- In 1858, Universal Suez Ship Canal Company was formed to execute the project and construction work began a year later. Britain, which controlled

the route around the African continent, continued to oppose the project as a new waterway would hurt its interests. But in 1869, the canal was officially opened for traffic.

- The Egyptian government, straddled with financial problems, sold its stake in the canal to London in 1875. Since then, France and Britain operated the canal, until Egypt's socialist President Gamal Abdel Nasser nationalised the Suez canal in 1956.

Suez crisis:

- Three months after Nasser nationalised the canal, Israeli troops attacked the Egyptian Sinai. French and British troops joined in later. The plan was to retake control of the canal and remove Nasser. By March 1957, the invading troops were fully withdrawn and Egypt's authority over the canal was recognised. The Suez crisis marked Great Britain's dwindling influence in West Asia, a region it controlled since the fall of the Ottoman Empire, and the arrival of the U.S. as the new great power in the region.
- The canal was closed again during the 1967 war. It would be reopened only in 1975 after Egyptian-Israeli relations started warming following the 1973 Yom Kippur War.

Details:

- About 19,000 ships passed through the Suez Canal in 2020 carrying 1.2 billion tonnes of cargo. As much as 13% of all maritime trade, from oil to automobiles, pass through the canal every year.
- A Marine Traffic map showed large clusters of vessels circling as they waited in both the Mediterranean Sea to the north and the Red Sea to the south.
- A delay in reopening the channel will have a huge impact on export businesses, commodities, ship and cargo companies and even Egypt's national economy.
 - * The blockage has already hit world oil markets.
 - * Egypt depends heavily on revenues from the canal.
 - * \$200 billion of India's trade flows with Europe, North America and South America are at risk due to the blockage of the Suez Canal.

Measures being taken by India:

- The Department of Commerce has worked out an action plan to cope with the crisis:
 - * Export promotion agencies have been asked to identify cargo with perishable items that need priority movement.
 - * They have been advised to explore the option of re-routing ships via the Cape of Good Hope.

GOVERNANCE

Government schemes

1. Health first, fiscal prudence later

- » Prelims: Pradhan Mantri Ujjwala Yojana;
- » Mains: Concerns associated with implementation; lacunae and corresponding recommendations

Context:

- Subsidised LPG prices have increased by a massive 50% in the given financial year.

Background:

Pradhan Mantri Ujjwala Yojana (PMUY):

- Pradhan Mantri Ujjwala Yojana (PMUY) was launched in 2016 to distribute LPG connections to women of Below Poverty Line (BPL) families. It provided an upfront connection subsidy of ₹1,600 for eligible beneficiaries.
- Since 2016, PMUY has provided LPG connections to 80 million poor households to reduce women's drudgery and indoor air pollution.
- PMUY has helped expand LPG coverage to more than 85% of households, in comparison to less than a third of Indian households in 2011 who used LPG as their main cooking fuel.
- The government is offering 1 crore new connections under Ujjwala 2.0 in Financial Year 22.

Rising prices of LPG:

- India determines domestic LPG prices based on imported LPG price as India imports more than 50% of the total LPG consumption in India.
- As the pandemic set in, the LPG subsidised price began to rise, even when global LPG prices plummeted, due to higher tax rates which were contributing to the government finances.
- Currently, the LPG prices are rising globally and the government move to go in for a 50% reduction in the LPG subsidy budget for FY22 (versus FY21) will only further push LPG prices upwards.

Concerns:

- The rising LPG prices could have a detrimental impact on the substantial gains made under the Pradhan Mantri Ujjwala Yojana.

Further reduce affordability:

- Multiple studies assessing PMUY have concluded that while access has increased, many new beneficiaries are not consuming LPG in a sustained manner.

- * Large-scale primary surveys by the Council on Energy, Environment and Water (CEEW) suggest that, on average, recent PMUY beneficiaries consumed only about half the LPG compared to long-standing regular consumers.

- Limited uptake of LPG among poor households is due to the inability of the poor households to afford LPG, despite the subsidy.

Impact on public health:

- Limited uptake of LPG among poor households is also attributable to the easy availability of biomass in rural areas, making it difficult for LPG to displace it.
- The rising LPG prices may push more users towards biomass usage which does not augur well for the health of the users. Biomass is a major cause of indoor air pollution. Biomass use for cooking contributes up to 30% to the ambient PM2.5 at the national level.

Recommendations:

- The Central government will have to work towards balancing LPG subsidies and ensuring sustained clean fuel consumption in poorer households.

Better targeting of LPG subsidy:

- The government should work towards better targeting of LPG subsidy.
- Currently, the government provides a uniform subsidy per cylinder to all LPG consumers (PMUY or otherwise). The economically poor households need a greater subsidy to make it affordable for them to use LPG as their main cooking fuel.

Eliminating subsidy leakage:

- The de-duplication efforts to weed out households with multiple LPG connections must be accelerated to avoid subsidy leakages.

Conclusion:

- The continued support to the economically poor for sustaining LPG use is not merely a fiscal subsidy but also a social investment to free-up women's productive time and reduce India's public health burden.
- This social investment will yield rich dividends in the years ahead through a healthier and productive population.

Government schemes

2. Panel flags Centre's meagre pensions

- » Prelims: National Social Assistance Programme; Article 41 of the Indian Constitution
- » Mains: Implementational concerns with respect to NSAP

Context:

- The Parliamentary Standing Committee on Rural Development in its report has said that the Centre must increase the meagre pensions provided for poor senior citizens, widows and disabled people.

Issues:

- The panel also slammed the government's laxity in raising the amount.
- It pointed out that recommendations to increase the sums had been made in the last two years as well.
- The committee said that it was baffled to observe the meagre amount of assistance ranging from ₹200 to ₹500 per month under the different components of the National Social Assistance Programme.
- The panel also slammed the Department of Rural Development (DoRD) for delays and disparities in the payment of wages and unemployment allowances under the flagship MGNREGA scheme.
- Another issue it flagged with MGNREGA was the disparity in wages in different States.

Details:

- The panel had previously urged the increase of these minuscule pensions in its reports on the Department of Rural Development's (DoRD) demand for grants in 2019-20 and 2020-21.

National Social Assistance Programme (NSAP):

- National Social Assistance Programme is applicable to elders, widows and physically challenged.
- It is a scheme under the Ministry of Rural Development.

Note:

- Article 41 of the Constitution of India (DPSP) directs the State to provide public assistance to its citizens in case of unemployment, old age, sickness and disablement and in other cases of undeserved want within the limit of its economic capacity and development.

Government schemes

3. Aadhaar as a hurdle

- » Mains: Issues associated with the use of Aadhaar

Context:

- There was a petition that was filed in the Supreme Court which alleged that three crore ration cards were cancelled for not being linked with the Aadhaar database and that these were connected to reported starvation deaths in some States.
- The Supreme Court has termed the cancellation due to non-linking with Aadhaar card as too serious, and sought response from the Central government and all states on the issue.

Aadhaar verdict of the Supreme Court

- The SC had upheld the constitutional validity of Aadhaar.
- It said that the Aadhaar card is a must for availing facilities of welfare schemes and government subsidies as it empowers the poor and marginalised.
 - * It is a reasonable restriction on individual privacy to fulfil welfare requirements and dignity.
- The judgement does not mean identity verification failures are addressed.

Issues with Aadhaar

- Inefficiencies in biometric authentication and updating.
 - * Errors in the process of linking: There are instances where there is an error in linking Aadhaar and often no one knows what the error is.
- The technological system based on iris identification, thumbprints, non-possession of Aadhaar, non-functioning of the internet in rural and remote areas, etc, has led to large-scale cancellation of ration cards.
- Aadhaar is designed to store finger and iris scans of most users. It has raised doubts about the success rates of authentication and the generation of "false negatives", more so for labourers and tribal people.

Pension: ₹200-₹500 a month for senior citizens in BPL households

Widow Pension Scheme: ₹300-₹500 a month for widows aged over 40 in BPL households

Disability pension: ₹300 per month for persons aged 18-79 with severe or multiple disabilities in BPL households

Family benefit: ₹20,000 upon the death of a breadwinner aged 18-59 in BPL households

Annapurna Scheme: 10 kg of food grains per month for senior citizens who are not receiving any pension

- * Those engaged in manual and hard labour, for example, are susceptible to fingerprint changes over time.

Administrative failures:

- Lack of accountability: There are instances when people submit their details, but concerned functionaries do not do the needful.
- In some cases, there were people who lost their Aadhaar number/card and could not get it reissued.

Denied benefits due to Aadhaar authentication failure

- With benefits under the PDS, the NREGA and LPG subsidy, among other essentials, requiring individuals to have the Aadhaar number, inefficiencies and failures have led to inconvenience and suffering for the poor.
- Failures in authentication have led to delays in the disbursement of benefits and, in many cases denial due to cancellation of legitimate beneficiary names.
- The government had promised that exemption mechanisms would be set up to overcome the authentication failures help beneficiaries still avail subsidies and benefits. But such a system has not been put in place in many states.
- This has deprived millions of Indians living below the poverty line of food and led to starvation deaths

Way forward

- Far from being inclusive and reducing corruption, Aadhaar is becoming a tool of exclusion. Therefore, the right to food, which the ration card symbolised, cannot be curbed or cancelled because of the lack of Aadhaar.
- Given the scale of the problem, the central and state governments should allow alternative identification so that genuine beneficiaries are not denied due subsidies.

Government schemes

4. 'Only half of govt. schools, anganwadis have tap water'

- » Mains: Importance of water and sanitation; lacunae in governmental efforts

Context:

- Parliamentary Standing Committee on Water Resources submits report to the Lok Sabha.

Background:

- A 100-day campaign to provide potable piped water supply for drinking and cooking purposes and tap water for washing hands and in toilets

in every school, Anganwadi and ashramshala or residential tribal school was launched on October 2, 2020.

- The 100-day period should have ended on January 10, 2021.

Progress made:

- Seven States, Andhra Pradesh, Goa, Haryana, Himachal Pradesh, Tamil Nadu, Telangana and Punjab have achieved the target 100% coverage.
- A number of other states have also made significant progress with the construction of greywater management structures and rainwater harvesting structures being in schools and Anganwadi centres.

Concerns:

Low coverage:

- According to the report, only half of the government schools and anganwadis have a tap water supply. Less than 8% of schools in Uttar Pradesh and 11% in West Bengal have it, while it is available in only 2-6% of anganwadis in Assam, Jharkhand, Uttar Pradesh, Chhattisgarh and Bengal.

Health concerns:

- Such a scenario does not augur well given that schools and anganwadis are just starting to reopen after a year-long shutdown and COVID-19 safety protocols require repeated handwashing by students and teachers.
- Children are more susceptible to water-borne diseases.

Miscellaneous

5. Doctrine of Legitimate Expectations

- » Prelims: Doctrine of legitimate expectations
- » Mains: Accountability of public administrators
- Legitimate Expectation means that a person may have a reasonable expectation of being treated in a certain way by administrative authorities owing to some consistent practice in the past or an express promise made by the concerned authority.
- Thus, the doctrine of Legitimate Expectation pertains to the relationship between an individual and a public authority.
- What is legitimate expectation? It is an expectation of a benefit, relief or remedy that may ordinarily flow from a promise or established practice.
- The term 'established practice' refers to a regular, consistent predictable and certain conduct, process or activity of the decision-making authority.

- * The expectation should be legitimate, that is, reasonable, logical and valid.
- * Any expectation which is based on sporadic or casual or random acts, or which is unreasonable, illogical or invalid cannot be a legitimate expectation. Not being a right, it is not enforceable as such.
- It is a concept fashioned by courts, for judicial review of administrative action.
- It is procedural in character based on the requirement of a higher degree of fairness in administrative action, as a consequence of the promise made, or practice established.

Legitimate expectation may arise:

- if there is an express promise given by a public authority; or
- because of the existence of a regular practice which the claimant can reasonably expect to continue;
- such an expectation must be reasonable

Application

- Therefore, it can be said that this doctrine is a form of a check on the administrative authority.
- When a representation has been made, the doctrine of legitimate expectation imposes, in essence, a duty on public authority to act fairly by taking into consideration all relevant factors relating to such legitimate expectation

Governmental schemes

6. GRAM UJALA Programme

- » Prelims: Gram Ujala programme; Shine programme
- » Mains: Innovative methods to fund climate action

Context:

- Union Minister launched the GRAM UJALA programme.

About GRAM UJALA Scheme:

- The scheme aims to offer LED (Light-Emitting Diode) bulbs in rural areas at Rs 10 per piece, without any government support or subsidy.
- Around 1.5 crore LED bulbs will be sold in rural areas at a price of Rs 10 as part of the first phase of the Gram Ujala programme launched by Convergence Energy Services Ltd (CESL), a wholly-owned subsidiary of Energy Efficiency Services Ltd.
- The first phase will cover some villages in Bihar, UP, Andhra Pradesh, Maharashtra and western Gujarat.

- The bulbs will carry a warranty of three years and will be given to rural consumers against the submission of working incandescent bulbs.
- * Consumers can exchange a maximum of five bulbs.

Carbon credit scheme:

- Participating rural households will have metres installed in their houses to account for usage. Further, carbon credit documentation will be sent to UN-accredited validators for inclusion into the Shine Program.
- Carbon credits will be prepared under the Shine Program with an option for verifying under the Voluntary Carbon Standard, depending on the needs of carbon credit buyers.
- Buyers of carbon credits will also be sought through an open process based on initial discussions with the market.
- The balance cost and margin on the LED cost will be recouped through the carbon credits earned.

Significance:

- Gram Ujala will not only give a fillip to our fight against climate change by increasing energy efficiency, but also usher in a better standard of life, financial savings, and better safety for the citizens in rural areas.

MISCELLANEOUS

1. Bao-dhaan

- » Prelims: Bao-dhaan rice variety
- » Mains: Export potential of India
- Bao-dhaan is the name of the 'red rice' variety that is grown in the Brahmaputra valley of Assam, without the use of any chemical fertilizer.
- It is iron-rich and is an integral part of Assamese cuisine.
- Bao-dhaan is generally grown in areas having higher land submergence that are unsuitable for other varieties of paddy. Interesting characteristic of bao-dhaan is that unlike other rice varieties, its seeds do not fall off easily.
- Red colour is conferred by anthocyanin pigments.
- They are rich in micronutrients like iron and zinc, Vitamin A and antioxidants.

Context

- First export consignments of 'red rice' from Assam to the USA flagged off.

Significance

- This development is a big boost to India's rice exports potential.
- It would bring enhanced incomes for the farming families of the Brahmaputra Valley.

2. Gandhi Peace Prize

- » Prelims: Gandhi Peace prize recipients

Context

- Gandhi Peace Prize for 2019 and 2020 announced.

Background:

Gandhi Peace Prize:

- The Gandhi Peace Prize is an annual award instituted by the Government of India since 1995, the 125th Birth Anniversary commemoration year of Mahatma Gandhi.
- This annual award will be given to individuals, associations, institutions or organizations who have worked selflessly for peace, non-violence and amelioration of human sufferings particularly for the less-privileged sections of society contributing towards social justice and harmony.
- The award is open to all persons regardless of nationality, race, language, caste, creed or sex.

- The Award is given for Social, Economic and Political transformation through Non-violence.
- Some of the previous recipients of the award include Nelson Mandela, Gerhard Fischer (German diplomat), Baba Amte, Ramakrishna Mission, ISRO, Akshaya Patra Foundation, Sulabh International, etc.
- The jury for Gandhi Peace Prize is chaired by Prime Minister Narendra Modi and comprises two ex-officio members, namely the chief justice of India and leader of the single largest opposition party in the Lok Sabha.

Details:

- The Culture Ministry has announced that the father of the nation of Bangladesh Sheikh Mujibur Rahman and the former Sultan of Oman, the late Qaboos bin Said Al Said, will be awarded the Gandhi Peace Prize for 2020 and 2019, respectively.
- * Bangladesh is celebrating Mujib Borsho (Mujib Year) in 2020-21.

3. Women-led startup develops product for low-cost internet in rural areas

- » Mains: Issues related with internet access to rural India; significance and measures needed

Context

- A women-led startup 'Astrome' has developed deep-tech for reliable low-cost internet services to rural areas.

Background:

- Making available internet access to remote places in countries like India is difficult because laying fibre is too expensive.
- There is a need for wireless backhaul products that can deliver low cost, high data capacity, and wide reach.
- The currently available wireless backhaul products either do not provide sufficient data speeds or the required range or are very expensive to deploy.

Details:

- Astrome has developed an innovative wireless product that gives fibre like bandwidth at a fraction of the cost of fibre to help telecom operators deliver reliable low-cost internet services to suburban and rural areas.

- The wireless product called Giga Mesh could enable telecom operators deploy quality, high-speed rural telecom infrastructure at 5 times lower cost.
- The deep tech startup was incubated at the Indian Institute of Science (IISc), Bangalore, and supported by DST-ABI Woman Startup Program of the Department of Science and Technology (DST), Government of India.
- The product has been granted a patent in India and the US.

About the product:

- The multi-beam E-band product, Giga Mesh, packs 6 Point-to-Point E-band radios in one, thereby distributing the cost of the device over multiple links and hence reducing capital expenditure.
- The radio provides long-range and multi-Gbps data throughput at each link.
- Features like automatic link alignment, dynamic power allocation between links, and remote link formation help operators achieve significant operating expenditure cost reduction.

4. U.S. thinktank report classifies India as 'partly free'

- » Prelims: Freedom in the World report

What's in News?

- According to a report from a U.S. think tank, Freedom House, freedoms in India have reduced, resulting in India being classified as 'partly free'.

Details:

- The report is called "Freedom in the World 2021: Democracy under Siege"
- India's score was 67 in 2021, the latest report.
- This is a drop from 71/100 from 2020 (reflecting 2019 data) downgrading it from the free category.

Note:

- In the U.S., the Freedom House said that the risky state of American democracy was on display during the attack on the Capitol.
- The U.S. dropped three points over one year, down to 83/100.
- China, classified as 'not free', dropped a point from 2020 going down to 9/100.

5. 'Ola unit can make 10 mn 2-wheeler EVs'

- » Prelims: World's largest e-two wheeler plant
- Mobility firm Ola said its electric two-wheeler facility, coming up in Krishnagiri in Tamil Nadu, will have a capacity to produce 10 million scooters a year, accounting for some 15% of the world's total production of e-two-wheelers.
- This would be the largest e-two-wheeler plant in the world.

6. Work on floating solar power plant in final stages

- » Prelims: India's largest floating solar plant
- The country's biggest floating solar power plant till date, by generation capacity, is being developed by the NTPC in the reservoir of its thermal plant at Ramagundam in Peddapalli district, Telangana.
- This plant has a generation capacity of about 100 megawatts.

PRACTICE QUESTIONS

1. Consider the following statements with respect to Chilika Lake:

1. The endangered Gangetic Dolphins are found in the lake.
2. It is the largest coastal lagoon in India.
3. The lake is located at the mouth of the Daya River.

Which of the given statement/s is/are correct?

- A. 2 and 3 only
- B. 1 and 2 only
- C. 1, 2 and 3
- D. 2 only

2. Consider the following statements with respect to the Technical Education Quality Improvement Programme (TEQIP):

1. It is a project of the Government of India assisted by the World Bank.
2. Under the project, graduates from elite institutions are hired to teach in rural and remote engineering colleges in poorer States.
3. It is a ₹3,600-crore project divided into three phases.

Which of the given statement/s is/are correct?

- A. 2 and 3 only
- B. 1 and 2 only
- C. 1, 2 and 3
- D. 2 only

3. Consider the following statements:

1. The Union government owns all the publicly available assets within the geographical boundaries of India, including airwaves.
2. Foreign companies are not eligible to bid for the airwaves in India.
3. A firm can bid for spectrum only as per the eligibility point allocated based on its deposit.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 3 only
- D. 1 and 3 only

4. Consider the following statements:

1. Aos are one of the major Naga tribes.
2. "Shi-ki" is the tribal harvest festival unique to Aos.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

5. Consider the following statements with respect to the Aravalli Hills:

1. It is a fold mountain.
2. The mountain range spans across Gujarat, Haryana, Delhi and Rajasthan.
3. Dhosi Hill, an extinct volcano, is a part of the Aravalli range.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 only
- D. 1, 2 and 3

6. Consider the following statements with respect to Rashtriya Uchchatar Shiksha Abhiyan (RUSA):

1. It is a central sector scheme.
2. It aims to provide strategic funding to eligible state higher educational institutions.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

7. Consider the following statements with respect to Janaushadhi centres:

1. These centres are run by the Indian Medical Association (IMA).
2. At these centres, generic medicines are sold at 50% to 90% lesser prices as compared to the market prices of branded medicines.
3. The centres are run as a part of Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP).

Which of the given statement/s is/are incorrect?

- A. 1 only

- B. 1 and 2 only
- C. 2 and 3 only
- D. None of the above

8. Consider the following statements with respect to the strait of Hormuz:

- 1. It separates Iran from the Arabian Peninsula.
- 2. It links the Persian Gulf with the Gulf of Oman.
- 3. It provides the only sea passage from the Persian Gulf to the Arabian Sea.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. 1, 2 and 3
- D. 2 and 3 only

9. Consider the following statements with respect to Himalayan serow:

- 1. It is a high altitude dweller usually found 2,000-4,000 metres above sea level.
- 2. It is a goat-antelope.
- 3. It is classified as 'Critically Endangered' in the IUCN Red List.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. 1, 2 and 3
- D. 1 and 2 only

10. Which of these ports of Sri Lanka is the largest natural harbour in the country?

- A. The Port of Colombo
- B. The Port of Galle
- C. The Port of Trincomalee
- D. The Port of Hambantota

11. Which of the following pairs is/are correctly matched?

- 1. Negev Light Machine Gun – U.S.A
- 2. SIG-716 assault rifles – Israel
- 3. AK-203 assault rifles – Russia

Choose the correct option:

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 3 only

12. Consider the following statements with respect to Manas National Park:

- 1. It is a UNESCO Natural World Heritage site.
- 2. It is located in Assam.
- 3. It is a tiger reserve as well as an elephant reserve.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3
- B. 1 and 2 only
- C. 2 and 3 only
- D. 2 only

13. Consider the following statements with respect to Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

- 1. The CITES is administered by the United Nations under its United Nations Environment Programme.
- 2. CITES is legally binding on member nations.
- 3. India is a member of CITES.

Which of the given statement/s is/are INCORRECT?

- A. 2 only
- B. 3 only
- C. 1 and 2 only
- D. None of the above

14. Consider the following statements with respect to Lake Natron:

- 1. It is a freshwater lake in Tanzania.
- 2. It is included in the Ramsar List of Wetlands of International Importance.
- 3. The lake's warm water is an ideal breeding ground for the Rift Valley flamingos.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

15. Consider the following statements:

- 1. Volcanoes are generally found where tectonic plates diverge or converge.
- 2. India's only active volcano is in Barren Island, in the Andaman and Nicobar Islands.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

16. Consider the following statements with respect to National Population Register:

1. It is a Register of usual residents of the country.
2. A usual resident is a person who has resided in a local area for the past 6 months or more or a person who intends to reside in that area for the next 6 months or more.
3. It is a part of the government's citizenship enumeration drive.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. None of the above

17. Who was the viceroy of India when Mahatma Gandhi's famous Salt march took place?

- A. Lord Reading
- B. Lord Irwin
- C. Lord Willingdon
- D. Lord Wavell

18. Consider the following statements with respect to International North South Transport Corridor (INSTC):

1. Russia, India, and Iran are the founding member states of INSTC.
2. There are 13 member states of the INSTC project.
3. INSTC goes via Iran's Bandar Abbas port.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. None of the above

19. Consider the following statements with respect to Chabahar Port:

1. It is the only oceanic port in Iran.
2. It is located in the southeastern part of Iran on the Gulf of Oman.
3. The International North South Transport Corridor (INSTC) passes through the port.

Which of the above statements is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 2 only
- D. 1, 2 and 3

20. Consider the following statements with respect to "Bao-dhaan":

1. It is the 'red rice' variety that is grown in the Brahmaputra valley without the use of any chemical fertilizer.
2. It is iron-rich rice and an integral part of Assamese cuisine.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

21. Consider the following statements with respect to Simlipal National Park:

1. It is located in Maharashtra.
2. It is a part of the UNESCO World Network of Biosphere Reserves.
3. Simlipal derives its name from a silk cotton tree.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 2 only
- D. 1, 2 and 3

22. Consider the following statements with respect to Red Sanders:

1. The tree is endemic to South India.
2. It is used in Ayurveda and Siddha medicine.
3. It is classified as endangered in IUCN Red List.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 2 only
- D. 1, 2 and 3

23. Consider the following statements with respect to Solid Fuel Ducted Ramjet technology:

1. The missiles which use such a system are also able to carry larger payloads.
2. It includes a thrust modulated ducted rocket with a reduced smoke nozzle-less missile booster.
3. This system drastically enhances the range and speed of missiles.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 only

- C. 1, 2 and 3
- D. 3 only

24. Which of the following countries is/are not a part of OPEC?

- 1. Oman
- 2. Bahrain
- 3. Kuwait
- 4. Iran
- 5. Kazakhstan

Choose the correct option:

- A. 1, 2 and 5 only
- B. 2 and 3 only
- C. 2 and 5 only
- D. 1 and 4 only

25. Which of the following statement/s is/are correct with respect to Centaurs?

- 1. They are icy planetesimals located between Jupiter and Neptune.
- 2. They cross the orbits of one or more of the giant planets in their journey around the Sun, and interactions with the planets cause the orbits of Centaurs to be inherently unstable.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

26. Which of the following statement/s is/are incorrect with respect to Gulf Stream Ocean current system?

- 1. It is a warm Atlantic Ocean current.
- 2. It conveys warm surface water from equator to the north and the deeper cold, low-salinity water down south.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

27. Which of the following statement/s is/are correct with respect to Alzheimer's disease?

- 1. It is a disorder of the brain, which affects memory and thinking skills.
- 2. Usually, in people, the symptoms start manifesting when they are in their sixties, though the onset is much earlier.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

28. The term arribada is associated with which of the following?

- A. Shifting cultivation practice in North-east India
- B. Mass nesting exhibited by Olive Ridley Turtles
- C. Aboriginal tribe of Australia
- D. Seasonal migration exhibited by the Siberian crane

29. Consider the following statements with respect to Savitribai Phule:

- 1. She set up "Balhatya Pratibandhak Griha".
- 2. She is recognised as the first female teacher in India.
- 3. She founded the Satyashodhak Samaj.

Which of the given statement/s is/are incorrect?

- A. 1 only
- B. 2 and 3 only
- C. 3 only
- D. None of the above

30. Which of the following are the right bank tributaries of the River Brahmaputra?

- 1. Subansiri
- 2. Kameng
- 3. Manas
- 4. Lohit
- 5. Dhansiri

Choose the correct option:

- A. 1, 2 and 3 only
- B. 3, 4 and 5 only
- C. 1, 3 and 5 only
- D. 2, 3 and 5 only

31. Consider the following statements with respect to "Chenda":

- 1. It is classified under the avanaddha vadya category.
- 2. It is a cylindrical instrument widely used in Kerala, Karnataka and Tamil Nadu.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 only

- C. Both 1 and 2
- D. Neither 1 nor 2

32. Which of the following Indian states share a border with Myanmar?

- 1. Tripura
- 2. Manipur
- 3. Assam
- 4. Arunachal Pradesh
- 5. Nagaland
- 6. Mizoram

Choose the correct option:

- A. 2, 4, 5 and 6 only
- B. 1, 2, 3 and 6 only
- C. 1, 2, 3, 5 and 6 only
- D. 3, 4, 5 and 6 only

33. Which of the following countries border the Mediterranean Sea?

- 1. Morocco
- 2. Algeria
- 3. Tunisia
- 4. Libya
- 5. Egypt

Options:

- A. 1, 2, 3, 4 and 5
- B. 2, 3, 4 and 5 only
- C. 2, 4 and 5 only
- D. 1, 4 and 5 only

34. Which of the following statement/s is/are correct with respect to the MQ-9 Reaper or Predator B drones?

- 1. These are armed drones.
- 2. These are manufactured by General Atomics company based in the U.S.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

35. What are the advantages offered by the air-independent propulsion systems as compared to the conventional diesel operated submarines?

- 1. Will help increase the operational range
- 2. Better stealth character

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

36. Which of the following states has proposed to prepare a Gender Budget which would make it the first Indian state to do so?

- A. Andhra Pradesh
- B. Maharashtra
- C. Kerala
- D. Karnataka

37. "Dustlik" is a military exercise between which of the following countries?

- 1. India
- 2. Uzbekistan
- 3. Afghanistan
- 4. Kazakhstan

Choose the correct option:

- A. 1 and 4 only
- B. 1, 3 and 4 only
- C. 1 and 2 only
- D. 1 and 3 only

38. Enabling the Business of Agriculture report is published by:

- A. World Bank
- B. International Monetary Fund
- C. Food and Agriculture Organization
- D. International Institute of Agriculture

39. Consider the following statements with respect to Directive Principles of State Policy (DPSP):

- 1. They are mentioned in Part 4 of the Indian Constitution.
- 2. DPSPs are borrowed from the Constitution of Ireland.
- 3. 'Equal pay for equal work' is a part of DPSPs of the Indian Constitution.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 1, 2 and 3
- D. 2 only

40. Consider the following statements with respect to Unlawful Activities (Prevention) Act:

1. Cases under the UAPA are investigated by the State police and the National Investigation Agency (NIA).
2. Under the Act, both Indian and foreign nationals can be charged.
3. It includes the provision of designating an individual as a terrorist.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 3 only
- C. 2 only
- D. 1, 2 and 3

41. Which of the following statement/s is/are correct with respect to the Pradhan Mantri Swasthya Suraksha Nidhi (PMSSN)?

1. It constitutes a non-lapsable reserve fund for health.
2. It constitutes the proceeds from the Health and Education Cess.
3. It is administered by the Finance ministry.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

42. Which of the following is incorrectly matched?

- A. Dandi March: 1930
- B. Rowlatt Satyagraha: 1920
- C. Launch of Quit India Movement: 1942
- D. Champaran Satyagraha: 1917

43. Which of the following correctly describes the recently inducted INS Karanj?

- A. Scorpene class submarine
- B. Nuclear submarine
- C. Fast Patrol vehicle
- D. Corvette

44. India's largest floating solar power plant till date is being set up in which of the following states?

- A. Karnataka
- B. Rajasthan
- C. Gujarat
- D. Telangana

45. Which of the following statement/s is/are correct with respect to defamation?

1. In India, defamation is both a civil and a criminal offence.
2. The Supreme Court has upheld the constitutional validity of the criminal provisions of defamation in the Subramanian Swamy v. Union of India case.

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

46. The joint lunar polar exploration (LUPEX) mission is a joint collaboration between India and which other country?

- A. Japan
- B. USA
- C. Russia
- D. France

47. What are the advantages of hydrogen as a fuel?

1. Ease of storage
2. High energy density
3. Higher safety
4. Non-polluting
5. Renewable source

Options:

- A. 1, 2, 3, 4 and 5
- B. 1, 2, 3 and 4 only
- C. 2, 4 and 5 only
- D. 2, 3 and 5 only

48. Which of the following pairs of temple and associated school of architecture is incorrectly matched?

- A. Lingaraja Temple: Kalinga style
- B. Kandariya Mahadeva Temple: Khajuraho school
- C. Modhera Sun Temple: Solanki school
- D. Meenakshi Temple, Madurai: Vijayanagara school=

49. Consider the following statements:

1. Bureaucrats are eligible to be appointed as the State Election Commissioners.
2. The State Election Commissioner is appointed by the Governor.
3. The courts cannot interfere in the conduct of polls to local bodies and self-government institutions once the electoral process has been set in motion.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 2 only

50. Consider the following statements with respect to Prompt Corrective Action (PCA) framework:

1. It is a framework under which banks with weak financial metrics are put under watch by the RBI.
2. The PCA framework deems banks as risky if they slip trigger points based on the three parameters of capital ratios, asset quality and profitability.
3. The PCA framework is applicable to commercial banks, co-operative banks as well as non-banking financial companies (NBFCs).

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3 only
- D. 2 only

51. Exercise "Desert Flag" is hosted by:

- A. Saudi Arabia
- B. United Arab Emirates (UAE)
- C. Bahrain
- D. Oman

52. Consider the following statements with respect to Ayya Vaikunda Swamikal:

1. He is the founder of 'Samathwa Samajam'.
2. He founded the Self Respect Movement and invited Periyar to lead the movement.
3. He led an agitation known as the Mel Mundu Samaram.

Which of the given statement/s is/are correct?

- A. 3 only
- B. 1 only
- C. 2 and 3 only
- D. 1 and 3 only

53. Which of the following statement/s is/are correct with respect to Mudumalai National Park?

1. It is part of the Western Ghats Nilgiri Sub-Cluster.
2. It is also a declared tiger reserve

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

54. Which of the following statement/s is/are correct with respect to the United Nations Human Rights Council (UNHRC)?

1. It has 47 members elected for staggered three-year terms on a regional group basis.
2. It is headquartered at Geneva, Switzerland.
3. India is currently a member.

Options:

- A. 1 only
- B. 1 and 2 only
- C. 1, 2 and 3
- D. 1 and 3 only

55. Which of the following statement/s is/are correctly matched?

1. Raman effect: when light is scattered off an object, two bands are observed, with higher and lower frequency than the original light, called the Stokes and anti-Stokes bands, respectively.
2. Joule effect: Any current flowing through a conductor would cause a temperature rise.
3. Meissner effect: It is the expulsion of a magnetic field from a superconductor during its transition to the superconducting state when it is cooled below the critical temperature.

Options:

- A. 1 only
- B. 1 and 2 only
- C. 1, 2 and 3
- D. 1 and 3 only

56. Which of the following is the largest cell in the human body?

- A. Egg cell
- B. Bone cell
- C. Nerve cell
- D. Fat cells

57. SIG-716 assault rifles are acquired by India from which country?

- A. Russia
- B. Israel

- C. France
- D. United States of America

58. Consider the following statements with respect to the National Population Register (NPR):

1. It is a Register of all the citizens of India only.
2. The NPR was earlier collated in 2010 and 2015.
3. It is mandatory for every usual resident of India to register in the NPR.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 2 only

59. "Dustlik", recently seen in the news, is a town in which country?

- A. Kazakhstan
- B. Iran
- C. Uzbekistan
- D. Afghanistan

60. Consider the following statements:

1. India is the largest arms importer.
2. In the last five years, Russia was the largest arms supplier to India followed by the U.S.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

61. Consider the following statements with respect to the Great Indian Bustard:

1. The bird is omnivorous.
2. It is classified as 'critically endangered' on the IUCN Red List.
3. It is the state bird of Gujarat.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 3 only
- D. 1 and 2 only

62. Consider the following statements with respect to Deep Ocean Mission:

1. It is a central sector scheme.
2. Its two key projects include a desalination plant powered by tidal energy and a submersible vehicle that can explore depths of at least 6,000 metres.
3. The focus of the mission would include ocean climate change advisory services and underwater robotics related technologies.

Which of the given statement/s is/are correct?

- A. 2 and 3 only
- B. 1 only
- C. 1, 2 and 3
- D. 3 only

63. Consider the following statements with respect to Bara-lacha La:

1. It is a high mountain pass in Zaskar range.
2. The pass connects Kargil and Srinagar.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

64. Mullaperiyar Dam dispute is between which of the following states?

1. Kerala
2. Andhra Pradesh
3. Karnataka
4. Tamil Nadu

Choose the correct option:

- A. 1, 2 and 3 only
- B. 2 and 3 only
- C. 1, 3 and 4 only
- D. 1 and 4 only

65. Consider the following statements with respect to Development Finance Institutions:

1. Industrial Finance Corporation of India was the first DFI in India.
2. The Budget 2021-22 has provided for an initial amount of ₹20,000 crore for the DFIs.
3. DFIs do not accept deposits.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only

- C. 1, 2 and 3
- D. 1 and 3 only

- C. 1 and 2 only
- D. 2 only

66. Consider the following statements with respect to River Chenab:

1. Chenab river is formed by the confluence of the Chandra and Bhaga rivers at Tandi.
2. The world's highest railway bridge is being constructed on the Chenab.
3. Baglihar Hydroelectric Power Project is a run-of-the-river power project on River Chenab.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3
- B. 2 and 3 only
- C. 1 and 2 only
- D. 3 only

67. The World Energy Transitions Outlook is brought out by:

- A. International Atomic Energy Agency
- B. International Renewable Energy Agency
- C. Intergovernmental Panel on Climate Change
- D. Intergovernmental Renewable Energy Organization

68. Consider the following statements with respect to Coalition for Disaster Resilient Infrastructure (CDRI):

1. CDRI was launched at the UN Climate Action Summit in 2019.
2. Its Secretariat is in New Delhi.
3. The decisions, policies and standards of the coalition are binding on the members.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 2 and 3 only
- C. 1 and 2 only
- D. 1, 2 and 3

69. Consider the following statements with respect to Indian SARS-CoV-2 Genomic Consortia (INSACOG):

1. It is formed under the leadership of the National Centre for Disease Control (NCDC).
2. It is a consortium of 10 national research institutions, set up by the central government.
3. It was set up with a goal of increasing access to COVID-19 immunisation in rural areas and urban slums.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3 only
- B. 2 and 3 only

70. Consider the following statements:

1. Appropriation Bill is a money bill that allows the government to withdraw funds from the Consolidated Fund of India to meet its expenses during the course of a financial year.
2. The government can withdraw money from the Consolidated Fund only after receiving approval from Parliament.
3. The Appropriation bill is introduced in the lower house of the parliament after discussions on Budget proposals and Voting on Demand for Grants.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

71. Consider the following statements with respect to Mission POSHAN 2.0:

1. It is an umbrella scheme covering the Integrated Child Development Services (ICDS), Anganwadi Services, Scheme For Adolescent Girls and National Creche Scheme.
2. Under the Mission, Supplementary Nutrition Programme and Poshan Abhiyan have been merged.
3. It will also include One-Stop Centre, Mahila Police Volunteer, Beti Bachao Beti Padhao, Women's helpline and Pradhan Mantri Matru Vandana Yojana.

Which of the given statement/s is/are INCORRECT?

- A. 3 only
- B. 2 and 3 only
- C. 1 only
- D. None of the above

72. Consider the following statements with respect to Indian Naval Landing Craft Utility L58:

1. It is the last ship of the Landing Craft Utility (LCU) Mark IV Class.
2. The ship was indigenously designed and built.
3. It would be deployed for surveillance operations along the Andaman and Nicobar Group of Islands, Bay of Bengal and in the Indian Ocean.

Which of the given statement/s is/are INCORRECT?

- A. 1 only
- B. 2 and 3 only
- C. 2 only
- D. None of the above

73. Consider the following statements about the Jal Jeevan Mission:

1. It is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India.
2. It aims to create local infrastructure for rainwater harvesting, groundwater recharge and management of household wastewater for reuse in agriculture.

Which of the given statement/s is/are CORRECT?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

74. Consider the following statements:

1. Alternative dispute resolution mechanism is a wide range of dispute resolution processes and techniques that act as a means for disagreeing parties to come to an agreement through negotiations and discussions.
2. Lok Adalat system was set up to ensure that the disputes in the pre-litigation stage could be settled amicably.
3. Arbitration, negotiation, mediation and conciliation are types of Alternative Dispute Resolution Mechanisms.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 1 only

75. Consider the following statements:

1. Supplementary, additional or excess grants are not mentioned in the Constitution of India.
2. Supplementary grants are presented and passed by the Parliament before the end of the financial year.
3. The Demand for Excess Grants must be presented to the Parliament before the end of the financial year in which the expenses were made.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3 only
- B. 2 only
- C. 1 only
- D. 1 and 2 only

76. Consider the following statements with respect to the National Monsoon Mission:

1. It was launched with an aim to develop state-of-the-art monsoon prediction systems for short, medium and long-range monsoon forecasts.

2. It is linked to the Ministry of Environment, Forest and Climate Change

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

77. Consider the following statements:

1. Mining of both major and minor minerals come under the purview of the central governments.
2. River sand is considered a minor mineral.
3. Hydrocarbons, atomic minerals and metallic minerals are specified under the first schedule to the Mines and Minerals (Development and Regulation) Act, 1957.

Which of the given statement/s is/are INCORRECT?

- A. 2 only
- B. 1 only
- C. 2 and 3 only
- D. 3 only

78. Consider the following statements with respect to Comprehensive National Nutrition Survey (CNNS):

1. It is led by the Union Health Ministry, in collaboration with UNICEF.
2. CNNS encompasses overall health indicators in addition to nutrition data.
3. The first CNNS was conducted between 2016-18.

Which of the given statement/s is/are correct?

- A. 3 only
- B. 2 only
- C. 1, 2 and 3
- D. 1 and 3 only

79. Consider the following statements with respect to Ventilation Index:

1. The ventilation index is the product of windspeed and mixing height.
2. It indicates how efficiently pollutants are dispersed in the atmosphere.
3. Risks to air quality and visibility occur when ventilation index values are low.
4. It is used as a tool for pollution management.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only

- C. 1, 2, 3 and 4
- D. 1, 2 and 4 only

80. Which of the following statement/s is/are correct with respect to Galathea National park?

1. It is located in the Union Territory of Andaman and Nicobar Islands, India.
2. It is located on the island of Great Nicobar.
3. It is home to Nicobarese megapode and pigeon.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

81. The Asola-Bhati wildlife sanctuary is located on the border of which of the following?

- A. Delhi and Haryana
- B. Haryana and Punjab
- C. Uttar Pradesh and Bihar
- D. Bihar and West Bengal

82. Which of the following of NASA's mission is aiming to study the interior structure of planet mars?

- A. Insights mission
- B. MAVEN
- C. Phoenix
- D. Perseverance

83. Which of the following statement/s is/are correct with respect to the 'Ease of Doing Business' reforms?

1. It is stipulated by the Department of Expenditure, Finance ministry.
2. States completing the reforms are eligible for additional borrowing of 0.25% of Gross State Domestic Product (GSDP).

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

84. Consider the following statements:

1. United Nations Refugee Convention sets out the rights of individuals who are granted asylum and the responsibilities of nations that grant asylum.
2. The United Nations Refugee Convention of 1951 includes refugees from Europe only.

3. India is not a signatory of both the United Nations Refugee Convention of 1951 and its 1967 Protocol.

Which of the given statement/s is/are INCORRECT?

- A. 2 only
- B. 1 and 2 only
- C. 3 only
- D. None of the above

85. Lachit Borphukan is associated with which of the following?

- A. Battle of Itakhuli
- B. Battle of Saraighat
- C. Battle of Khongjom
- D. Gorkha War

86. Muria tribe belongs to which state?

- A. Mizoram
- B. Assam
- C. Chhattisgarh
- D. West Bengal

87. Consider the following statements with respect to Whitsun Reef:

1. It is a reef in the Spratly Islands of the South China Sea.
2. It is a V-shaped reef.
3. It is a part of the ongoing maritime dispute between China and the Philippines.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3
- B. 2 and 3 only
- C. 1 only
- D. 3 only

88. Consider the following statements with respect to Gandhi Peace Prize:

1. It is an annual award given to individuals only, regardless of nationality, race, language, caste, creed or sex.
2. The jury for Gandhi Peace Prize comprises of the Prime Minister of India, the chief justice of India and leader of the single largest opposition party in the Lok Sabha.
3. The Award is given for Social, Economic and Political transformation through Non-violence.

Which of the given statement/s is/are correct?

- A. 1, 2 and 3 only
- B. 1 and 3 only

- C. 2 and 3 only
- D. 3 only

89. Consider the following statements with respect to Places of Worship (Special Provisions) Act, 1991:

1. The Act freezes the status of places of worship as it was on January 01, 1991.
2. The Act does not apply to Ram Janma Bhumi-Babri Masjid situated in Ayodhya in the State of Uttar Pradesh.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

90. Regional Anti-Terrorist Structure (RATS) is a permanent organ of which of the following groupings?

- A. Association of Southeast Asian Nations (ASEAN)
- B. Shanghai Cooperation Organisation (SCO)
- C. South Asian Association for Regional Cooperation (SAARC)
- D. BRICS

91. Consider the following statements:

1. Display of National Flag is governed by the provisions of Emblems and Names (Prevention of Improper Use) Act, 1950 and Prevention of Insults to National Honour Act, 1971.
2. The Flag Code of India serves as a single reference point about how to properly hoist flag of India with due honour.
3. Flag Code of India is an act of parliament.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 2 and 3 only
- D. None of the above

92. Consider the following statements:

1. The anniversary of the day on which freedom fighters Bhagat Singh, Shivaram Rajguru and Sukhdev Thapar were hanged is observed as Sarvodaya Day.
2. All three of them were members of the Hindustan Socialist Republican Association.
3. Sukhdev Thapar was involved in the killing of John Saunders, an Assistant Superintendent of Police of Lahore.

Which of the given statement/s is/are INCORRECT?

- A. 1 and 3 only
- B. 1 and 2 only
- C. 2 only
- D. 3 only

93. SAANS and the SUMAN initiative have been launched under which of the following?

- A. National Health Mission (NHM)
- B. National Nutrition Mission (NNM)
- C. Ayushman Bharat Abhiyan
- D. Pradhan Mantri Fasal Bima Yojana (PMFBY)

94. Consider the following statements with respect to Project Mausam:

1. The project aims to explore the multi-faceted Indian Ocean world.
2. It aims to rebuild maritime and economic connections with the 39 countries bordering the Indian Ocean.
3. The project is an initiative of the Ministry of Earth Sciences.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 2 only
- D. 1, 2 and 3

95. Which of the following treatises on music are correctly matched with their authors?

Treatise	Author
Brihaddesi	: Matanga
Sangeeta Ratnakara	: Purandhara Dasa
Sangeet Sudhakara	: Haripala
Swaramelakalanidhi	: Bharata

- A. 1 and 3 only
- B. 2 and 4 only
- C. 1, 2 and 3 only
- D. 1, 2, 3 and 4

96. Consider the following statements:

1. It is a sub-mountain range between Pir Panjal and the Great Himalayan Range. It is situated in the central part of the Kashmir Valley.
2. At the foothills of the range is Asia's Largest Tulip garden.

The mountain range that is being described is:

- A. Zabarwan Range
- B. Zaskar Range

- C. Kyunlun Range
- D. Nun Kun Range

97. Consider the following statements with respect to the Human Rights Council:

1. It comprises 47 Member States elected by the UN General Assembly through direct and secret ballot.
2. Latin American and Caribbean States have the largest share of seats in the council.
3. The members serve for a period of three years and are not eligible for immediate re-election after a term.

Which of the given statement/s is/are correct?

- A. 2 and 3 only
- B. 1, 2 and 3 only
- C. 1 only
- D. 1 and 3 only

98. Consider the following statements with respect to Champion Services Sector (CSS) Scheme:

1. It is a central sector scheme of the Department of Commerce.
2. It is an umbrella scheme for the period 2019-20 to 2023-24.
3. Under the scheme, 12 services sectors have been identified for promoting their development and realising their potential.

Which of the given statement/s is/are correct?

- A. 1 and 3 only
- B. 1, 2 and 3
- C. 2 and 3 only
- D. 2 only

99. Consider the following statements about the Global Initiative on Sharing All Influenza Data (GISAID):

1. It is a global science initiative and primary source established in 2008 that provides open-access to genomic data of influenza viruses.
2. It also provides genomic data on the coronavirus responsible for the COVID-19 pandemic.
3. It is a public platform started by the WHO for countries to share genome sequences.

Which of the given statement/s is/are INCORRECT?

- A. 2 only
- B. 2 and 3 only
- C. 1 only
- D. None of the above

100. Consider the following statements with respect to Development Finance Institution (DFI):

1. They source funds from the market, government, as well as multi-lateral institutions.
2. DFIs do not accept deposits from people.
3. DFIs are set up for providing long-term finance for the segments of the economy where the risks involved are beyond the acceptable limits of commercial banks and ordinary financial institutions.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 3 only

101. Consider the following statements with respect to National Creche Scheme:

1. It is a Centrally Sponsored Scheme to provide daycare facilities to children of working mothers.
2. The facility is made available to children of the age group of 6 months to 6 years.
3. The scheme also provides supplementary nutrition, health care inputs like immunization, polio drops, basic health monitoring.

Which of the given statement/s is/are INCORRECT?

- A. 1 and 2 only
- B. 2 only
- C. 3 only
- D. None of the above

102. Consider the following statements with respect to adjournment sine die:

1. The power of adjournment, as well as adjournment sine die, lies with the presiding officer of the House.
2. To adjourn an assembly sine die is to adjourn it for an indefinite period.
3. It indicates the final adjournment of an annual session or meeting of a legislative house.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 1, 2 and 3
- C. 2 and 3 only
- D. 1 and 3 only

103. Arrange the following from North to South:

1. Spratly Islands
2. Paracel Islands
3. Scarborough Shoal
4. Riau Islands

Options:

- A. 2, 3, 1, 4
- B. 2, 1, 3, 4
- C. 1, 2, 3, 4
- D. 1, 3, 2, 4

Which of the given statement/s is/are correct?

- A. 1, 2 and 3
- B. 2 and 3 only
- C. 1 and 2 only
- D. None of the above

104. Arrange the following from West to East:

- 1. Cape Agulhas
- 2. Cape Hanglip
- 3. Cape of Good Hope
- 4. Cape Point

Choose the correct option:

- A. 3, 4, 2, 1
- B. 3, 2, 1, 4
- C. 1, 2, 4, 3
- D. 3, 4, 1, 2

105. The Tigray region, recently in news, is located in which country?

- A. Ethiopia
- B. Eritrea
- C. Sudan
- D. Somalia

106. Consider the following statements with respect to the SVEEP Program:

- 1. It is the flagship program of the Election Commission of India.
- 2. The program has been launched to tackle the menace of paid news and fake news during elections.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

107. Consider the following statements with respect to Electoral Bonds:

- 1. While the buyer of the Electoral bonds must fulfil KYC norms, electoral bonds don't carry the name of the buyer.
- 2. Electoral bond can be received only by a registered political party that has secured at least 1 per cent vote in the last general election to an Assembly or Parliament.
- 3. They do not carry interest rate and cannot be traded in the secondary market.

108. The World Sustainable Development Summit is organised by which of the following?

- A. UNDP
- B. UNEP
- C. TERI
- D. UNFCCC

109. Which of the following statement/s is/are correct with respect to the newly discovered Hypnea indica and Hypnea bullata species?

- 1. The genus Hypnea consists of calcareous, erect, branched red seaweeds.
- 2. They grow in the intertidal regions of the coast

Options:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

110. The Bhagoriya festival is associated with which of the following states?

- A. Maharashtra and Madhya Pradesh
- B. Odisha and West Bengal
- C. Uttar Pradesh and Bihar
- D. Rajasthan and Gujarat

111. Enceladus is a natural satellite of which of the following planets?

- A. Jupiter
- B. Saturn
- C. Mars
- D. Uranus

112. Consider the following statement with respect to Lord Louis Mountbatten:

- 1. He oversaw the appointment of two boundary commissions under Sir Cyril Radcliffe for the partition of Bengal and Punjab.
- 2. He served as the first Governor-General of India until June 1948.
- 3. He is associated with the August Offer.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 3 only

113. Consider the following statements with respect to Pong Dam Wildlife Sanctuary:

- 1. It is located in Sikkim.
- 2. It is a Ramsar Site of International Importance.
- 3. Pong Dam is constructed across the Beas river.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. None of the above

114. Consider the following statements:

- 1. H5N1 and H5N8 are categorized as Highly Pathogenic Avian Influenza (HPAI).
- 2. Humans are not immune from H5N1.
- 3. Avian influenza can infect birds only.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 only
- C. 1 and 3 only
- D. 1 only

115. Which of the following are a part of the Nilgiri Biosphere Reserve:

- 1. Mudumalai National Park
- 2. Bandipur National Park
- 3. Silent Valley National Park
- 4. Nagarhole National Park

Choose the correct option:

- A. 1 and 2 only
- B. 2 and 4 only
- C. 1, 2, 3 and 4
- D. 3 and 4 only

116. Who among the following were the members of the State Reorganization Commission of 1953?

- 1. Pandit Hridayanath Kunzru
- 2. Fazal Ali
- 3. K M Panikkar
- 4. Pattabhi Sitaramayya
- 5. Sardar Vallabhbhai Patel
- 6. S.K Dhar

Choose the correct option:

- A. 1, 4, 5 and 6 only
- B. 1, 2 and 3 only
- C. 3, 4 and 5 only
- D. 2, 3, 4 and 5 only

117. Consider the following statements with respect to Vajra Prahar:

- 1. It is a bilateral exercise between the special forces of India and the US.
- 2. Vajra Prahar started off in 2010 and has been held every year ever since.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

118. Consider the following statements with respect to the TAPI gas pipeline:

- 1. It starts at the Galkynysh gas field in Turkmenistan.
- 2. It passes through Herat, Kandahar, Quetta and Multan.
- 3. Asian Development Bank participated in the development of the gas pipeline.

Which of the given statement/s is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 1 and 3 only

119. Which of the following banks was established through the Fortaleza Declaration of 2014?

- A. Asian Development Bank
- B. New Development Bank
- C. Asian Infrastructure Investment Bank
- D. African Development Bank

120. Consider the following statements with respect to Singhori Wildlife Sanctuary:

1. It is located in Uttarakhand.
2. Project Tiger was launched in Singhori Wildlife Sanctuary.

Which of the given statement/s is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANSWER KEYS

1	A
2	C
3	D
4	A
5	D
6	C
7	A
8	C
9	D
10	C
11	D
12	A
13	D
14	C
15	D
16	A
17	B
18	C
19	C
20	D

21	B
22	A
23	C
24	A
25	C
26	D
27	C
28	B
29	C
30	A
31	D
32	A
33	A
34	C
35	C
36	A
37	C
38	A
39	C
40	D

[CLICK HERE TO READ EXPLANATION](#)

41	A
42	B
43	A
44	D
45	C
46	A
47	C
48	D
49	B
50	A
51	B
52	D
53	C
54	C
55	C
56	A
57	D
58	A
59	C
60	D

61	D
62	C
63	B
64	D
65	C
66	A
67	B
68	C
69	C
70	D
71	A
72	D
73	C
74	C
75	B
76	A
77	B
78	D
79	C
80	D

[CLICK HERE TO READ EXPLANATION](#)

81	A
82	A
83	C
84	D
85	B
86	C
87	A
88	C
89	B
90	B
91	A
92	D
93	A
94	C
95	A
96	A
97	C
98	B
99	D
100	C

101	D
102	B
103	A
104	A
105	A
106	A
107	A
108	C
109	C
110	A
111	B
112	A
113	B
114	A
115	C
116	B
117	A
118	C
119	B
120	D

[CLICK HERE TO READ EXPLANATION](#)

MAINS PRACTICE QUESTIONS

GS Paper 1

Indian History

1. Discuss the role played by women in the 19th century social and religious reform movement of India with suitable examples. (10 marks, 150 words)

Social Issues

1. Should the legislature consider introducing suitable amendments to the POCSO Act involving adolescents in relationships? Critically evaluate. (10 Marks, 150 Words)
2. The unpaid work of women has to be recognized and should be taken into account in the formulation of socio-economic policies. Discuss. (10 marks, 150 words)
3. Abhorrent practices discriminating against menstruating women should be considered abnormal. Analyze. (10 Marks, 150 Words)

Post-independent India

1. In the light of Bangladesh commemorating 50 years of its liberation movement, discuss the role played by India. Also analyse the reasons for India's stand in the issue. (10 marks, 150 words)

GS Paper 2

Polity & Governance

1. Regulation of social media and digital media should ensure a balance between individual rights and the nation's integrity. Elucidate. (10 Marks, 150 Words)
2. Discuss the implications of the newly introduced Information Technology Rules, 2021 on individual privacy and fundamental rights. (10 Marks, 150 Words)
3. What is meant by the Master of the Roster system in the Judiciary? Analyze the arguments both in favour of and against this system. (10 marks, 150 words)
4. Several laws that are vestiges of colonialism have a chilling effect on matters of legitimate speech and dislodge the foundation of free expression. It is time for India, like many other nations, to do away with such laws. Comment. (15 Marks, 250 Words)
5. There are numerous concerns being expressed with respect to electoral funding in general and the electoral bond scheme in particular. Elucidate. (15 marks, 250 words)
6. Haryana's new State Employment of Local Candidates Act of 2020 could have a detrimental impact on India's investment climate and its socio-economic framework. Comment. (10 marks, 150 words)
7. Discuss the significance of the Supreme Court judgment on the appointment of the State Election Commissioner and the conduct of local body elections. (10 Marks, 150 Words)
8. The electoral bond scheme violates the basic tenets of India's democracy by infringing upon the citizens' 'right to know'. Examine. (10 Marks, 150 Words)
9. The Parliament must function effectively and ensure sufficient scrutiny over the proposals and actions of the government in order to fulfil its constitutional mandate. Elucidate. (15 Marks, 250 Words)

10. What do you understand by Electoral Bonds Scheme? Critically evaluate the role of the electoral bonds in ensuring transparency in political funding. (15 Marks, 250 Words)
11. Discuss the important provisions of the Places of Worship (Special Provisions) Act. Explain how it enforces our commitment to secularism. (10 Marks, 150 Words)
12. In order to create better lives and wipe out inequalities post-pandemic, India should strive for a vaccine against indifference to the conditions of those less well off. Elucidate. (15 Marks, 250 Words)

International Relations

1. The Iran nuclear deal is complicated and time is running out as both Iran and the U.S. struggle to overcome the current impasse. Comment. (10 marks, 150 words)
2. What is the significance of India and Pakistan's joint re-commitment to the 2003 ceasefire? Is it the start of improvement in the strained relations between the two countries? Analyse. (15 Marks, 250 Words)
3. Evaluate the humanitarian, civil, geopolitical and sectarian dimensions of the crisis in Yemen. Discuss the way forward. (15 Marks, 250 Words)
4. In the event of America's responsible withdrawal of troops from Afghanistan or otherwise, the Biden administration's policy towards the Afghan Peace Talks indicates that the Taliban is set to make gains. Critically evaluate. (15 Marks, 250 Words)
5. Making available vaccines equitably presents the greatest moral test of our times. It is the responsibility of privileged nations to improve global availability and equitable access to COVID-19 vaccines. Elucidate (15 Marks, 250 Words)
6. Colombo's recent policy choices on key infrastructure projects have strained bilateral ties between India and Sri Lanka. Discuss what should be India's response given the importance of Sri Lanka to India's "Neighbourhood First" policy. (10 marks, 150 words)
7. Small but important steps can put an end to the longstanding issues between India and Bangladesh. Discuss. (10 Marks, 150 Words)
8. Discuss India's stand in the ongoing Afghan peace process highlighting India's stake in the process. Also suggest what should be India's approach in this regard. (15 marks, 250 words)
9. Throw light upon the recent developments in the India-Bangladesh relationship. What are the straining points and major irritants in the bilateral relations? (15 Marks, 250 Words)

GS Paper 3

Economy

1. Discuss how a strategic partnership with the European Union will help India realise its goal of a self-reliant India under the Atmanirbhar Bharat Abhiyan. (15 Marks, 250 Words)
2. In the light of the high-level inter-ministerial committee on digital currencies submitting its report, evaluate the significance and threat posed by cryptocurrencies to the economy in general and the Indian economy in particular. (15 marks, 250 words)
3. Analyze the significance of the railways in the Indian context and also enumerate the major challenges in the form of financial stress and organisational issues plaguing the organization. (10 marks, 150 words)
4. India's weak performance in the World Bank's Enabling the Business of Agriculture (EBA) 2019 index reveals that the strength of India's agricultural regulatory environment is weak on the whole and more so with respect to some key performance indicators. Suggest suitable measures in this direction. (15 marks, 250 words)
5. The growing food subsidy bill in India is a grave concern. Discuss the reasons for the same and suggest measures required for cutting down the food subsidy bill. (15 marks, 250 words)

6. The government should support and incentivize alternate fuel technologies to help meet climate action commitments but also galvanize the economy and ensure environmental sustainability. Elucidate. (10 marks, 150 words)
7. Companies with global ambitions invest in the Indian market in spite of hurdles as the rewards for investment are substantial and well worth pursuing. Substantiate. (10 marks, 150 words)

Environment & Ecology

1. Unless climate change is tagged as a primary culprit of extreme weather events and natural disasters, climate action will continue to falter. Elucidate. (15 Marks, 250 Words)
2. Given the increasing flow of Foreign Direct Investment to India and its significance in the economic development, discuss the measures that need to be taken to protect investor trust. (15 Marks, 250 Words)
3. The setting up of a national environmental regulator under the Environment (Protection) Act, 1986 would be a critical step towards sustainable environment management in India. Analyze (10 marks, 150 words)
4. Enumerate India's stand with respect to Global Climate Action and list the actions taken by India in this direction. Also analyze the major challenges for India when it comes to climate action. (15 marks, 250 words)
5. Environmental pollution is one of the biggest challenges in the achievement of the sustainable development goals associated with health. Analyze. (10 marks, 150 words)

Security/Internal Security

1. Could secrecy and ambiguity surrounding a nation's doctrine and capabilities provide a tactical advantage when engaging in cyber operations? Substantiate your answer. (10 Marks, 150 Words)
2. The long delays in appointments to top posts in the Central Armed Police Forces are a serious cause of concern. Elucidate. (10 marks, 150 words)

Cybersecurity

1. In light of recent reports of state-sponsored Chinese hacker groups targeting Indian power grid utilities, discuss the modus operandi of the attacks and analyze the threat posed by such an attack. (10 marks, 150 words)

Science & Technology

1. Discuss how ISRO can take advantage of the market opportunities from space applications to ensure India's progress in the space arena. (15 Marks, 250 Words)

INTERVIEW TRANSCRIPT

Candidate Details:

- Name: Saumya Sharma
- Rank: 9 (CSE 2017)
- Hometown: Delhi
- Education: Graduated in B.A. LL.B. (Hons.), from National Law University, Delhi in June 2017.
- Work Experience: No previous experience as a permanent employee. Cleared the exam in the first attempt. Internships under Hon'ble Justice Bhat of the Delhi High Court, PRS Legislative Research and Human Rights Law Network.
- Hobbies: Travelling, Reading, Photography, Map reading.
- Optional subject: Law

Interview Panel Chairperson Details:

- Interview panel chairperson: Shri Arvind Saxena

Interview Questions:

- Interview duration: 35 minutes
- Questions were mainly asked from the Detailed Application Form (DAF) and Current Affairs.

Graduation and optional based questions:

- Questions based on the criminal law of India.
- Have the environmental laws of India been effective in ensuring environmental conservation?
- Can you elaborate on the constitutional and legislative framework regarding water in India?

Current affairs based questions:

- How will India-U.S. relations be affected by the election of Mr. Donald Trump as the U.S. President?
- Has demonetization served its intended purpose?
- What do you mean by net neutrality? Why is it important?
- What do you mean by equalization levy? Why is it necessary?
- What do you mean by wilful defaulters and how should the state deal with them?

Hobby based questions:

- The question was based on the hobby of map reading as mentioned in the DAF.
- If one travels from Delhi to Sudan via road, what all countries will one cross?

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C Uday Bhaskar
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CNS Nair
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Secretary to Govt of India)

B S Lamba
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Indian Envoy to UNO)

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(IPS Retd., Former
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Prabhakar Mani Tripathi
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AK Rastogi
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Secretary to Govt of India)

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Gujarat State Police
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Central Mall, Nehru Vihar,
Delhi. nearest metro- Vishwa
Vidyalaya metro station

Hyderabad

Srishti Tower, Hitech City Rd,
VIP Hills, Silicon Valley,
Madhapur, Hyderabad,
Telangana 500081

3-6-196/197, 2nd Floor, Prime
Plaza, Himayatnagar Main
Road, Himayatnagar,
Hyderabad, Telangana
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