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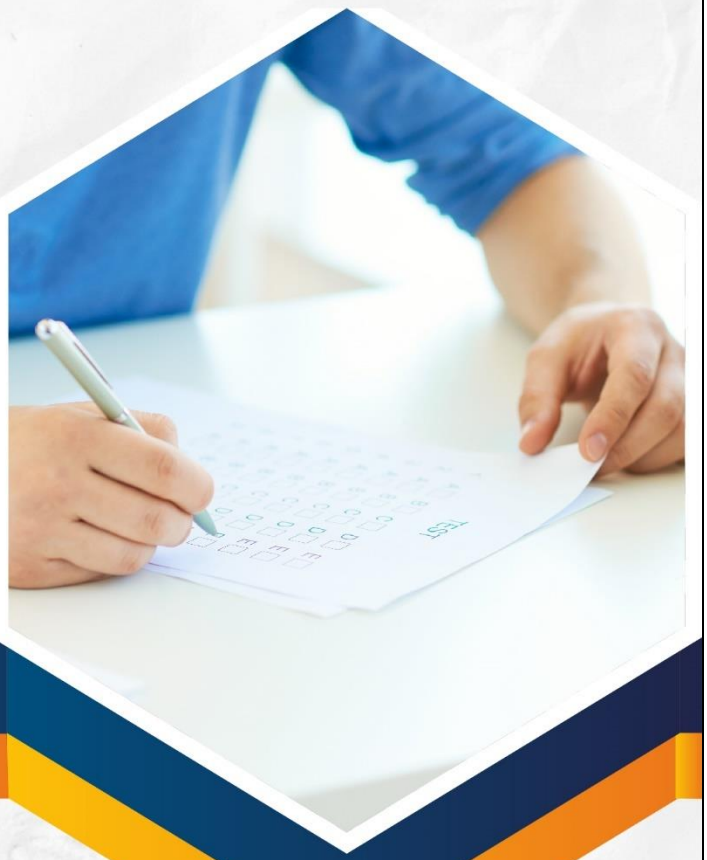

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Potency drugs not under NDPS Act: SC	**Context** Sexual enhancement drugs containing herbs and medicines are not covered under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, the Supreme Court has observed in a recent order. **About The Narcotic Drugs and Psychotropic Substances Act, 1985** ● It is also known as the NDPS Act. ● It prohibits any individual from engaging in any activity consisting of production, cultivation, sale, purchase, transport, storage, and/or consumption of any narcotic drug or psychotropic substance. **About psychotropics and Narcotics** ● From a medical point of view, psychotropics designate chemical substances that act upon the mind, that is on the conscious or unconscious mental life of an individual. ● Narcotics include substances that cause stupor (unconscious), muscular relaxation and a reduction or elimination of sensitivity.
EWS Quota	**Context** A government committee report in the Supreme Court has said that "income" is a "feasible criterion" for defining the "Economically Weaker Sections" (EWS) in society. **key takeaways** • The committee did not agree with the notion that the Union government had "mechanically adopted" ₹8 lakh as a number because it was also used for the OBC creamy layer cut-off. • It said the income criterion for EWS was "more stringent" than the one for the OBC creamy layer. • Firstly, EWS's criteria relates to the financial year prior to the year of application whereas the income criterion for the creamy layer in OBC category is applicable to gross annual income for three consecutive years. • Secondly, in case of OBC creamy layer, income from salaries, agriculture and traditional artisanal professions are excluded from the consideration whereas the ₹8 lakh criteria for EWS includes all sources, including farming. • **Background:** The report is the result of the Supreme Court's repeated grilling of the government, since October, to explain how it zeroed in on the figure of '₹8 lakh' as the annual income criterion to identify EWS among forward classes of society for grant of 10% reservation in National Eligibility-cum-Entrance Test (NEET) medical admissions under the All India Quota (AIQ) category.
NEAT 3.0	**Context** Union Education Minister and Skill Development Minister launched NEAT 3.0, a single platform to provide the best-developed ed-tech solutions and courses to students of the country. **Key takeaways** • NEAT will be a game-changer in bridging the digital divide, especially among the economically disadvantaged students and also in fulfilling the knowledge-based requirement of India and the world. • National Educational Alliance for Technology (NEAT) is an initiative to provide the use of best-developed technological solutions in the education sector to enhance the employability of the youth on a single platform for learners' convenience. • These solutions use artificial intelligence for a personalised and customised learning experience for better learning outcomes and skill development in the niche areas. • The minister informed that 58 global and Indian start-up ed-tech companies are onboard NEAT and are offering 100 courses and e-resources for bettering learning outcomes, developing employable skills and overcoming learning loss.

	• The minister expressed his happiness that, more than 12 lakh socially and economically disadvantaged students have received free ed-tech course coupons worth over Rs 253 crore under NEAT 3.0.
Year End Review: Legislative Department	The Legislative Department plays an important role in assisting the Ministries/Departments of the Government to achieve the policy objectives through legislation. Legislative Department provides assistance to State Governments in translation of Central Laws into the languages mention in the Eighth Schedule to the Constitution. Election Laws and Electoral Reforms: To amend the Representation of the People Act, 1950 and the Representation of the People Act, 1951, the Election Laws (Amendment) Bill, 2021 has been passed by Parliament. The said Bill envisages the following: a. Linking of Electoral Roll with Aadhaar System will curb the menace of multiple enrolment of the same person in different places; Multiple qualifying dates for enrolment in the electoral roll will expand the voter base and consequently greater participation of eligible voters in the electoral process; b. Making the statutes gender neutral in line with the avowed policy of gender equality and inclusiveness vis-à-vis conduct of our elections; and c. Streamlining the process of conduct of elections with reference to requisition of staff or premises, etc. **India Code Information System (ICIS)** • Each year number of legislations (both principal Acts and Amending Acts) are passed by the legislature and it is difficult for judiciary, lawyers as well as citizens to refer relevant and up to date Acts when required. • Keeping all these aspects in view, India Code Information System (ICIS), a one stop digital repository of all the Central and State Legislation including their respective subordinate legislations has been developed with the help of NIC under the guidance of Ministry of Law and Justice (Legislative Department). • It is an important step in ensuing legal empowerment of all citizens as well as the object of ONE NATION — ONE PLATFORM. • Till date, Central Acts from the years 1838 to 2021 total 823 Central Acts have been updated and uploaded (in ICIS) for general public. Official Language Wing has published the Constitution of India. In this edition, the text of the Constitution of India has been brought up-to-date by incorporating therein all the amendments up the Constitutional (One Hundred and Fifth Amendment) Act, 2021.
Protection of Women from Sexual Harassment (POSH) Act	**Context** A petition has been filed in the Supreme Court challenging guidelines issued by the Bombay High Court in cases under the Protection of Women from Sexual Harassment (POSH) Act, which include a blanket bar on parties and advocates from sharing records, including orders and judgments, with the media. **The Protection of Women Against Sexual Harassment at Workplace Act, 2013** • The Act defines sexual harassment at the workplace and creates a mechanism for redressal of complaints. It also provides safeguards against false or malicious charges. • Every employer is required to constitute an Internal Complaints Committee at each office or branch with 10 or more employees. • The Complaints Committees have the powers of civil courts for gathering evidence. • The Complaints Committees are required to provide for conciliation before initiating an inquiry if requested by the complainant. • Penalties have been prescribed for employers. Non-compliance with the provisions of the Act shall be punishable with a fine. • Repeated violations may lead to higher penalties and cancellation of license or registration to conduct business. • The State Government will notify the District Officer in every district, who will constitute a Local Complaints Committee (LCC) so as to enable women in the

	unorganised sector or small establishments to work in an environment free of sexual harassment.
SC allows NEET counselling under existing EWS criteria	**Context** The Supreme Court has allowed National Eligibility cum Entrance Test (NEET) counselling to proceed so as to not disrupt medical admissions this year. • It also upheld the 27% reservation for the Other Backward Classes (OBC) and 10% for the Economically Weaker Sections (EWS) in the All India Quota (AIQ) seats in accordance with a July 29, 2021 government order **National Eligibility cum Entrance Test** • It is an all India pre-medical entrance test for students who wish to pursue undergraduate medical (MBBS), dental (BDS) and AYUSH (BAMS, BUMS, BHMS, etc.) courses in government and private institutions in India and also, for those intending to pursue primary medical qualification abroad. • The exam is conducted by National Testing Agency (NTA). **EWS quota** • Only those persons who are not covered under the scheme of reservation for SCs, STs and OBCs and whose family has gross annual income below 8.00 lakh rupees are to be identified as EWSs for benefit of reservation. • This Income shall also include income from all sources i.e. salary, agriculture, business, profession, etc. • Persons whose families own landholdings of a certain size such as at least five acres of agricultural land, or a residential flat of at least 1,000 sq. feet are excluded from the purview of this reservation. • EWS, as originally notified by a January 2019 official memorandum, was recently recommended for retention by the government-appointed former Finance Secretary Ajay Bhushan Pandey-led Expert Committee on December 31, 2021,
Harmonised Guidelines and Standards for Universal Accessibility in India	**Context:** The Central Public Works Department (CPWD) released the Harmonised Guidelines and Standards for Universal Accessibility in India 2021 through its website in December 2021. **Key takeaways** • The guidelines are a revision of the Harmonised Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons. • Ministry: Ministry of Housing and Urban Affairs (MoHUA) • Drafted by a team of the IIT-Roorkee and the National Institute of Urban Affairs of the MoHUA, the revised guidelines aim to give a holistic approach. • Earlier, the guidelines were for creating a barrier-free environment, but now the focus is on universal accessibility • The guidelines say ramps are extremely crucial for providing an accessible mobility option, but it is equally important to understand that ramps have to adhere to given guidelines. • The guidelines provide the gradient and length of ramps. • The guidelines are not just for persons with disabilities (PwD), but for those involved in planning projects, from the construction of government buildings to master-planning cities.
Citizenship (Amendment) Act , 2019	**Context** The Ministry of Home Affairs (MHA) did not notify the Citizenship (Amendment) Act, 2019 rules, and the third extended deadline after the Act was passed. **Key takeaways** • January 9 was the last day of an extension sought from the two parliamentary committees in the Lok Sabha and the Rajya Sabha to frame the rules. • Without rules, the Act cannot be implemented. • As per the Manual on Parliamentary Work, in case the ministries/departments are not able to frame the rules within the prescribed period of six months after legislation is passed, "they should seek extension of time from the committee stating reasons" which cannot be more than for a period of three months at a time.

	About CAA • The CAA was passed by Parliament on December 11, 2019 and the Act was notified on December 12. • In January 2020, the Ministry notified that the Act will come into force from January 10, 2020. • It amended the Citizenship Act, 1955 by providing a pathway to Indian citizenship for persecuted religious minorities from Afghanistan, Bangladesh and Pakistan who are Hindus, Sikhs, Buddhists, Jains, Parsis or Christians, and arrived in India before the end of December 2014. • The law does not grant such eligibility to Muslims from these Muslim-majority countries. • The act was the first time that religion had been overtly used as a criterion for citizenship under Indian law and attracted global criticism • It exempts the members of the six communities from any criminal case under the Foreigners Act, 1946 and the Passport Act, 1920. • The two Acts specify punishment for entering the country illegally and staying here on expired visas and permits.
Second Round Of The Quarterly Employment Survey (QES)	Context: Union Labour and Employment Ministry released July-Sept. 2021 employment figures under the second round of the Quarterly Employment Survey (QES). **Key takeaways** • More hiring: Nine sectors that account for about 85% of total employment in establishments with 10 or more workers hired two lakh more people in July-September 2021 compared to April-June 2021, • Increased total employment: The estimated total employment in the nine selected sectors is 3.10 crore approximately, which is 2 lakh higher than the the first round of QES (April 1, 2021). ○ The report covers manufacturing, construction, trade, transport, education, health, accommodation and restaurants, IT/BPOs and financial services sectors. • 90% of the establishments had less than 100 workers, while 30% of the IT/BPO establishments had at least 100 workers. • Female workers: The overall percentage of female workers stood at 32.1%, higher than 29.3% reported during the first round of QES. • In the construction sector, 20% of the workers were contractual and 6.4% were casual workers. • While most of the vacancies (65.8%) were for unspecified reasons, 23% were due to resignation and 11.7% due to retirement of employees.
	Year End Review of Ministry of Skill Development and Entrepreneurship **Part of:** Prelims and Mains GS-3- Skill Development **Pradhan Mantri Kaushal Vikas Yojana 3.0** PMKVY 3.0 will encourage and promote skill development throughout the country to address the industry needs, meet the market demands, impart skills in services and in new-age job roles that have become crucial in the post- pandemic era. • Create an ecosystem for the youth to make informed choices on the available skilling avenues. • Provide support to youth for skill training and certification. • Promote sustainable Skill Centres for greater participation of private sector. • Benefit 8 lakh youth across the country. ***Schemes under PMKVY 3.0:*** • **Customized Crash Course Programme for COVID Warriors under PMKVY 3.0:** Aims to meet the upsurge in demand of **skilled healthcare professionals** and associated

professionals from logistics sector, reduce the burden of existing healthcare professionals and provide timely healthcare services in every corner of the country.

- **Upskilling for Weavers and Artisans in Traditional Crafts in Nagaland and Kashmir-** A RPL (Recognition of Prior Learning) project under PMKVY 3.0 is being implemented with value addition services such as Entrepreneurship Building and design development (RPL Type 1 with Bridge Module).
- **Special project on revival of Heritage Namda Craft in Jammu & Kashmir-** Aims to address skills development needs in the Craft of Namda that is practiced mainly in Kashmir, with a reasonable scale (2,250 beneficiary candidates over 24 months) to deliver real, visible and holistic benefits.
- **Upskilling for Street Food Vendors (for e-cart license) in East Delhi Municipal Corporation-** RPL for 2500 street food vendors who apply for e-cart license to upskill them and make them well versed in hygiene, safety, customer centricity, digital transactions, and entrepreneurship skills.
- **Launch of RPL project in Nagaland:** For upskilling the cane and bamboo artisans of Nagaland under Recognition of Prior Learning (RPL), component of PMKVY; to upskill the local weavers and artisans to enhance their productivity through RPL assessment and certification in traditional handicrafts. The project targets to upskill over 4,000 craftsmen and artisans.

Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP)

- A Centrally sponsored scheme of MSDE, loan assisted by the World Bank.
- **Objective:** to strengthen the short-term skill ecosystem and to address key issues of skilling in the country; met through its three key result areas namely
  (i) Institutional Strengthening at National, State & District level;
  (ii) Quality improvement of skill development programmes; and
  (iii) Inclusion of marginalized population in skill development programmes.

National Apprenticeship Promotion Scheme (NAPS)

- To promote the apprenticeship programme in India by introducing a package of financial incentive to establishments engaging apprentices.
- This package is specially intended to support and promote apprenticeship in the MSME segment for enhancing its productivity and competitiveness as well capacity building.

Jan Shikshan Sansthan (JSS) Scheme

- Providing vocational skills to non-literates, neo-literates and school dropouts by identifying skills that have a market in the region of their establishment.

Skill Development Programmes of India

Name	Year	Type	Objective
Industrial Training Centres (ITIs)	1950	Central Sector	To expand and modernize the existing Long-Term Training ecosystem in India.
Pradhan Mantri Kaushal Vikas Yojana (PMKVY)	2015	Central Sector	To provide free skill training avenues to youths of India.
National Career Service Project	2015	Central Sector	To offer free online career skills training through its National Career Service (NCS) project for job-seekers registered with it.
Skills Strengthening for Industrial Value Enhancement (STRIVE)	2016	World Bank assisted-Government of India project	To improve the performance of ITIs. To improve the relevance and efficiency of skills training provided through Industrial Training Institutes (ITIs) and apprenticeships.

	Pradhan Mantri YUVA Yojana (Yuva Udyamita Vikas Abhiyan)	2016	Centrally sponsored	To create an enabling ecosystem for Entrepreneurship development through Entrepreneurship education and training; Advocacy and easy access to entrepreneurship support network and Promoting social enterprises for inclusive growth.
	Skills Acquisition and Knowledge Awareness for Livelihood (SANKALP)	2018	Centrally Sponsored Scheme collaborated with the World Bank.	District-level skilling ecosystem through convergence and coordination.
	Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)	2019	Central sector	To provide industry apprenticeship opportunities to the general graduates exiting in April 2019 through the National Apprenticeship Promotion Scheme (NAPS).
	Atma Nirbhar Skilled Employee Employer Mapping (ASEEM)	2020		To help skilled people find sustainable livelihood opportunities.
	Skill Management and Accreditation of Training Centres (SMART)			It provides a single window IT application that focuses on the accreditation, grading, Affiliation and Continuous monitoring of the Training Centres (TC) in the skill ecosystem.

Transgender Prisoners

Context: The Ministry of Home Affairs (MHA) has written to all States to ensure separate accommodation for transgender persons in prisons.

Key takeaways

- Advised the States and the Union Territories that the prison admission register may be suitably revised to include "transgender" as a category other than male and female gender.
- Similar provision may be made in the Prison Management System in maintaining electronic records.
- The government enacted the Transgender Persons (Protection of Rights) Act in 2019 and the advisory was sent to ensure their safety and to protect them against any form of exploitation in the context of prisons and correctional facilities.
- However, while making provision for a separate enclosure for transgender prisoners, due care may be taken by the prison authorities that this may not result in their complete isolation or propagate social stigma among such prisoners.
- There should also be adequate preservation of right to privacy and dignity in regard to separate toilets for transmen and transwomen as well as shower facilities.
- Physical search of a transgender person may be conducted by a person of their preferred gender or by a trained medical professional or a paramedic.
- At the stage where the search procedure requires stripping, it must be done in a private room or partition.

Lok Adalat

Context: Emergence of Lok Adalat has proved to be the most efficacious tool of Alternative Dispute Resolution.

- Access to justice for the poor is a constitutional mandate to ensure fair treatment under our legal system. Hence, Lok Adalats (literally, 'People's Court') were established to make justice accessible and affordable to all.
- The Constitution (42nd Amendment) Act, 1976, inserted Article 39A to ensure "equal justice and free legal aid".

	• To this end, the Legal Services Authorities Act, 1987, was enacted by Parliament and it came into force in 1995 "to provide free and competent legal services to weaker sections of the society" and to "organise Lok Adalats to secure that the operation of the legal system promotes justice on a basis of equal opportunity". • A total number of 1,27,87,329 cases were disposed off in 2021. **The Process** • Organization of prior consultative and review meetings with all the State Legal Services Authorities to guide them towards the maximum disposal during such Lok Adalats. • Before the organization of each National Lok Adalat, multiple interactions were organised with the Executive Chairpersons of all the State Legal Services Authorities, wherein one-to-one interactions were made to take a stock of the preparations as well as to boost the morale of the stakeholders tasked to organize the Lok Adalats. • A cumulative effect of all the preparatory and mobilization measures resulted in extraordinary disposal figures during the year 2021. • Through these activities NALSA disposed off a large number of cases, giving relief to the common citizens by ending or preventing long lasting legal battles. **What are the factors behind the success of Lok Adalats?** **A. Technology** • In June 2020, the Legal Services Authorities integrated technology with the conventional modes of dispute settlement and introduced virtual Lok Adalats also called as 'E-Lok Adalats'. Since then, all the Lok Adalats including National Lok Adalats are organized through virtual and hybrid modes. • To provide an unhindered experience during the proceedings, the Legal Services Authorities across the country are continuously upgrading their digital infrastructure. • Provided effective ways of supervision and monitoring of Lok Adalats. **B. Formulation of decisive strategies at the National level** • Under these strategies, the State Legal Services Authorities were instructed to conduct meetings with various stakeholder across every level with an objective to ensure their full cooperation and coordination. • The authorities were guided to follow a litigant friendly approach as well as to persuade such litigants to settle the cases involving settled propositions of law. • Moreover, certain areas of law having greater possibilities of settlement such as NI Act cases, Bank recovery cases along other financial matters were highlighted and authorities were instructed to explore all the possibilities of compromise in such cases. • The authorities were advised to proactively monitor the issuance and completion of processes in such financial matters as well as to conduct pre-Lok Adalat sittings to take a matter to a settlement.
Purple Revolution or Aroma Mission in India	**In News:** The Aroma Mission, also popularly referred as "Lavender or Purple Revolution", has started from J&K and transformed the lives of farmers who are able to grow lavender, make lucrative profit and improve their lives. **Aroma Mission** • The Aroma Mission is envisaged to bring transformative change in the aroma sector through desired interventions in the areas of agriculture, processing and product development for fuelling the growth of aroma industry and rural employment. **Objectives:** • To promote the cultivation of aromatic crops for essential oils. • To enable Indian farmers and the aroma industry to become global leaders. • To provide benefits to the farmers in achieving higher profits, utilization of waste lands and protection of their crops from wild and grazing animals.

	• Provided employment to women farmers
	• Nodal Agencies: CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow.
	• Aromatic Plants include
	  ○ Lavender
	  ○ Damask rose
	  ○ Mushk bala, etc.
	• **Projects include**
	  ○ Lavender oil which sells for at least Rs. 10,000 per litre
	  ○ Lavender water, which separates from lavender oil, is used to make incense sticks.
	  ○ Hydrosol, which is formed after distillation from the flowers, is used to make soaps and room fresheners.
	Coverage: The project assured benefits to the growers of Vidarbha, Bundelkhand, Gujarat, Marathwada, Rajasthan, Andhra Pradesh, Odisha and other states where farmers are exposed to frequent episodes of weather extremes and account for maximum suicides.
	Outcomes:
	• Bring about 5500 ha of additional area under captive cultivation aromatic cash crops particularly targeting rain-fed /degraded land across the country
	• Provide technical and infrastructural support for distillation and values-addition to farmers/growers all over the country
	• Enabling effective buy-back mechanisms to assure remunerative prices to the farmers/growers
	• Value-addition to essential oils and aroma ingredients for their integration in global trade and economy'
	Update:
	• During Phase-I CSIR helped cultivation on 6000 hectares of land and covered 46 Aspirational districts across the country. More than 44,000 persons have been trained and several crores of farmers' revenue generated.
	• In the second Phase of Aroma Mission, it is proposed to engage over 45,000 skilled human resources with the aim of benefitting more than 75,000 farming families across the country.

National Commission for Safai Karamcharis	**Context:** The Union Cabinet has approved a three-year extension of the tenure of the National Commission for Safai Karamcharis that was set to end on March 31. **National Commission For Safai Karamcharis** • The National Commission for Safai Karamcharis (NCSK) was constituted on 12th August 1994 as a statutory body by an Act of Parliament viz. 'National Commission for Safai Karamcharis Act, 1993'. • The act "The National Commission for Safai Karamcharis Act, 1993" lapsed in February 2004. • The Commission is acting as a Non-Statutory body of the Ministry of Social Justice and Empowerment whose tenure is extended from time to time through Government Resolutions.
SC upholds OBC quota in NEET	**Context:** The Supreme Court has upheld the constitutional validity of reservation for Other Backward Classes (OBC) candidates in the All India Quota seats for the National Eligibility-cum-Entrance Test (NEET) for undergraduate and postgraduate medical and dental courses. **About National Eligibility cum Entrance Test** • It is an all-India pre-medical entrance test for students who wish to pursue undergraduate medical (MBBS), dental (BDS) and AYUSH (BAMS, BUMS, BHMS, etc.) courses in government and private institutions in India and also, for those intending to pursue primary medical qualification abroad. • The exam is conducted by National Testing Agency (NTA).

	Do you know? • Based on the recommendation of the Second Backward Classes Commission (Mandal Commission), the government in August, 1990 had notified 27% reservation for Socially and Educationally Backward Classes (SEBCs) in vacancies in civil posts and services that are to be filled on direct recruitment. • After this was challenged, the Supreme Court in November, 1992 (Indira Sawhney case) upheld 27% reservation for OBCs, subject to exclusion of the creamy layer.
Revised Rural Area Development Plan Formulation and Implementation (RADPFI) Guidelines	**In News:** Revised **Rural Area Development Plan Formulation and Implementation (RADPFI)** Guidelines have been released. ● Would serve as the basis for rural transformation and enable effective Land use planning in rural areas. ● Would supplement the efforts of the Central Government such as the SVAMITVA Scheme of Ministry of Panchayati Raj and RURBAN Mission of Ministry of Rural Development and facilitate better utilisation of Geospatial information. ● Ensure ease of living in villages and help minimizing migration to big cities by providing all necessary infrastructure and facilities and also resources and opportunities for livelihood in rural area ● **Includes** ○ Village Planning Scheme (VPS) on the lines of Town Planning Schemes in urban areas ○ Provisions of linking Gram Panchayat Development Programme (GPDP) with Spatial Land Use Planning, spatial standards for Gram Panchayat development etc. **Background:** ● Although, many spatial development initiatives have been implemented in India especially in urban areas, there has been no comprehensive exercise for rural spatial planning of panchayats/villages. ● In recent times, there has been large growth in rural areas but this unplanned growth has led to inefficient utilisation of geospatial potential in rural areas. ● Thus, spatial planning specially for the villages located in the vicinity of the urban centres and those, along the major road corridors, becomes necessary, as various permissible and non-permissible land-use activities need to be decided for optimum growth. **Note:** The Panchayati Raj system of local self-government was introduced by the **73rd** Amendment of the Constitution of India. **Part IX** was inserted in the Constitution as a sequel to the 73rd Constitutional Amendment in 1993, bestowing the Constitutional mandatory status to the 'Panchayats'.
LS Privileges Committee	**Context:** Recently, one MP from Karimnagar, Hyderabad appeared before the 15-member Privileges Committee of Lok Sabha. **Committee of privileges** • This Committee consists of 15 members (10 members in case of Rajya Sabha) nominated by the Speaker (Chairman in case of Rajya Sabha). • Its function is to examine every question involving breach of privilege of the House or of the members of any Committee thereof referred to it by the House or by the Speaker. • It determines with reference to the facts of each case whether a breach of privilege is involved and makes suitable recommendations in its report. • It also states the procedure to be followed by the House in giving effect to the recommendations made by it. • The Speaker/ Chairman may refer to the Committee any petition regarding disqualification of a member on ground of defection for making a preliminary inquiry and submitting a report to him.

NHRC directs MHA to protect rights of Arunachal Chakmas	**Context:** The National Human Rights Commission (NHRC) has directed the Ministry of Home Affairs and the Arunachal Pradesh government to submit an action taken report against the racial profiling and relocation of people belonging to the Chakma and Hajong communities.
	Who are Chakma and Hajong?
	• Chakmas are predominantly Buddhists while Hajongs are Hindus.
	• They were inhabitants of the Chittagong Hill Tracts of erstwhile East Pakistan (now Bangladesh) who migrated to India due to:
	  ○ Submergence of their land by the Kaptai dam on the Karnaphuli River in the 1960s.
	  ○ religious persecution they faced in East Pakistan as they were non-Muslims.
	• The Indian government set up relief camps in Arunachal Pradesh and a majority of them continue to live there even after 50 years.
	National Human Rights Commission (NHRC)
	• NHRC was established in 1993.
	• It is in conformity with the Paris Principles, adopted at the first international workshop on national institutions for the protection of human rights held in Paris in 1991.
	• Status: It is a statutory organization established under the Protection of Human Rights Act (PHRA), 1993
	• Headquarters: New Delhi.
	• Functions:
	  ○ To investigate the violation of human rights/ the failures of the states/other to prevent a human rights violation
	  ○ The commissions may also take on research about human rights, create awareness campaigns through various mediums, and encourage the work of NGOs.
	• Composition:
	  ○ Chairperson, four full-time Members and four deemed Members.
	  ○ A Chairperson, should be retired Chief Justice of India or a Judge of the Supreme Court.
	• Appointment: The Chairperson and members of the NHRC are appointed by the President of India, on the recommendation of a committee consisting of:
	  ○ The Prime Minister (Chairperson)
	  ○ The Home Minister
	  ○ The Leader of the Opposition in the Lok Sabha
	  ○ The Leader of the Opposition in the Rajya Sabha
	  ○ The Speaker of the Lok Sabha
	  ○ The Deputy Chairman of the Rajya Sabha
	• They hold office for a term of three years or until they attain the age of 70 years, whichever is earlier.
	• The President can remove them from the office under specific circumstances.

Conjugal rights	**Context:** The Supreme Court is expected to begin hearing a fresh challenge to the provision allowing restitution of conjugal rights under Hindu personal laws. **About Conjugal rights** • Section 9 of the Hindu Marriage Act, 1955 deals with restitution of conjugal rights. • It recognises one aspect of conjugal rights — the right to consortium and protects it by allowing a spouse to move court to enforce the right. • Conjugal rights are rights created by marriage, i.e. right of the husband or the wife to the society of the other spouse. • The law recognises these rights— both in personal laws dealing with marriage, divorce etc, and in criminal law requiring payment of maintenance and alimony to a spouse. • Conjugal Rights includes: ○ Living together: The spouses or the married couple should live together

	○ Marital intercourse: The spouses or the married couple have rights and duties together with each other and have physical or sexual relationships. ○ Comfort to each other: The spouses should give comfort to each other like; emotional and mental comfort. ○ Matrimonial Obligation: The married couple is supposed to share the responsibility of the households as well. **Why has the law been challenged?** • Main ground is that it is violative of the fundamental right to privacy. • It amounted to a "coercive act" on the part of the state, which violates one's sexual and decisional autonomy, and right to privacy and dignity. • The provision disproportionately affects women. Women are often called back to marital homes under the provision, and given that marital rape is not a crime, leaves them susceptible to such coerced cohabitation. • Also in question is whether the state can have such a compelling interest in protecting the institution of marriage that it allows a legislation to enforce cohabitation of spouses.
160 years of Indian Penal Code	**Context:** Formed in 1862, the Indian Penal Code completes 160 years of its existence. The Indian Penal Code, the legislation that an ordinary citizen arguably interacts with the most, and which governs his relationship with the state, is still rooted in colonial ideas. • Although some changes have been made through amendments and judicial pronouncements, the laws do not reflect the aspirations of a Constitution that gives primacy to liberty and equality. • Case in point - it took 158 years for the courts to decriminalise homosexuality and adultery **Why there is a need to reform Criminal Laws?** • **Long Pending**: The Indian Penal Code and its corollary laws, the Indian Evidence Act and the Code of Criminal Procedure, were all first enacted in the late 19th-century that have not undergone comprehensive revision • **Colonial Hangover:** IPC & CrPC were largely formalised to aid the colonial government in India, over 150 years ago. They are still rooted in colonial ideas despite amendments & judgements. • **Lacks adequate recognition of Individual agency:** IPC do not reflect the aspirations of a Constitution that gives primacy to liberty and equality. • **Still represent Victorian Morality:** While it took 158 years for the courts to decriminalise homosexuality (section 377 of IPC) and adultery, there exist many provisions in the IPC that still echoes Victorian morality, which is especially true for women. • **Ignorant of modern-age crimes:** New crimes need to be defined and addressed in IPC, especially concerning technology and sexual offences. Ex: digital technology facilitating gambling and betting **The Way Ahead** • The government must cover a large and diverse landscape of 'offences' and criminal procedure to craft a criminal law system that is truly in tune with the times. Ex: Contempt of Court, marital rape, acid attacks, hate crimes etc • Government should not give in to populist demands and run the risk of excessive policing and over-criminalising

	• Death Penalty needs a legislative approach and not just passing the buck to the judiciary. • On procedural aspects of criminal law, there is a need to harmonise the statute books with court rulings • Victim who are often on the margins of the justice process should not be burdened with institutional delays • Accountability, above all, must guide the balance between the rights of the citizen and imperatives of state. **Conclusion** Macaulay had himself favoured regular revision of the code whenever gaps or ambiguities were found or experienced. The IPC's original architect cannot be blamed for the current dismal state. • Even though the IPC has been haphazardly amended more than 75 times, no comprehensive revision has been undertaken. • As a result, largely the courts have had to undertake this task, with unsatisfactory outcomes at times. • Most amendments have been ad hoc and reactive, in response to immediate circumstances like the 2013 amendment after the Delhi gangrape case. There is thus, a need to weed out outdated provisions, and update IPC to include modern day/hitherto excluded offences. **Note** • **Charter Act of 1833** that established First law commission in 1834 under the Chairmanship of Lord Macaulay – recommendations led to drafting of IPC **Can you answer the following questions?** 1. Has IPC served Indian society according to its needs? Or does it still have a colonial hangover? Examine. 2. Has IPC been able to keep pace with the changing face of crime? Discuss.
OBC reservation in local bodies	**Context**: Reservation to Other Backward Classes (OBCs) in local body elections sans empirical base can no more be sustainable in law. • Supreme Court's latest order in **Rahul Ramesh Wagh v. State of Maharashtra** &Ors. makes it mandatory that the principles laid down by it for providing reservation to OBCs in local bodies should be followed across the country. **The Constitution Bench decision** **K. Krishnamurthy (Dr.) v. Union of India (2010)** • Supreme court declared that though reservation to local bodies is permissible, the same is subject to empirical finding of backwardness in relation to local bodies as fulfilled through the three tests as follows: • 1) **To set up a dedicated Commission** to conduct contemporaneous rigorous empirical inquiry into the nature and implications of the backwardness qua local bodies, within the State; • 2) **To specify the proportion of reservation** required to be provisioned local body-wise in light of recommendations of the Commission.

- 3) and in any case such reservation **shall not exceed aggregate of 50%** of the total seats reserved in favour of SCs/STs/OBCs taken together." The 50% ceiling specifically relied on the ratio of the historic Indra Sawhney judgment (1992).

Vikas Krishnarao Gawali v. State of Maharashtra &Ors. (2021)

- The 2010 judgment was not acted upon and the constitutionality of the enacted reservation was challenged. This resulted in the 2021 judgment of a three-judge Bench of the Supreme Court.
- In this above case, the Supreme Court read down the provision of the Maharashtra Zilla Parishads and Panchayat Samitis Act, 1961, which mandated for 27% reservation to OBCs in local bodies.
- The court observed that the **reservation for OBCs was just a statutory** dispensation to be provided by the State legislations and is different from the constitutional" provisions which mandate reservation to the SC/ST.
- While insisting on the triple test, the court observed that the reservation in favour of OBCs in the concerned local bodies can be notified to the extent that it does not exceed 50% of the total seats reserved in favour of SCs/STs/OBCs taken together.
- The Supreme Court quashed notifications issued by the Maharashtra Election Commission, which provided more than 50% reservation to OBCs and SC/STs in some local bodies.
- However, the political decision was to take the **route of ordinance to overcome an adverse judicial decision.**

The wingless ordinance

- Maharashtra had constituted a Commission to ascertain the backwardness of OBCs
- But without waiting for an empirical report, as mandated by the court, an ordinance was promulgated to amend the Maharashtra local body legislations so as to conduct local body elections while ensuring OBC reservation.
- Though the ordinance was portrayed to be in compliance with the order of the apex court without breaching the 50% ceiling as mandated by the triple test, other parameters had been violated.
- The ordinance failed to take off, as it was challenged before the Bombay High Court; but the election process was not stalled,
- The OBC reservation and notification for the local body election in Madhya Pradesh also were deemed to fall foul of the Supreme Court order, as was found by the apex court, on challenge.
- The Supreme Court directed the re-notification of the reserved seats as belonging to general category in both the States on the basis of which the election process may proceed.

Legislative resolve and the judicial response

- Madhya Pradesh Legislative Assembly passed a resolution to keep the local body elections without OBC reservation at **suspension**.
- Taking a political cue from Madhya Pradesh, the Maharashtra Legislative Assembly also **passed a resolution to stall the local body elections** in the wake of the judicial interference.
- Interestingly, the last order of the apex court records that "In case the State is not in a position to fulfil the triple test requirement, then the election to local body cannot be postponed beyond the statutory period. In such situation, the State Election Commission concerned ought to notify proportionate seats as open category seats, and proceed with the elections of the local bodies."

GST Council	**Context** The GST Council has decided to temporarily roll back the increase in tax rate for the textiles sector • The move follows demands from several States, including Gujarat, West Bengal and Tamil Nadu. • A similar demand for footwear was not considered and the sector will attract GST of 12% from January **About GST Council** • The GST Council is a constitutional body established under Article 279A of Indian Constitution • It makes recommendations to the Union and State Government on issues related to Goods and Service Tax (GST). • The GST Council is chaired by the Union Finance Minister. • Its other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.
FCRA licences of NGOs extended by three months	**Context**: The Union Home Ministry has extended by another three months the validity of the licences of FCRA-registered NGOs which were not renewed by December 31. **What is FCRA?** • It is a law enacted by Parliament to regulate foreign contribution (especially monetary donation) provided by certain individuals or associations to NGOs and others within India. • FCRA Act was originally passed in 1976 and majorly modified in 2010. • The government has used the act over the years to freeze bank accounts of certain NGOs who it found were affecting India's national interest for wrong purposes. • Ministry: Ministry of Home Affairs **Do you know?** • A registration under the Foreign Contribution (Regulation) Act (FCRA) is mandatory for any NGO or association to receive foreign funds and it is renewed every five years. • According to terms stipulated in the FCRA, an organisation cannot receive foreign funding unless it is registered under the 2010 Act, except when it gets government approval for a specific project. • Under the FCRA Act, registered NGOs can receive foreign contribution for five purposes — social, educational, religious, economic and cultural.
One Nation One Grid One Frequency	Grid management in the country, on a regional basis started in the sixties. At the beginning, state grids were interconnected to form a regional grid and India was demarcated into 5 regions namely Northern, Eastern, Western, North Eastern and Southern regions. • With time each grid was connected to the other, to allow greater availability and transfer of power. • It all came together when the Southern Region was connected to the Central Grid, with commissioning of 765 kV Raichur-Solapur Transmission Line, thereby achieving 'ONE NATION-ONE GRID-ONE FREQUENCY'. • The Srinagar Leh Transmission System was connected to the National Grid, and was dedicated to the nation in 2019.
Year-End-Review-2021-Ministry of Road Transport and Highways	**Part of:** Prelims and Mains GS-III: Space and Technology • **PM Gati Shakti - National Master Plan (NMP)** ▪ It is a Rs. 100 lakh-crore project for developing 'holistic infrastructure'.

	▪ The plan is aimed at easier interconnectivity between road, rail, air and waterways to reduce travel time, improve industrial productivity and developing synergies towards building a more harmonised infrastructure. ▪ The push for infrastructure is in line with the government's efforts to step up capital expenditure in infrastructure to promote economic growth. • **World records:** Construction of 2.5 km long 4 lane Concrete pavement at Delhi-Vadodara expressway section within 24 hours. • **Announcement of the voluntary Vehicle Scrappage Policy,** which will phase out unfit vehicles from the country- The policy will not only reduce pollution, caused by the old, unfit vehicles from the road but also lead to substantial employment generation. The policy intends to create scrapping infrastructure in the form of Automated Testing Stations and Registered Vehicle Scrapping Facilities (RVSFs) across the country. • Started a new registration mark for vehicles under **BH series,** wherein those eligible for the scheme need not change the number plate of his vehicle while shifting to another state. This was done to ease the burden of re-registration, which is a cumbersome and time-consuming process. • In a significant step towards seamless movement of vehicles on the National Highways, the Ministry made it mandatory to use **FASTag** at all the toll plazas. • **World records:** Construction of 2.5 km long 4 lane Concrete pavement at Delhi-Vadodara expressway section within 24 hours. • Facilitate the issuance of **International Driving Permit (IDP)** for Indian citizens whose IDP has expired while they are abroad. There was no mechanism for its renewal while citizens were abroad and their IDP had expired. • The Ministry has notified adoption of mass emission standards for **E20 fuel.** • **Electric vehicle Charging Stations** are to be provided by the developer as part of the Wayside Amenities (WSAs) being awarded by the National Highways Authority of India (NHAI). • To revolutionize the transport of goods and reduce the overall logistic costs, the **Automotive Industry Standards Committee** has amended its AIS-113 Standard to include the safety requirements of Road-Trains. • The Ministry amended the Central Motor Vehicles Rules 1989, formalising the registration process of vintage motor vehicles. • A reward scheme was announced in **2021 for Good Samaritan** who has saved life of a victim of a fatal accident involving a motor vehicle by administering immediate assistance and rushing to Hospital within the Golden Hour to provide medical treatment. The amount of award would be Rs 5,000 per incident. An individual Good Samaritan can be awarded maximum 5 times in a year.
Small-Value Digital Payments in Offline Mode	**Context** The Reserve Bank of India (RBI) has come out with the framework for facilitating small-value digital payments in offline mode, a move that would promote digital payments in semi-urban and rural areas. **Key takeaways** • The framework incorporates feedback received from the pilot experiments on offline transactions conducted in different parts of the country between September 2020 and June 2021. • An offline digital payment does not require Internet or telecom connectivity. • Under this new framework, such payments can be carried out face-to-face (proximity mode) using any channel or instrument like cards, wallets and mobile devices.

	• Such transactions would not require an Additional Factor of Authentication. • Since the transactions are offline, alerts (by way of SMS and / or e-mail) will be received by the customer after a time lag. • There is a limit of ₹200 per transaction and an overall limit of ₹2,000 until the balance in the account is replenished. The RBI said the framework took effect 'immediately'.
Automatic Generation Control (AGC)	**Context:** Union Minister of Power dedicated Automatic Generation Control (AGC) to the nation. **Key takeaways** • This is expected to facilitate achieving the government's ambitious target of 500 GW non-fossil fuel-based generation capacity by 2030. • The AGC is being operated by Power System Operation Corporation (POSOCO) through National Load Despatch Centre. • Through AGC, NLDC (National Load Despatch Centre) sends signals to more than 50 power plants in the country every 4 seconds to maintain the frequency and reliability of the Indian Power System. • This will ensure more efficient and automatic frequency control for handling variable and intermittent renewable generation. • Shri R.K. Singh also released a report titled "Assessment of Inertia in Indian Power System" which has been prepared by POSOCO in collaboration with IIT Bombay. • Power System Operation Corporation (POSOCO) • It comes under Ministry of Power as one of the Power PSUs after separating from POWERGRID as its subsidiary organization. • It is responsible to ensure the integrated operation of the Grid in a reliable, efficient, and secure manner. • It consists of 5 Regional Load Despatch Centres (RLDCs) and the National Load Despatch Centre (NLDC).
Year End Review 2021: Ministry of Housing & Urban Affairs	**Pradhan Mantri Awas Yojana-Urban (PMAY-U)** • To address urban housing shortage including the slum dwellers by ensuring a pucca house to eligible urban households by the year 2022 • The technology used to build the houses at faster speed was innovative, specially the Light House projects as part of Global Housing Technology Challenge – India (GHTC - India) initiative, in six States • The initiative led to a new era in the construction technology in India, thus giving impetus to Make in India initiative. • Bringing people and technology together, LHPs will pave the way for a new eco- system where globally proven technologies will be adopted for cost-effective, environment friendly and speedier construction. • Advantages of these LHPs are many, the primary ones being durability, climate-resilient, affordability, safety and speed. **Technology Sub-Mission (TSM)** • Set up to facilitate the adoption of innovative, sustainable, eco-friendly and disaster-resilient technologies and building materials for low-cost, speedier and quality construction of houses. • Has the potential to bring a paradigm shift in the overall housing construction sector in the country. **Affordable Rental Housing Complexes (ARHC) Scheme** • To achieve overall objective of "Housing for All" encompassing the need of affordable rental housing for urban migrants/poor. • ARHCs will provide them dignified living with necessary civic amenities near their place of work. **City Innovation Exchange (CiX) platform**

	• Launched under Smart Cities Mission (SCM), the platform focuses on fostering innovative practices in cities. CiX, through an 'open innovation' process, engages with innovators to design-test-deliver on solutions to pressing urban challenges. **SmartCode** • A SmartCode is a platform was launched by MoHUA that enables all ecosystem stakeholders to contribute to a repository of open-source code for various solutions and applications for urban governance. • It is designed to address the challenges that ULBs face in the development and deployment of digital applications to address urban challenges, by enabling cities to take advantage of existing codes and customising them to suit local needs, rather than having to develop new solutions from scratch. • The India Urban Data Exchange has been developed • A New smart cities website & Geospatial management information system GMIS for project monitoring was also developed to implement and proper scrutiny of the projects under SCM. **Transport4All** ● Aiming to bring together cities, citizen groups, and start-ups to develop solutions that improve public transport to better serve the needs of all citizens. ● Started the EatSmart Cities Challenge which aimed to motivate Smart Cities to develop a plan that supports a healthy, safe and sustainable food environment supported by institutional, physical, social, and economic infrastructure along with the application of 'smart' solutions to combat food related issues. **National Urban Digital Mission (NUDM)** • Will create a shared digital infrastructure for urban India, working across the three pillars of people, process, and platform to provide holistic support to cities and towns. • It will institutionalise a citizen-centric and ecosystem-driven approach to urban governance and service delivery in 2022 cities by 2022, and across all cities and towns in India by 2024. **Prime Minister Street Vendor's AtmaNibhar Nidhi (PM SVANidhi) Scheme** • Has given street food vendors online access to thousands of consumers and help these vendors grow their businesses. • MoHUA launched the Mobile Application for PM SVANidhi se Samriddhi- Socio-economic profiling of PM SVANidhi beneficiaries and their families to link them to various Central Government Schemes • Deendayal Antyodaya Yojana –National Urban Livelihoods Mission (DAY-NULM) scheme • A flagship scheme which aims towards alleviating urban poverty through building strong community institutions, providing skill training, access to affordable credit for self-employment, support for street vendors and shelters for the urban homeless. • Has focussed on equipping the urban poor women with adequate skills and opportunities, and to enable them to promote sustainable micro enterprises. • It mobilises women from urban poor households into SHGs and their federations to create a support system for these women.
Smart cities and Academia Towards Action & Research (SAAR)	**In News:** The Smart Cities Mission, MoHUA has launched "Smart cities and Academia Towards Action & Research (SAAR)" program • A joint initiative of MoHUA, National Institute of Urban Affairs (NIUA) and leading Indian academic institutions of the country. • Under the program, 15 premier architecture & planning institutes of the country will be working with Smart Cities to document landmark projects undertaken by the Smart Cities Mission.

	• The documents will capture the learnings from best practices, provide opportunities for engagement on urban development projects to students, and enable real-time information flow between urban practitioners and academia.
Unnat Jyoti by Affordable LEDs for All (UJALA)	**In News:** UJALA completes 7 years of energy-efficient and affordable LED distribution. In a short span, the programme has evolved to be world's largest zero subsidy domestic lighting programme that addresses concerns like high electrification cost and high emissions that result from inefficient lighting. • 36.78 crore LEDs distributed across the country under UJALA • Saved 47,778 Million kWh energy per annum • 3,86 crore tonnes of reduction in CO2 emissions made possible • Gave impetus to the domestic lighting industry • Provided economies of scale to manufacturers through regular bulk procurement • Readily adopted by all the states, UJALA helped in reducing annual household electricity bills • Garnered attention from top management schools of India; now a part of Leadership case study in Indian Institute of Management (IIM), Ahmedabad. Furthermore, it is also under consideration for being included in the curriculum of Harvard Business School
Intra-State Transmission System – Green Energy Corridor Phase-II	**In News:** The Cabinet Committee on Economic Affairs has approved the scheme on Green Energy Corridor (GEC) Phase-II for Intra-State Transmission System (InSTS) for addition of approximately 10,750 circuit kilometres (ckm) of transmission lines and approx. 27,500 Mega Volt-Amperes (MVA) transformation capacity of substations. • Will facilitate grid integration and power evacuation of approximately 20 GW of Renewable Energy (RE) power projects in seven States namely, Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh. • Will help in achieving the target of 450 GW installed RE capacity by 2030. • Contribute to long term energy security of the country and promote ecologically sustainable growth by reducing carbon footprint. • Generate large direct & indirect employment opportunities for both skilled and unskilled personnel in power and other related sectors.
India to surpass Japan as Asia's 2nd largest economy by 2030: Report	**Context** IHS Markit said in a report that India is likely to overtake Japan as Asia's second-largest economy by 2030. **Key takeaways from the report** • Currently, India is the sixth-largest economy, behind the U.S., China, Japan, Germany and the U.K. • India's nominal GDP is forecast to rise from $2.7 trillion in 2021 to $8.4 trillion by 2030 • By 2030, the Indian economy would also be larger in size than the largest Western European economies of Germany, France and the U.K. • The long-term outlook for the Indian economy is supported by a number of key growth drivers. • An important positive factor for India is its large and fast-growing middle class, which is helping to drive consumer spending. • The country's consumption expenditure will double from $1.5 trillion in 2020 to $3 trillion by 2030. • The Indian economy is forecast to continue growing strongly in the 2022-23 fiscal year, at a pace of 6.7%. • Its large industrial sector have made India an increasingly important investment destination for multinationals in many sectors, including manufacturing, infrastructure and services.
Financial Resolution and Deposit	**Context:** In order to deal with insolvency of firms in the financial sector, the Finance Ministry has recently sought views of the Reserve Bank of India (RBI) on drafting a modified version of the Financial Resolution and Deposit Insurance (FRDI) Bill which was withdrawn in 2018. **About the FRDI Bill**

Insurance (FRDI) Bill	• The Parliament had passed FRDI Bill in 2017, however, it was withdrawn in 2018. • The bill was meant to address the issue of insolvency of firms in the financial sector with the least disruption to the system and other stakeholders. • The Bill was withdrawn due to concerns among the public over safety of deposits despite assurances by the Central government. • A key point of criticism was the so-called bail-in clause in the Bill that said in case of insolvency in a bank, the depositors will have to bear a part of the cost of the resolution by a corresponding reduction in their claims. • Now under a modified version, in order to allay fears of depositors the deposit insurance cover has also been raised to Rs 5 lakh from Rs 1 lakh per account.
Production Linked Incentive (PLI) Scheme for Advanced Chemistry Cell (ACC) Battery Storage	In News: The scheme received an encouraging response from local as well as global investors as bids received is 2.6 times the manufacturing capacity to be awarded i.e. 50 Gwh – a total of 10 bids with capacity ~ 130 Gwh. **Key takeaways** • Aim: To achieve a manufacturing capacity of 50 GigaWatt Hour of ACC and five Giga Watt Hour of Niche ACC with an outlay of 18,100 crore. • ACCs are the new generation of advanced storage technologies that can store electric energy either as electrochemical or as chemical energy and convert it back to electric energy as and when required. • Envisages an investment which will boost domestic manufacturing & also facilitate battery storage demand creation for both electric vehicles and stationary storage along with development of a complete domestic supply chain & Foreign Direct Investment in the country • It will also give a big push to electric mobility, benefiting three-wheelers, four-wheelers and heavy vehicles. • Expected to result in saving to the nation on account of reduction in import of crude-oil to a significant extent and increase the share of renewable energy at the national grid level. • India is currently importing Battery Storage Equipment • The scheme will be helpful in making the country self-reliant (Atmanirbhar), enabling India to leapfrog from traditional fossil fuel-based automobile transportation system to environmentally cleaner, sustainable, advanced and more efficient Electric Vehicles (EV) based system.
National Company Law Tribunal (NCLT)	**Context:** The Supreme Court has upheld a National Company Law Tribunal (NCLT) decision to wind up Devas (Digitally Enhanced Video and Audio Services), once regarded as a move to revolutionise digital media and broadcasting services via satellite. However, it ended up as a case of fraud and corruption under CBI investigation. **What is NCLT?** • Insolvency and Bankruptcy Code was enacted in 2016 for reorganization and insolvency resolution of corporate persons, partnership firms and individuals in a time bound manner for maximization of the value of assets of such persons. • The adjudicating authority is National Company Law Tribunal (NCLT) for companies and LLPs and Debt Recovery Tribunal (DRT) for individuals and partnership firms. • It is a quasi-judicial body in India that adjudicates issues relating to companies in India. • Established on 1st June, 2016 (Companies Act, 2013). • Formed based on the recommendations of the Justice Eradi Committee. • It deals with matters mainly related to companies law and the insolvency law. • Term of members: Appointments will be for five years from the date of assumption of charge or till attaining the age of 65 or until further orders.
SAMARTH (Sustainable Agrarian	**Context:** Recently, the Union Power Secretary chaired the second meeting of Steering Committee for SAMARTH i.e. Sustainable Agrarian Mission on Use of Biomass in coal-based thermal Power Plants.

Mission on use of Agro Residue in Thermal Power Plants)	**About SAMARTH** • It was created to address the issue of air pollution from stubble burning in farms and reduce the carbon footprint generated by thermal power plants which work on coal. • It is a government initiative to use agro-residue, which was earlier regarded as waste. • It is also regarded as National Mission on Use of Biomass in Thermal Power Plants **Its objectives are:** • To increase the levels of co-firing (combustion of two different types of materials at the same time). • To have a larger share of "carbon neutral power generation from the thermal power plants. • Take up research and development work in designing boilers to handle a greater amount of silica and alkalis in biomass pellets. • Work towards improving constraints in supply of such pellets and agro-residue to power plants. • Considering regulatory issues in biomass co-firing.
Solar Roof Top Scheme	**Context:** There is a need to simplifying the Roof Top Scheme, so that the people are able to access it easily. **Change:** The households may also install the roof top by themselves or get the roof top installed by any vendor of their choice, and inform the distribution company about the installation along with a photograph of the system which has been installed. **About Rooftop Solar Programme:** • The aim is to achieve a cumulative capacity of 40,000 MW from Rooftop Solar Projects by the year 2022. • In a grid-connected rooftop or small Solar Voltaic Panel system, the DC power generated from the Solar Voltaic panel is converted to AC power using the power conditioning unit and is fed to the grid. • This scheme is being implemented in the states by distribution companies (DISCOMs). • The MNRE is providing a 40% subsidy for the first 3 kW and 20% subsidy beyond 3 kW and upto 10 kW of solar panel capacity. **Objectives of the Rooftop Solar Programme:** • To promote the grid-connected SPV rooftop and small SPV power generating plants among the residential, community, institutional, industrial and commercial establishments. • To mitigate the dependence on fossil fuel based electricity generation and encourage environment-friendly Solar electricity generation. • To create an enabling environment for investment in the solar energy sector by the private sector, state government and the individuals. • To create an enabling environment for the supply of solar power from rooftop and small plants to the grid.
Sub-Mission on Agricultural Mechanization" (SMAM)	**In News:** In a major boost to promote precision farming in India, guidelines of "Sub-Mission on Agricultural Mechanization" (SMAM) have been amended which envisages granting upto 100% of the cost of agriculture drone or Rs. 10 lakhs, whichever is less, as grant for purchase of drones. **Some of the information that drones can help us with:** • Plant counting: plant size, plot statistics, stand number, compromised plots, planter skips), • Plant height: crop height and density • Vegetation indices: leaf area, anomaly detection, treatment efficacy, infestations, phenology • Water needs: damage/drown out • Drones ensure a permanent monitoring of the crop in the field from planting to harvest.

	Advantages of using drone in farming - • Optimize inputs: Seeds, fertilizers, water • React faster to threats: Weeds, pests, fungi • Save time crop scouting: Treatments & actions • Improve Variable Rates Application: Real time mapping • Estimate yield: Precisely calculate field characteristics
Gherkins	**Context:** India has emerged as the largest exporter of gherkins in the world. **Key takeaways** • India has crossed the USD 200 million mark of export of agricultural processed product, - pickling cucumber, in the last financial year. • It is globally referred to as gherkins or cornichons. • Gherkin cultivation started in India during the early 1990s in Karnataka and later extended to Tamil Nadu, Andhra Pradesh and Telangana. • Nearly 15% production of the world's gherkin requirement is grown in India. • Apart from its export potential, the gherkin industry plays a key role in the creation of rural employment. ○ In India, cultivation of gherkins is carried out under contract farming by around 90,000 small and marginal farmers with an annual production area of 65,000 acres.
Non-Fungible Tokens (NFTs)	**Context:** French luxury fashion brand Hermès is suing an American digital artist who created the MetaBirkins series of NFTs (Non-Fungible Tokens), a rapidly growing part of the cryptoworld. **Key takeaways** • An NFT is a unique, irreplaceable token that can be used to prove ownership of digital assets such as music, artwork, even tweets and memes. • The term 'non-fungible' simply means that each token is different as opposed to a fungible currency such as money (a ten-rupee note can be exchanged for another and so on). • Cryptocurrencies such as Bitcoin and Ethereum are also fungible, which means that one Bitcoin can be exchanged for another. • But an NFT cannot be exchanged for another NFT because the two are different and therefore unique. • Each token has a different value, depending on which asset it represents. • NFT transactions are recorded on blockchains, which is a digital public ledger, with most NFTs being a part of the Ethereum blockchain. • NFTs became popular in 2021, when they were beginning to be seen by artists as a convenient way to monetise their work. • What are the other reasons for which NFTs are in high demand? • NFTs are a part of a new kind of financial system called decentralised finance (DeFi), which does away with the involvement of institutions such as banks. • For this reason, decentralised finance is seen as a more democratic financial system because it makes access to capital easier for lay people by essentially eliminating the role of banks and other associated institutions.
Financial Stability Report (FSR)- Jan 2022	**Context**: Recently, the Reserve Bank of India (RBI) released its latest **Financial Stability Report** (FSR). **What is the significance of Financial Stability Report (FSR)?** • FSR is published twice each year by the RBI that presents an assessment of the health of the financial system. • The RBI also conducts a **Systemic Risk Survey (SRS)**, wherein it asks experts and market participants to assess the financial system on five different types of risks ○ Global ○ Financial

- Macroeconomic
- Institutional
- General

- FSR details the current status of different financial institutions such as all the different types of banks and non-banking lending institutions.
- It also maps the state of **credit growth** and the rate at which borrowers are defaulting on paying back loans.
- Reading the FSR tells us **how robust or vulnerable our financial system** — especially our banking system — is to the changes in the economy.
- As a corollary, it also tells us whether and to what extent will our banks and other lending institutions (such as Non-Banking Finance Companies and Housing Finances Companies) be **able to support future growth.**

What are the important takeaways from the recently released FSR?
Since this is a biannual publication, the default comparison is to the last FSR.

1. Global growth has started to falter

- Since the July 2021 issue of the FSR, the rejuvenation of the global recovery in the first half of 2021 has **started losing momentum,** impacted by
  - Resurgence of infections in several parts of the world
  - Supply disruptions and bottlenecks
  - Persistent inflationary pressures
- **The Goods Trade Barometer of the WTO** shows that the World merchandise trade volumes, which had risen 22.4% year-on-year in Q2 of 2021, have been slowing in the second half of the year.
- **The Baltic Dry Index**, which is a measure of shipping charges for dry bulk commodities, crossed its highest mark in more than a decade in October 2021, but it recorded a sudden drop after that.
- **The Global Economic Surprise Index (GESI),** which compares incoming data with economists' forecasts to capture the surprise element, went into negative territory during Q3 of 2021.
- The slowdown in activity is occurring even in countries with relatively high vaccination rates

2. Disconnect between real economy and India's equity markets

- Lifted by the bull run in equity markets across the globe, the Indian equity market surged and strong investor interest has driven up **price-earnings (P/E) ratios** substantially.

3. Bank credit growth is improving, but not fast enough

- The banking stability indicator (BSI), which indicates the changes in underlying conditions and risk factors of India's commercial banks, showed improvement in soundness, asset quality, liquidity and profitability parameters.
- There is an improvement in the credit growth rate as it forms a "U-shaped" recovery but still there are some matters of concern.
  - The growth rate is still far off the ideal level.
  - Retail credit (less than Rs 5 crore) is growing at a decent clip but the wholesale credit (Rs 5 crore and above) growth continues to struggle.
  - Most of the wholesale credit is being picked up by public sector undertakings while the private sector is holding back from raising fresh funding.

4. Non Performing Assets (NPAs) may rise by September 2022

- The latest FSR pegs the NPA of India's Scheduled Commercial Banks (SCBs) at **6.9% at September 2021.**
- Stress tests indicate that the Gross NPA ratio of all SCBs may **increase to 8.1% by September 2022** under the baseline scenario and further to 9.5% under severe stress.

	● Within the bank groups, public sector banks' GNPA ratio of 8.8% in September 2021 may deteriorate to 10.5% by September 2022 under the baseline scenario. **5. Banking prospects improve** ● Almost 64% of respondents expect the economy to recover fully in the next 1-2 years while 22% believe it may take up to 3 years. ● The latest FSR's analysis suggests that India's banking and financial system has largely improved since the July 2021 report. ● But with global growth faltering, monetary tightening in the developed countries as well as the rise of omicron, the risks are evenly balanced.
Federated Digital Identities	**Context:** The government has invited stakeholder comments on a proposal that seeks to establish 'Federated Digital Identities' to optimise the number of digital identities that a citizen needs to have, by linking various consumer identification data into a single unique ID for digital transactions such as authentication and eKYC services. **Key takeaways** ● The proposal is part of the Electronics and IT Ministry's India Enterprise Architecture 2.0 (IndEA 2.0) framework ● As various government platforms across domains are being digitised, there is a tendency to create more IDs each with its own ID card, ID management, and effort to make it unique, etc. ● Having multiple IDs makes it harder for the common man himself. ● Especially given the diversity in education, awareness and capabilities, this also has a potential to further create exclusion scenarios. **About India Enterprise Architecture 2.0 (IndEA 2.0)** ● IndEA 2.0 aims to enable the governments and the private sector enterprises to design IT architectures that can span beyond organisational boundaries for delivery of integrated services. ● InDEA 2.0 proposes a model of Federated Digital Identities that seeks to optimise the number of digital identities that a citizen needs to have. ● The model empowers the citizen by putting her in control of these identities and providing her the option of choosing which one to use for what purpose. ● It gives the agency to the citizens and protects privacy-by-design. ● Electronic registries can be linked via the IDs to allow easy, paperless onboarding of citizens and also avoid repeated data verification needs. **For example** ● When a beneficiary is registered for the PDS scheme, that record will be linked to Aadhaar by the PDS system storing the Aadhaar number (or a tokenised version of it). ● Similarly, when someone obtains a PAN, that record gets linked to Aadhaar where the Aadhaar number becomes the linking ID. ● Thus, if that person obtains a mutual fund account, the PAN, in turn, gets linked to the mutual fund record.

Kaziranga National Park and Tiger Reserve	**Context** The Assam government is awaiting the Centre's clearance for an elevated road over nine corridors used by the animals of the Kaziranga National Park and Tiger Reserve usually during high floods. • The 35-km elevated road will run along an existing arterial highway. • The "Kaziranga project" will have two tunnels — one with an estimated length of 1.5 km and the other of 600 metres. **Kaziranga National Park** • It is a national park in the Golaghat and Nagaon districts of Assam. • The sanctuary, which hosts two-thirds of the world's great one-horned rhinoceroses, is a World Heritage Site. • Kaziranga is recognized as an Important Bird Area by BirdLife International for conservation of avifaunal species. • Kaziranga has the largest population of the Wild water buffalo anywhere accounting for about 57% of the world population.
Indravati Tiger Reserve	**Context:** For the first time, a large area (400 square kilometers) of the Indravati Tiger Reserve which is a Maoist-affected area, has been covered in tiger census work. **About the tiger reserve** • The tiger reserve is located in the Bijapur district, Chhattisgarh. • The perennial river 'Indravati' forms the boundary of the reserve on the Northern and Western side • It is one of three Project Tiger sites in Chhattisgarh, along with Udanti-sitanadi. • It is home to one of the last remaining populations of the endangered wild water buffalo. • Indravati attained the status of a national park in 1981 and a tiger reserve in 1983. • The topography of the park mainly comprises undulating hilly terrain. • The vegetation is mainly of the tropical moist and dry deciduous type with predominance of bamboo, sal and teak. • The most common trees are teak, lendia, salai, mahua, tendu, semal, haldu, ber and jamun. • It is home to gaur (Indian bison), nilgai, blackbuck, chausingha (four-horned antelope), sambar, chital, Indian muntjac, Indian spotted chevrotain, wild boar, tigers, leopards, sloth bears, dholes (wild dog) and striped hyenas. • The reserve had three tigers in 2018-19, when the last census took place.
Fimbristylis Sunilii; Neanotis Prabhuii	**Context** Researchers have reported two new plant species from the biodiversity-rich Western Ghats regions in Thiruvananthapuram and Wayanad districts of Kerala. They have been named Fimbristylis sunilii and Neanotis prabhuii. **Fimbristylis sunilii:** • Collected from the grasslands of Ponmudi hills, Thiruvananthapuram, Fimbristylis sunilii has been named after plant taxonomist C.N. Sunil, retired professor and research guide of Botany, SNM College. • A perennial plant of the Cyperaceae family, it stands 20-59 cm tall and was collected from an elevation of 1,100 metres. • Fimbristylis sunilii has been provisionally assessed as data deficient (DD) under the IUCN Red List categories. **Neanotis prabhuii:** • Neanotis prabhuii is a prostrate perennial herb named after K.M. Prabhukumar, Senior Scientist at CSIR-NBRI, Lucknow, in recognition of his research on flowering plants of the Western Ghats.

	• Discovered in the Chembra Peak grasslands of Wayanad, it hails from the family Rubiaceae and grows on high-altitude grasslands. • Neanotis prabhuii grows up to 70 cm in length and is many-flowered with the petals pale pink in colour.
Chilika Lake	**Context** Chilika Lake saw a million birds, including the uncommon Mongolian gull, visiting the waterbody this year. • Last year, the count in the Chilika was over 12 lakh. • The decrease is attributed to high water level and presence of water in cultivated fields in adjoining areas. Water birds love to flock to large mudflats. **Chilika Lake** • Chilika is Asia's largest and world's second largest lagoon. • It is the largest wintering ground for migratory birds on the Indian sub-continent and is home to a number of threatened species of plants and animals. • In 1981, Chilika Lake was designated the first Indian wetland of international importance under the Ramsar Convention. • Major attraction at Chilika is Irrawaddy dolphins which are often spotted off Satpada Island. • The large Nalabana Island (Forest of Reeds) in the lagoon area was declared a bird sanctuary in 1987. • Kalijai Temple - Located on an island in the Chilika Lake. • Chilika Lake hosts birds migrating from thousands of miles away from the Caspian Sea, Lake Baikal, Aral Sea, remote parts of Russia, Mongolia, Central and Southeast Asia, Ladakh and the Himalayas.

Species in news: Gharials	**Context**: The Assam government has issued notification to make Orang National Park more than thrice its existing size and has planned to reintroduce Gharials into the expanded area.
	About Gharials
	• Gharials are a type of Asian crocodilian distinguished by their long, thin snouts.
	  ○ Crocodilians are a group of reptiles that includes crocodiles, alligators, caimans, and more
	• India has three species of Crocodilians namely:
	  ○ Gharial: IUCN Red List- Critically Endangered
	  ○ Mugger crocodile: IUCN- Vulnerable.
	  ○ Saltwater crocodile: IUCN- Least Concern.
	• All the three are listed on Appendix I of CITES and Schedule I of the Wild Life (Protection) Act, 1972.
	  ○ However, Saltwater Crocodile populations of Australia, Indonesia and Papua New Guinea are included in Appendix II of CITES.
	• Habitats include: Fresh waters of the northern India – Chambal river, Ghagra, Gandak river and the Sone river (Bihar).
	• Population of Gharials is a good indicator of clean river water.
	• Conservation Efforts:
	  ○ Breeding Centres of Kukrail Gharial Rehabilitation Centre in Lucknow, Uttar Pradesh, National Chambal Sanctuary (Gharial Eco Park, Madhya Pradesh).
	Orang National Park
	• It is located in Assam.
	• It is on the northern bank of the Brahmaputra River, and is strategic to the Kaziranga **Orang Riverine Landscape.**
	• It was recognised as a tiger reserve in 2016 and is often called 'Mini Kaziranga'
	• It is known for the one-horned rhino, tigers, elephants, wild boars, pygmy hogs, and a variety of fish, among a host of other flora and fauna species.
	• Other national parks in Assam: Kaziranga, Manas, Nameri, Dibru-Saikhowa, Raimona and Dehing Patkai.

Global Risks Report 2022	**Context:** The 17th edition of Global Risks Report was released by the World Economic Forum recently. **About the Global Risks Report** • The report tracks global risk perceptions among risk experts and world leaders in business, government, and civil society. • It examines risks across five categories: economic, environmental, geopolitical, societal, and technological. **Key takeaways from the current report** • The world enters the third year of the COVID-19 pandemic, the climate crisis remains the biggest long-term threat facing humanity. • It has ranked 'climate action failure' as the number one risk, with potentially the most severe impact over the next decade. • Developing economies (except China) will have fallen 5.5% below their pre-pandemic expected GDP growth by 2024, while advanced economies will have surpassed it by 0.9%. • It is likely that any transition that achieves the net-zero goal by 2050 will be disorderly due to the insufficient nature of current commitments. • Digital inequality and cybersecurity failure also feature among the critical short- and medium-term threats. **Do you know?** • Following are the reports released by WEF: ○ Global Risks Report ○ Fostering Effective Energy Transition ○ Global Social Mobility Report ○ The Global Gender Gap Report
Eastern swamp deer	**Context:** The population of the vulnerable eastern swamp deer, which is extinct elsewhere in South Asia, has dipped in the Kaziranga National Park and Tiger Reserve. **Key takeaways** • The eastern swamp deer is endemic to Kaziranga and is not the primary prey of the park's carnivores, primarily the tiger. • But its population is crucial for the ecological health of the tiger reserve. • The encouraging sign is the animal has now moved to other areas such as Orang National Park and Laokhowa-Burachapori wildlife sanctuaries. **About Swamp deer** • There are three subspecies of swamp deer found in the Indian Subcontinent. ○ The western swamp deer found in Nepal, ○ Southern swamp deer/Hard Ground Barasingha, found in central and north India and ○ Eastern swamp deer found in the Kaziranga (Assam) and Dudhwa National Parks (Uttar Pradesh). • Protection Status of Swamp Deer: ○ IUCN Red List: Vulnerable ○ CITES: Appendix I ○ Wildlife Protection Act, 1972: Schedule I
Living root bridges of Meghalaya	**Context:** The Zoological Survey of India (ZSI) has underlined some green rules for the living root bridges of Meghalaya to get the UNESCO World Heritage Site tag. **About living roots** • A living root bridge is like a suspension bridge formed by guiding the pliable roots of the rubber fig tree (Ficus elastica) across a stream or river and allowing the roots to grow and strengthen over time. • There are no records to suggest when the Khasi community started the living root bridge tradition.

	• Ecologists say it highlights the symbiotic relationship between people and nature. • Such a bridge is locally called jingkieng jri . **About UNESCO World Heritage Site** • A World Heritage Site is a place that is listed by UNESCO for its special cultural or physical significance. • The list of World Heritage Sites is maintained by the international 'World Heritage Programme', administered by the UNESCO World Heritage Committee. • UNESCO seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. • This is embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972. • India now has 39 world heritage sites
Kerala Bird Atlas (KBA)	**Context:** The Kerala Bird Atlas (KBA), the first-of-its-kind State-level bird atlas in India, has created solid baseline data about the distribution and abundance of bird species across all major habitats. **Key takeaways** • It is Conducted as a citizen science-driven exercise. • The KBA has been prepared based on systematic surveys held twice over 60 days a year during the wet (July to September) and dry (January to March) seasons between 2015 and 2020. • It accounts for nearly three lakh records of 361 species. • It is arguably Asia's largest bird atlas in terms of geographical extent. **Key findings** • It was found that the species count was higher during the dry season than in the wet seasons. • Species richness and evenness were higher in the northern and central districts than in the southern districts. • Most of the endemics were concentrated in the Western Ghats while the threatened species were mostly along the coast. • The survey ignored the short duration passage of migrant species.
Ganoderma	**Context**: Researchers from Kerala have identified two new species of fungi from the genus Ganoderma that are associated with coconut stem rot. **Key takeaways** • The two fungi species are Ganoderma keralense and G. pseudoapplanatum. • The DNA barcodes have been made publicly available in DNA sequence repositories so that future studies can use it for early detection of the pathogen. • The butt rot or basal stem rot of coconut is known by several names in different parts of India. • Such as: Ganoderma wilt (Andhra Pradesh), Anaberoga (Karnataka) and Thanjavur wilt (Tamil Nadu), to mention a few. • The infection begins at the roots, but symptoms include discolouration and rotting of stem and leaves. • In the later stages, flowering and nut set decreases and finally the coconut palm dies.
Indian Renewable Energy Development Agency (IREDA)	**Context:** The Cabinet Committee on Economic Affairs has approved the equity infusion of Rs.1500 crore in Indian Renewable Energy Development Agency Limited (IREDA) recently. **Key takeaways** • This equity infusion will help in employment generation of approximately 10200 jobs-year and CO2 equivalent emission reduction of approximately 7.49 Million Tonnes CO2/year.

	• It will also enhance the specialized non-banking finance agency's net worth, which will help it in additional financing. **About IREDA** • IREDA is a Public Limited Government Company established as a Non-Banking Financial Institution in 1987 • It is engaged in promoting, developing and extending financial assistance for setting up projects relating to new and renewable sources of energy and energy efficiency/conservation. • IREDA has been awarded "Mini Ratna" (Category -I) status in 2015 by the Ministry of New and Renewable Energy (MNRE). • IREDA's Motto is "Energy for Ever". • It offers a credit enhancement guarantee scheme to support the issuance of bonds by wind and solar energy project developers. **Do you know?** • At COP26 in Glasgow last November, Indian Prime Minister announced India's aim to achieve net-zero emissions by 2070 and also committed to achieving 500 GW of installed electricity capacity from non-fossil fuel sources by 2030. • The country has installed electricity generation capacity of 392 GW, constituting 209 GW of coal and 104 GW of renewables.
Environment Impact Assessment (EIA)	**Context:** The details of the recently released draft environment impact assessment (EIA) report for the mega development project in the Great Nicobar Island have raised serious questions. • The questions are related to submission of incorrect or incomplete information, scientific inaccuracy and failure to follow appropriate procedure. • A public hearing to discuss the report has been scheduled. **What is the matter related to?** The matter is related to the NITI Aayog-piloted Rs. 72,000-crore integrated project in Great Nicobar that includes construction of a mega port, an airport complex, a township spread over 130 sq. km of pristine forest and a solar and gas-based power plant. Ecologists and researchers have been raising concerns about this project for over a year. **Environment Impact Assessment (EIA)** • It is a process of evaluating the likely environmental impacts of a proposed project • It is statutorily backed by the Environment Protection Act, 1986. • Environment Impact Assessment Notification of 2006 has decentralized the environmental clearance projects by categorizing the developmental projects in two categories – Category A (national level appraisal) and Category B (state level appraisal). o Category A projects – They require mandatory environmental clearance and thus they do not undergo the screening process. o Category B Projects– They undergo screening process and they are classified into two types: o Category B1 projects (Mandatorily require EIA). o Category B2 projects (Do not require EIA).
Peru declares 'environmental emergency'	**Context:** Recently, the Peruvian government declared a 90-day "environmental emergency" in damaged coastal territories, after an oil spill that saw 6,000 barrels of crude oil pour into the sea. **What is an environmental emergency?** • It is defined as a "sudden-onset disaster or accident resulting from natural, technological or human-induced factors, or a combination of these, that causes or threatens to cause severe environmental damage as well as loss of human lives and property". • According to UNEP, Countries facing an environmental emergency often require technical support and specialized expertise to respond effectively, minimize adverse impacts, and recover rapidly.

	What is oil spill? • An oil spill is the release of a liquid petroleum hydrocarbon into the environment, especially the marine ecosystem, due to human activity, and is a form of pollution. • The term is usually given to marine oil spills, where oil is released into the ocean or coastal waters, but spills may also occur on land. **About Peru** • Peru is a country in western South America. • It is a megadiverse country with habitats ranging from the arid plains of the Pacific coastal region in the west to the peaks of the Andes mountains extending from the north to the southeast of the country to the tropical Amazon Basin rainforest in the east with the Amazon river. • It is essentially a tropical country. • The cold Peru Current (or Humboldt Current), flows along its Pacific shoreline.

Najafgarh jheel wetland	**Context:** Recently, the National Green Tribunal (NGT) has directed Delhi and Haryana to enforce the Environment Management Plans (EMP) that the two governments have prepared for the rejuvenation and protection of the Najafgarh jheel, a transboundary wetland.
	Key takeaways
	• According to NGT, the implementation of these action plans is to be monitored by the National Wetland Authority through the respective State Wetland Authorities.
	• The Union Environment Ministry set up a three-member committee to prepare an integrated EMP
	• The panel suggested setting up a "Transboundary Najafgarh Jheel Management Committee".
	• According to this plan, the top priority would be to notify the Najafgarh jheel and its area of influence under The Wetlands (Conservation and Management) Rules, 2017.
	• The rules prohibit and regulate certain activities within wetlands and their 'zone of influence'.
	What is a Wetland?
	• Wetland is transitional land between terrestrial and aquatic eco-systems where water table is usually at or near surface or it may be land covered by shallow water.
	• Importance- Wetlands supports rich biodiversity and provides wide range of ecosystem services such as water storage and purification, flood mitigation, erosion control, aquifer recharge etc.
	• In India there are 115 wetlands officially identified by Central Government.
	• Out of these, 26 have identified as wetlands of international importance under Ramsar Convention designated as Ramsar sites.
	  ○ The Ramsar list is a list of wetland sites that are deemed to be of "international importance" under the Ramsar Convention, 1971 (India is a signatory to it)
	  ○ The list aim "to develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the maintenance of their ecosystem components, processes and benefits"
	About Najafgarh jheel/Marsh wetland
	• Najafgarh Lake, fed by Sahibi River, used to be a vast lake in the south west Delhi
	• It was connected to the river Yamuna by a natural shallow nullah or drain called the Najafgarh nullah.
	• The presence of 281 bird species, including several threatened ones such as Egyptian vulture, Sarus Crane, Steppe Eagle, Greater Spotted Eagle, Imperial Eagle and those migrating along the Central Asian Flyway has been reported at the lake.
	• It is the second largest water body in Delhi-NCR after the Yamuna.
	• The lake is largely filled with sewage from Gurugram and surrounding villages of Delhi.
	What is NGT?

	• It is a statutory body established in 2010, as per the National Green Tribunal Act. • It is a specialised judicial body equipped with expertise solely for the purpose of adjudicating environmental cases in the country. • The chairperson of the NGT is a retired judge of the Supreme Court • It shall not be bound by the procedure laid down under the Code of Civil Procedure, 1908 but shall be guided by principles of natural justice. • Tribunal's orders are binding and it has power to grant relief in the form of compensation and damages to affected persons.

Deendayal Port: Crosses the 100 Million Mark

Kandla, officially Deendayal Port, is a seaport and town in Kutch district of Gujarat state, located on the Gulf of Kutch.

About Gulf of Kutch

- An inlet of the Arabian Sea along the west coast of India, in the state of Gujarat
- Divides Kutch and the Kathiawar peninsula regions of Gujarat; the Rukmavati River empties into the Arabian Sea nearby. Gulf of Khambhat lies in south and the Great Rann of Kutch is located in north of the gulf.
- Renowned for extreme daily tides thus, making it a region with highest potential of tidal energy generation.
- Is referred to in the Periplus of the Erythraean Sea, a travelogue written in about 50 CE, as the Gulf of Baraca
- One of the four major coral reef areas – the first coral garden will be set up near Mithapur in the Gulf of Kutch
- Facing incidences of coral bleaching
  - Bleached corals are likely to have reduced growth rates, decreased reproductive capacity, increased susceptibility to diseases and elevated mortality rates]
  - Coral bleaching and associated mortality not only have negative impacts on coral communities, but they also impact fish communities and the human communities that depend on coral reefs and associated fisheries for livelihoods and wellbeing.
  - Coral colonies provide a source of food and shelter for countless reef-associated organisms and their health is of critical importance to the ecology of the reef community.
- Dugong (Vulnerable), also called the sea cow, is found here
- Issues being faced: Extraction of corals and sands by cement industries, increased turbidity of water, oil refineries, chemical industries and mechanized fishing boats.

Katrol Hill Fault (KHF)

Context: According to a recent study, major earthquake events in the last 30,000 years have resulted in spectacular changes in landscape of the Katrol Hill Fault (KHF) in the Kachchh region, Gujarat.

Key takeaways

- Real-time monitoring of earthquakes since 2001 Bhuj earthquake indicate that most of the faults in the region are seismically active.
- Studies have estimated the length of surface rupture produced by three large magnitude earthquakes during the last ~30,000 years as nearly 21 km.
- It also shows that the KHF is a credible seismic source capable of generating surface rupture hazard in the Kachchh Basin.

About earthquake

- An earthquake is a natural event of shaking of the earth.

	• It is caused due to release of energy, which generates waves that travel in all directions. • The location below the earth's surface where the earthquake starts is called the hypocenter, and the location directly above it on the surface of the earth is called the epicenter. **Do you know?** • Seismicity in the Kachchh region is highly complex as it is characterized by multiple seismic sources in the form of several East-West trending fault lines. • These fault lines release continuously accumulating tectonic stresses at intervals resulting in earthquakes.
Hunga Tonga-Hunga Ha'apai volcano	**Context** The Pacific country of Tonga experienced a large volcanic eruption recently followed by a tsunami that flooded parts of the capital, Nuku'alofa. • There is no information on property damage or casualties till yet. • The eruption of the Hunga Tonga-Hunga Ha'apai volcano sent shockwaves across the South Pacific. **About volcanoes** • A volcano is an opening in the earth's crust through which gases, molten rocks materials (lava), ash, steam etc. are emitted outward in the course of an eruption. • Volcanic activity is an example of endogenic process. • Depending upon the explosive nature of the volcano, different landforms can be formed such as a plateau or a mountain.
Indonesia relocates capital due to rising sea levels	**Context** Indonesia's parliament has passed a law approving the relocation of its capital from slowly sinking Jakarta to a site 2,000 km away on the jungle-clad Borneo island that will be named "Nusantara". • The law was passed due to rising sea levels and severe congestion on densely populated Java island. **About Sea Level Rise (SLR)** • SLR is an increase in the level of the world's oceans due to the effects of climate change, especially global warming, • It is induced by three primary factors: Thermal Expansion, Melting Glaciers and Loss of Greenland and Antarctica's ice sheets. • Sea level is primarily measured using tide stations and satellite laser altimeters. • Global sea level has been rising over the past century, and the rate has accelerated in recent decades.

Birth Anniversary of Rani Velu Nachiyar	• The first queen to fight against the British colonial power in India • Known by Tamils as Veeramangai • The princess of Ramanathapuram and the only child of Raja Chellamuthu vijayaragunatha Sethupathy and Rani Sakandhimuthal of the Ramnad kingdom. • Trained in war match weapons usage, martial arts like Valari, Silambam (fighting using stick), horse riding and archery • A scholar in many languages and she had proficiency with languages like French, English and Urdu • Married the king of Sivagangai, with whom she had a daughter. When her husband, Muthuvaduganathaperiya Udaiyathevar, was killed by British soldiers and the son of the Nawab of Arcot, she was drawn into battle. She escaped with her daughter and lived under the protection of Palayakaarar Kopaala Naayakkar at Virupachi near Dindigul for eight years. • Frustrated by the joining of forces against him, the Nawab ordered that Velu Nachiar and Marudhu Brothers were permitted to return to Sivaganga and rule the country subject to payment of Kist to the Nawab. • Abiding by this Order, Rani Velu Nachiar accompanied by Marudu brothers and Vellachi Nachiar entered Sivaganga. • An agreement was reached where by Rani Velu Nachiar was permitted to govern the Sivaganga Country and Chinna Marudu, the younger was appointed her minister and the elder Vellai Marudu as the Commander-in-chief. Thus the widow Queen Velu Nachiar succeeded her husband in 1780. • Rani Velu Nachiyar was the first queen to fight for the freedom from the British in India. She granted powers to the Marudu brothers to administer the country in 1780.
Nai Talim	**Context** Recently, the Vice President of India said that the New Education Policy follows the 'Nai Talim' of Mahatma Gandhi by giving importance to the mother tongue as the medium of instruction at school level. **About Nai Talim-** • Nai-Talim, also known as Buniyadi Shikshan, means basic education. • It is also called Experiential Learning. • It had laid emphasis on making mother tongue as the medium of instruction in addition to free compulsory education and skill training to the students. • It is essentially a mass education approach due to its centrality of socially useful work, and was expected to create a National System of Education. • Mahatma Gandhi gave his scheme of Nai Talim (New Education) in a well formulated approach to education in 1937 in his newspaper 'Harijan'.
Parkash Purab of Sri Guru Gobind Singh Ji	• The auspicious occasion of Guru Gobind Singh Jayanti is also known as the Prakash Parv of the tenth Sikh Guru, Guru Gobind Singh Ji. It is the birth anniversary of Guru Gobind Singh and falls every year in December or January. • Born as Gobind Rai, was the tenth Sikh Guru, a spiritual leader, warrior, poet and philosopher. • He formally became the leader and protector of the Sikhs at the age of nine after his father, Guru Tegh Bahadur, the ninth Sikh Guru, was killed by Aurangzeb for refusing to convert to Islam. • Guru Gobind Ji led the Sikh community through his teachings and philosophy and soon gained historical importance. • He was responsible for institutionalising the Khalsa, who played a significant role in protecting the Sikhs after his death.

	• Guru Gobind Singh Ji declared Guru Granth Sahib as Sikhism's holy scripture in 1708, before his death. • Guru Gobind Singh Ji was a great warrior. He was known for his inclination towards poetry and the philosophies and writings he stood by. He refused to answer the Mughal invaders and fought alongside the Khalsa to protect his people. Under his guidance, his followers adhered to a strict code. His philosophies, writings, and poetry inspire people to this day. • To celebrate Guru Gobind Singh Jayanti, Sikhs around the world visit Gurudwaras, where prayer meetings take place in honour of Guru Gobind Singh Ji. • People participate in processions organised by the Gurudwaras, hold kirtans and also do Seva, a significant part of the Sikh religion, for the community.
Bhimbetka cave	Part of: Prelims and GS-I History and Culture Context The depiction of two-horned Sumatran rhino was recently discovered in the Bhimbetka rock shelters of Madhya Pradesh (MP) • It was drawn with a red pigment in Urden, one of the caves in the Bhimbetka complex. • It suggests early human migration in the subcontinent. **About Bhimbetka cave** • The Bhimbetka rock shelters are an archaeological site in MP that spans the prehistoric **Paleolithic and Mesolithic periods.** • It exhibits the earliest traces of human life in India and evidence of Stone Age starting at the site in Acheulian times. • It is a UNESCO World Heritage Site. • Discovery: The Bhimbetka rock shelters were found by V S Wakankar in1957. • It is popular for its prehistoric cave paintings done in red and white. **Sumatran Rhino** • It is the smallest of all rhino species. • Very few of them are left mainly in Sumatra and Borneo in Indonesia. **Do you know?** • Other species of Rhino: Black Rhino, White Rhino, Greater One-Horned Rhino, Javan Rhino • **IUCN Red List Status:** ○ White Rhino: Near Threatened. ○ Greater One Horned: Vulnerable. ○ Black Rhino: Critically endangered. ○ Javan: Critically Endangered ○ Sumatran Rhino: Critically Endangered
10th century stone idol of Goat Head Yogini	**In News:** A 10th century stone idol of Goat Head Yogini that had been illegally removed from a temple in Lokhari village in Banda district of Uttar Pradesh is being returned to India from UK. • The sculpture is of a goat headed Yogini that originally belonged to a group of stone deities in sandstone and installed in Lokhari temple • A similar sculpture of the buffalo-headed Vrishanana Yogini, apparently stolen from the same temple at Lokhari village had been recovered and repatriated by Embassy of India, Paris in 2013. • Yoginis are a group of powerful females divinities associated with the Tantrik mode of worship. • They are worshipped as a group, often 64 and are believed to possess infinite powers.

Kathak dancer Pandit Birju Maharaj	• A descendant of the Maharaj family of Kathak dancers • Was from Lucknow's Kalka-Bindadin Gharana • One of the youngest artistes to be awarded a Sangeet Natak Akademy (28). • Conferred with a Padma Vibhushan • Won the National Film Award in 2012 **About Kathak dance form** • The origin of Kathak is traditionally attributed to the traveling bards of ancient northern India known as Kathakars or storytellers. • The term Kathak is derived from the Vedic Sanskrit word Katha which means "story", and Kathakar which means "the one who tells a story", or "to do with stories". • Only classical dance of India having links with Muslim culture, it represents a unique synthesis of Hindu and Muslim genius in art. • The nineteenth century saw the golden age of Kathak under the patronage of Wajid Ali Shah, the last Nawab of Oudh. He established the Lucknow gharana with its strong accent on bhava, the expression of moods and emotions. • The Jaipur gharana known for its layakari or rhythmic virtuosity and the Benaras gharana are other prominent schools of Kathak dance. • Raslila: The Vaishnavite cult which swept North India in the 15th century. And the resultant bhakti movement contributed to a whole new range of lyrics and musical forms. The Radha-Krishna theme proved immensely popular along with the works of Mirabai, Surdas, Nandadas and Krishnadas. • Recognized by UNESCO under Intangible Cultural Heritage of India
Guru Ravidas	**Context** Recently, the Election Commission has postponed Punjab elections 2022 by a week to February 20 in view of Guru Ravidas Jayanti which falls on February 16. **About Guru Ravidas** • Ravidas, also called Raidas, of the 15th or 16th century, was a mystic, poet, saint of North Indian Bhakti movement • He founded the Ravidassia religion and compiled a new holy book, Amritbani Guru Ravidass Ji. • He was born in Varanasi into untouchable leather-working Chamar caste. • He valued the worship of a formless God. • Along with Kabir, he was one of the most noted disciples of Bhagat Ramanand. • 41 verses of Bhakt Ravidas are incorporated into Sikh's religious book, Adi Granth. • He was vocal against the varna (caste) system • He imagined an egalitarian society called Begumpura, means "land without sorrow" • His disciples came to be known as Ravidas-panthis and followers came to be known as Ravidassias. • He also mentioned 'Sahaj', a mystical state where there is a union of the truths of the many and the one.
Somnath Temple	**Context:** Indian Prime Minister will inaugurate the new Circuit House at Somnath. **About Somnath Temple** • The Somnath temple, also called Somanātha temple or Deo Patan, is located in Prabhas Patan, Veraval in Gujarat. • It is one of the most sacred pilgrimage sites for the Hindus, • They believe it to be the first among the twelve Jyotirlinga shrines of Shiva. • The present Somnath temple is reconstructed in the Māru-Gurjara style of Hindu temple architecture.
125th birth anniversary of Netaji Subhas Chandra Bose – Parakram Diwas	**In News:** A 'grand statue' of Subhas Chandra Bose will be installed at India Gate. The statue, made of granite, shall be a fitting tribute to the immense contribution of Netaji in our freedom struggle, and would be a symbol of the country's indebtedness to him. Till the work for the statue is completed, a hologram statue of Netaji will be present at the same place. **Life of Netaji Subhas Chandra Bose**

	• Twice elected President of the Indian National Congress, (1938-Haripur and 1939-Tripuri). • Actively participated in the Salt Satyagraha of 1930 and vehemently opposed the suspension of Civil Disobedience Movement and signing of the Gandhi-Irwin Pact in 1931. • Owing to political differences, he resigned from the Congress Presidentship in 1939 and organised the All India Forward Bloc a faction within the Congress in Bengal. ○ Stood for unqualified swaraj (independence), and opposed Motilal Nehru Report which spoke for dominion status for India. • In Calcutta, Bose organised mass protests and was arrested. He was later put under house arrest from where he escaped. • Organized youth and promoted trade union movements. In 1930, he was elected Mayor of Calcutta, the same year he was elected the President of AITUC. **Azad Hind Fauj** • Leader of Azad Hind Government • Head of State of this Provisional Indian Government-in-exile • Bose was convinced that armed struggle was the only way to achieve independence for India. He had been a leader of the radical wing of the Indian National Congress in the late 1920s and 1930s, rising to become Congress president in 1938 and 1939 but was ousted following differences with Mahatma Gandhi and the Congress leadership. • Subhas Chandra Bose had escaped from India in 1941 and gone to Germany to work for India's Independence. In 1943, he came to Singapore to lead the Indian Independence league and rebuild the Indian National Army (Azad Hind Fauj) to make it an effective instrument for the freedom of India. • Netaji went to the Andaman which had been occupied by the Japanese and hoisted there the flag of India. In early 1944, three units of the Azad Hind Fauj (INA) took part in the attack on the north-eastern parts of India to oust the British from India. • The Azad Hind Fauj, with the slogan of 'Delhi Chalo' and the salutation Jai Hind was a source of inspiration to Indians, inside and outside the country. Netaji rallied together the Indians of all religions and regions, living in south-east Asia, for the cause of India's freedom. • A women's regiment of Azad Hind Fauj was formed, which was under the command of Captain Lakshmi Swaminathan. It was called the Rani Jhansi regiment. The Azad Hind Fauj became the symbol of unity and heroism to the people of India. • Bose's death was seen as the end to the Azad Hind movement. **Note:** • Netaji Subhas Chandra Bose Dweep: Ross Island of Andaman & Nicobar Island • Bose is among the most misunderstood icons of modern India because much information about his work and his ideas have either remained unutilised or inaccessible.
Kathakali dance	**In news:** PM condoles demise of noted Kathakali dancer Ms. Milena Salvini **About Kathakali dance** • Kathakali is a blend of dance, music and acting and dramatizes stories, which are mostly adapted from the Indian epics. • One of the eight classical dances of India • It is a stylised art form, the four aspects of abhinaya - angika, aharya, vachika, satvika and the nritta, nritya and natya aspects are combined perfectly. • The dancer expresses himself through codified hastamudras and facial expressions, closely following the verses (padams) that are sung. • Kathakali derives its textual sanction from Balarama Bharatam and Hastalakshana Deepika.

	• Kathakali symbolizes sky or ether. **State:** Kerala; The face of a Kathakali dancer being the logo of Kerala tourism Practiced by only male dancers, however, the last few years have seen a leap in the involvement of women in Kathakali (Mrinalini Sarabhai). • Originated as part of the bhakti movement and is believed to have been performed by soldiers of the kingdom, as the plays were written by a prince himself. • Since they were well-trained in the martial art of kalari, troupes that followed in their footsteps all across the land also implemented rigorous exercises as part of the training process. And thence started the practice of body massages using the feet (chavitty uzhichil). This practice is believed to be one major reason why women were not welcome in exploring the art. **Unique names** • Aharya: Make-up is suited to character like Krishna and Rama wear special crown decorated with peacock feathers. • Todayam: It is a devotional number performed where one or two characters invoke the blessings of the gods • Sopana sangeet: It is said to be the ritual singing of the Ashtapadis on the flight of steps leading to the sanctum sanctorum. **Unique Features** • Costumes: Unlike other dance forms, the use of elaborate makeup and costumes are central to Kathakali. They used to differentiate between different characters in story telling such as a Noble, a Royalty, an evil etc. • Facial expressions: While most other dance forms like Bharatnatyam and Odissi focus on hand gestures and body postures, a Kathakali dancer emphasizes on their facial expressions instead to depict various emotions. Here body movements are specifically controlled. • Music: Heavy use of drums to create an overwhelming and loud environment to showcase the conflict between good and evil. • ● Chakiarkoothu, Koodiyattam, Krishnattam and Ramanattam are few of the ritual performing arts of Kerala which have had a direct influence on Kathakali in its form and technique.

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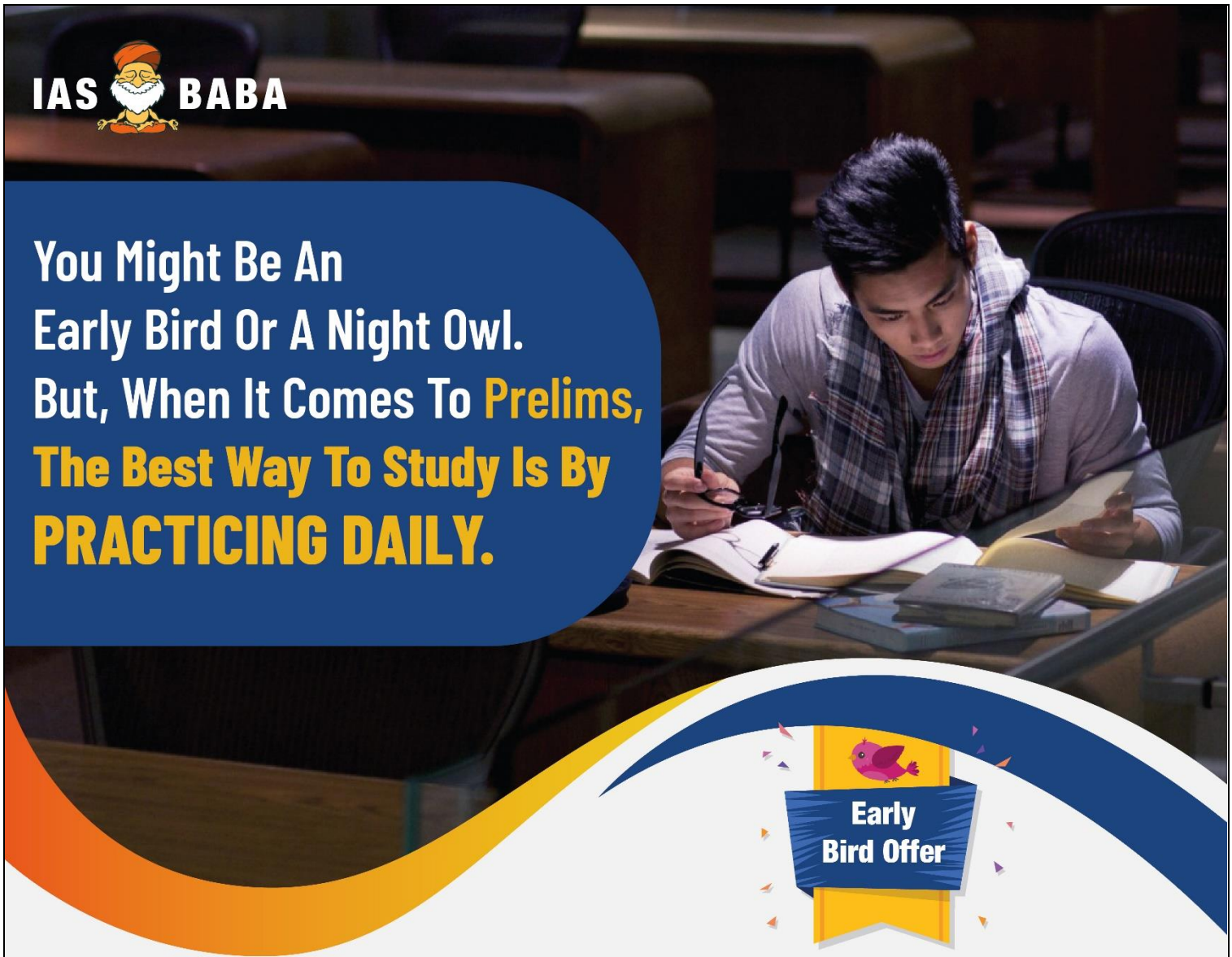

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National Centres for Disease Control (NCDC)	**Context** The Delhi-based National Centres for Disease Control (NCDC), a Union Health Ministry laboratory and a key lab in India's genome sequencing network, has asked States to pause sending COVID-19 positive samples to it.
	About The National Centre for Disease Control (NCDC)
	• It was formerly the National Institute of Communicable Diseases (NICD).
	• NICD was transformed into the National Centre for Disease Control (NCDC) with a larger mandate of controlling emerging and re-emerging diseases in 2009.
	• It is a national level institute for training specialized manpower for public health, laboratory sciences and entomological services and is involved in various applied research activities.
	• **Major Functions**
	  ○ Undertakes investigations of disease outbreaks all over the country.
	  ○ Provides referral diagnostic services to individuals, community, medical colleges, research institutions and state health directorates.
	  ○ Engaged in generation and dissemination of knowledge in various areas like Epidemiology, Surveillance, and Laboratories etc.
	  ○ Applied integrated research in various aspects of communicable as well as some aspects of non-communicable diseases has been one of the prime functions of the Institute.
	• The Institute is under administrative control of the Director General of Health Services, Ministry of Health and Family Welfare.
	• The Institute has its headquarters in Delhi.

Year End Review: Ministry of Electronics and Information Technology (MeitY)	• Digital identity-Aadhaar provided to over 126 Crore people - Aadhaar is world's largest digital identity programme that provides biometric and demographic based unique digital identity that can be authenticated anytime, anywhere and also eliminates duplicate & fake identities. It provides an identity infrastructure for delivery of various social welfare programmes. • Around 5.36 crore candidates have been enrolled and 4.54 crore have been trained under PMGDISHA Scheme - PMDISHA aim to provide digital literacy in rural India by covering 6 crore rural households • State-of-the-art VLSI Laboratories setup at 60 institutes across country • About 52,000 number of specialized manpower trained under Special Manpower Development Programme for Chips to System Design (SMDP-C2SD) • Number of digital transactions increase from 1085 Cr in FY 2016-17 to 5,554 Cr in 2020-21, at a CAGR of 50.42% • 45,500 persons get direct employment under BPO promotion scheme of Ministry • During FY 2021-22, C-DAC commissioned two systems of 650 TF (800TF Peak) each at IIT Hyderabad and C-DAC Bangalore under Phase-II of National Supercomputing Mission • Systems including 3PF Peak at IISc Bangalore, 1.66 PF Peak at IIT Roorkee and 833 TF Peak each at IIT Guwahati, NABI Mohali, IIT Gandhinagar, NIT Trichy and IIT Mandi to be installed by March 2022 under Supercomputing Mission • **Virtual Courts** ○ It aimed at reducing footfalls in the courts by eliminating the physical presence of violator or advocate in the court. Virtual court can be managed by virtual judge whose jurisdiction can be extended to entire state and

	working hours may be 24X7. Neither litigant need to visit the court nor judge will have to physically preside over the court thus saving precious judicial time. ○ Number of judges required for adjudicating traffic challans across the state can be reduced virtually to single judge. eChallans to be submitted in the court are automatically filed to the virtual court for adjudication. Virtual Judge can access the Virtual Court application from anywhere, view the cases and adjudicate the cases online. ● **e-District Mission Mode Project (MMP):** e-District is a Mission Mode Project (MMP) that aims at electronic delivery of identified high volume citizen centric services at the district or sub-district level. ● **Global Indices: The E-Government Development Index (EGDI)** presents the state of E-Government Development of the United Nations Member States. ○ Along with an assessment of the website development patterns in a country, the E-Government Development index incorporates the access characteristics, such as the infrastructure and educational levels, to reflect how a country is using information technologies to promote access and inclusion of its people. ○ Ministry of Electronics and Information Technology (MeitY) is the nodal ministry for EGDI. ○ The EGDI is a composite measure of three important dimensions of e-government, namely: online service index, telecommunication infrastructure index and the human capital index. ● **The National Policy on Electronics 2019(NPE 2019)** envisions positioning India as a global hub for Electronics System Design and Manufacturing (ESDM), by encouraging and driving capabilities in the country for developing core components, including chipsets, and creating an enabling environment for the industry to compete globally. ○ With a view to building a robust manufacturing ecosystem which will be an asset to the global economy government is looking forward to developing a strong ecosystem across the value chain and integrating it with global value chains. ○ This is the essence of these four Schemes namely, the (i) Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing, (ii) Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) (iii) Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme and (iv) Production Linked Incentive Scheme (PLI) for IT Hardware.
INS Vikrant, India's indigenous aircraft carrier	INS Vikrant is a realisation of the nation's dream of an indigenous carrier - a 'great icon for our drive towards Atma Nirbhar Bharat'. • Vikrant is India's most complex warship to have been indigenously built by Cochin Shipyard for the Indian Navy. • Cochin Shipyard Limited is the largest public sector shipyard and the only shipyard under the Ministry of Ports, Shipping and Waterways. • At present, India has only one aircraft carrier, the Russian-origin INS Vikramaditya. **About iNS Vikrant (IAC-1)**

	• The vessel, to be named Vikrant after the decommissioned maiden carrier of the Navy. • It will have an air component of 30 aircraft, comprising MiG-29K fighter jets, Kamov-31 airborne early warning helicopters and the soon-to-be-inducted MH-60R multi-role helicopter, besides the indigenous Advanced Light Helicopters. • The shipborne weapons include Barak LR SAM and AK-630, while it has MFSTAR and RAN-40L 3D radars as sensors. • It has a pair of runways and a 'short take off but arrested recovery' system to control aircraft operations. **Significance** • The combat capability, reach and versatility of the aircraft carrier will add formidable capabilities in the defence and help secure India's interests in the maritime domain. • It would offer an incomparable military instrument with its ability to project air power over long distances.
GitHub	**Context:** The open-source software repository service GitHub is in the news after it was used to create and share an offensively named app that sexually harassed Muslim women in India. **What is GitHub?** • GitHub is the world's largest open-source developer community platform where users upload their projects and code for others to view, edit, and tweak. • The idea of GitHub: any developer can upload whatever software code or app code or software idea they have on the platform, and have others collaborate with them to help improve it, find errors, and fix problems. • The platform uses the software Git, which was created in 2005 by Linus Trovalds, the developer of the open-source operating system Linux, to track changes in a set of files and for coordination in software development
Efforts to Attain Self –reliance in Critical & Strategic Mineral Requirements	**In News:** In order to ensure mineral security of the nation and to attain self-reliance in the area of critical & strategic minerals, the Ministry of Mines has created a Joint Venture company namely Khanij Bidesh India Ltd (KABIL) with participating interest of National Aluminium Company Ltd (NALCO), Hindustan Copper Ltd (HCL) and Mineral Exploration Corporation Ltd (MECL). • Mandated to identify and acquire overseas mineral assets of critical and strategic nature such as Lithium, Cobalt etc. • Aims at giving further fillip to Atma Nirbhar Bharat that will cater to the requirements of crucial sectors such as e-mobility, renewable energy, medicine, aerospace, aviation etc. • Engagement of KABIL is under way with source countries like Australia, Argentina, Bolivia and Chile which are endowed with cited critical and strategic minerals.
Multi Agency Centre (MAC)	**Context** The Union government has asked the States to share more intelligence inputs through the Multi Agency Centre (MAC). • It is a common counter-terrorism grid under the Intelligence Bureau that was made operational in 2001 following the Kargil War. • As many as 28 organisations, including the Research and Analysis Wing (R&AW), armed forces and State police, are part of the platform. • Various security agencies share real-time intelligence inputs on the MAC. **About the Centre** • MAC was formed in December 2001 following the Kargil intrusion and the subsequent overhaul of the Indian national security apparatus suggested by the Kargil Review Committee report and GoM report. • Accordingly, the Intelligence Bureau (IB) was authorized to create a multi-agency centre (MAC) in New Delhi.

	• Now functioning 24/7 as the nodal body for sharing intelligence inputs, MAC coordinates with representatives from numerous agencies, different ministries, both central and state. • As noted in a 2016 parliamentary report the major contributors of intelligence inputs to the MAC were the Defence Intelligence Agency (DIA) and the Research and Analysis Wing (R&AW).
OmiSure	**Context** The Indian Council of Medical Research (ICMR) has approved a testing kit for detecting the Omicron variant of SARS-CoV-2. • The kit is manufactured by Tata Medical and Diagnostics and is named OmiSure. • The kit will be used to confirm Omicron in patients with its S-Gene Target Failure (SGTF) strategy. **What is the Indian Council of Medical Research (ICMR)** • ICMR, New Delhi is the apex body in India for the formulation, coordination, and promotion of biomedical research. • Ministry: Ministry of Health & Family Welfare. • It is funded by the Government of India • The Governing Body of ICMR is presided over by the Union Health Minister.
Code of Practice for securing consumer Internet of Things (IoT)	**In News:** In order to secure Consumer Internet of Things (IoT) devices, Telecommunication Engineering Centre (TEC), under Department of Telecommunications, Ministry of Communications, has released a report "Code of Practice for Securing Consumer Internet of Things (IoT)" as a baseline requirement aligned with global standards and best practices. • Help in securing consumer IoT devices & ecosystem as well as managing vulnerabilities. • Intended for use by IoT device manufacturers, Service providers/ system integrators and application developers etc. • Internet of Things (IoT) is one of the fastest emerging technology across the globe, providing enormous beneficial opportunities for society, industry, and consumers. It is being used to create smart infrastructure in various verticals such as Power, Automotive, Safety & Surveillance, Remote Health Management, Agriculture, Smart Homes and Smart Cities etc, using connected devices. IoT is benefitted by recent advances in several technologies such as sensors, communication technologies (Cellular and non-cellular), AI/ ML, Cloud / Edge computing etc. • It is expected that around 60% of 5 billion i.e. 3 billion connected devices may exist in India by 2022. • In view of the anticipated growth of IoT devices, it is important to ensure that the IoT end points comply to the safety and security standards and guidelines in order to protect the users and the networks that connect these IoT devices. • The hacking of the devices/networks being used in daily life would harm companies, organisations, nations and more importantly people, therefore securing the IoT eco-system end-to-end i.e. from devices to the applications is very important.
Hypersonic missile	**Context** North Korea has successfully tested a hypersonic missile, in the first major weapons test by the nuclear-armed nation this year. This was the second reported test of hypersonic gliding missiles, as it pursues the sophisticated technology despite international sanctions and condemnation **What are hypersonic weapons?** • They are manoeuvrable weapons that can fly at speeds in excess of Mach 5, five times the speed of sound.

	• The speed of sound is Mach 1, and speeds upto Mach 5 are supersonic and speeds above Mach 5 are hypersonic. • Ballistic missiles, though much faster, follow a fixed trajectory and travel outside the atmosphere to re-enter only near impact. • On the contrary, hypersonic weapons travel within the atmosphere and can manoeuvre midway which combined with their high speeds makes their detection and interception extremely difficult. This makes them very powerful. • This means that radars and air defences cannot detect them till they are very close and have little time to react. • There are two classes of hypersonic weapons: hypersonic glide vehicles (HGV) and hypersonic cruise missiles (HCM). • HGVs are launched from a rocket before gliding to a target while HCMs are powered by high-speed, air-breathing engines, or scramjets, after acquiring their target.

Ballistic missiles	**Context:** Iran displayed three ballistic missiles recently.
	• The missiles — known as Dezful, Qiam and Zolfaghar — have official ranges of up to 1,000 km and are already-known models
	Ballistic missile
	• Aa ballistic missile follows a ballistic trajectory (projectile motion) to deliver one or more warheads on a predetermined target.
	• Short-range ballistic missiles stay within the Earth's atmosphere, while intercontinental ballistic missiles (ICBMs) are launched on a sub-orbital trajectory.
	• It is a rocket-propelled self-guided strategic-weapons system
	• It can carry conventional high explosives as well as chemical, biological, or nuclear munitions.
	• The Hague Code of Conduct against Ballistic Missile Proliferation (HCOC), is a political initiative aimed at globally curbing ballistic missile proliferation.
	  ○ India is a signatory to this convention.
	• The voluntary Missile Technology Control Regime (MTCR) aims to limit the spread of ballistic missiles and other unmanned delivery systems that could be used for chemical, biological, and nuclear attacks.
	  ○ India has joined the MTCR.
	Some of India's Ballistic Missiles:
	• Agni P missile
	• Shaurya missile
	• Prithvi missile
	• Dhanush, etc.

A star with a heartbeat & without a magnetic field discovered	**In News:** A group of Indian and international scientists have spotted a peculiar binary star that shows heartbeat but no pulsations contrary to the norm of binary stars of sporting both heartbeats as well as pulsations. This star is called HD73619 in Praesepe (M44), located in the Cancer constellation, one of the closest open star clusters to the Earth. • First member of heartbeat systems in binary chemically peculiar stars that does not show any pulsational/vibrational activity at their closest approach. • Chemically peculiar stars are those stars which have an unusual abundance of elements heavier than hydrogen and helium on the surface.

	• The newly discovered heartbeat star exhibits either very weak or no magnetic field. Absence of weak magnetic field means that any dark spots on the HD73619 may have different and hitherto unknown origin as compared to sunspots which are created by strong magnetic field. • The discovery is of vital importance for the study of inhomogeneities due to spots in non-magnetic stars and to investigate the origin of the pulsational variability. **'Heartbeat'** • A total of about 180 heartbeat stars are known to date. • The name 'Heartbeat' stems from the resemblance of the path of the star to an electrocardiogram of the human heart. These are the binary star systems where each star travels in a highly elliptical orbit around the common centre of mass, and the distance between the two stars varies drastically as they orbit each other. • When the stars are at closest passage of binary systems, a sudden increase in integrated brightness with amplitude of the order of several parts-per-thousand (ppt) is observed. • As the components move apart, the light variation falls and finally becomes flat, indicating that combined flux is reduced, resulting in alternating peaks and troughs in their light curves. • The pulsational activity of such stars is due to the oscillations in the component stars when they are at their closest approach.
Sea Dragon exercise	**Context:** India and its partners in the Quadrilateral Security Dialogue or Quad along with Canada and South Korea participated in the multinational exercise Sea Dragon at Guam in the Western Pacific. **About the exercise** • It is a US-led multinational exercise designed to practice and discuss Anti-submarine warfare tactics to operate together in response to traditional and non-traditional maritime security challenges in the Indo-Pacific region. • This exercise primarily focuses on anti-submarine warfare (ASW) training. • It will involve more than 270 hours of in-flight training and activities ranging from tracking simulated targets to tracking a US Navy submarine. • Each event will be graded and the country scoring the highest points will receive the Dragon Belt award. • The Royal Canadian Air Force won the Dragon Belt at last year's exercise and is defending the title at Sea Dragon 2022. • The wargame includes contingents from the Indian Navy, the US Navy, Royal Australian Air Force, Royal Canadian Air Force, Japan's Maritime Self-Defense Force and the South Korean Navy. **About Quad** • It is an informal strategic forum between India, US, Japan, and Australia. • The strategic alliance was formed to ensure peace and stability in the Indo-Pacific and check China's expansionist efforts in the region. • It was first mooted by Japanese Prime Minister Shinzo Abe in 2007 with the support of Vice President Dick Cheney of the US, Prime Minister John Howard of Australia and Prime Minister Manmohan Singh of India. • The dialogue was paralleled by joint military exercises of an unprecedented scale, titled Exercise Malabar. • The first iteration of the Quad ceased to exist following the withdrawal of Australia in February 2008, after a joint naval exercise between the Quad and Singapore drew diplomatic protests from China. • However, during the 2017 ASEAN Summits all four former members rejoined in negotiations to revive the quadrilateral alliance.

	• The Quadrilateral met five times in 2017–2019. • In March 2020, officials from the Quadrilateral met to discuss the COVID-19 pandemic and they were joined by New Zealand, South Korea and Vietnam for the first time.
'Sea to Sea ' Variant Of BrahMos Missile	**Context:** India successfully tested advanced sea to sea variant of BrahMos Supersonic Cruise missile from INS Visakhapatnam. Indian Navy's newest indigenously-built guided missile destroyer represents a twin achievement: • Certifies the accuracy of the ship's combat system and armament complex • Validates a new capability the missile provides the Navy and the Nation **About BrahMos Supersonic Cruise Missile** • BrahMos, deployed by the Navy on its warships first in 2005, has the capability to hit sea-based targets beyond radar horizon. • Capable of being launched from land, sea, sub-sea and air against surface- and sea-based targets • The missiles, fired at a speed of 2.8 Mach or nearly three times the speed of sound, significantly increase the capability of the ships in engaging long-range targets. • The name BrahMos is a portmanteau formed from the names of two rivers, the Brahmaputra of India and the Moskva of Russia. • It is the world's fastest anti-ship cruise missile currently in operation. • BrahMos missiles are designed and developed by BrahMos Aerospace, a joint venture company set up by Defence Research and Development Organisation (DRDO) and Mashinostroyenia of Russia
Xenotransplantation	**Context** Recently the doctors in the USA transplanted a genetically altered pig heart into a patient which is referred to as xenotransplantation (from animals to humans). **About xenotransplantation** • Xenotransplantation is any procedure that involves the transplantation of either live cells, tissues, or organs from a nonhuman animal source, or human body fluids, cells, tissues or organs into a human recipient. • Such cells, tissues or organs are called xenografts or xenotransplants. • It offers a potential treatment for end-stage organ failure, a significant health problem in parts of the industrialized world. • It also raises many novel medical, legal and ethical issues.
Guidelines for Charging Infrastructure for Electric Vehicles	**Context:** Centre has promulgated revised consolidated Guidelines and Standards for Charging Infrastructure for Electric Vehicles. **Key takeaways** • These guidelines include provisions for individual owners of Electric Vehicles as well as Public Charging Stations. • Owners may charge their Electric Vehicles at their residence and offices using their existing electricity connections. • Any individual or entity is free to set up public charging stations without the requirement of a license. • These can be set up provided that such stations meet the technical, safety and performance standards and protocols laid down by Ministry of Power, Bureau of Energy Efficiency and Central Electricity Authority from time to time. • The guidelines provide not only the prevailing international charging standards available in the market but also the new Indian charging standards. • In order to make charging stations financially viable, a revenue sharing model has been put in place for land used. **FAME scheme** • It was launched in 2015

	• It forms a part of National Electric Mobility Mission Plan 2020. • It aims to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same
Global Cybersecurity Outlook 2022	**Context**: The World Economic Forum's 'Global Cybersecurity Outlook 2022' was released during its online Davos Agenda summit. **Key takeaways from the report** • The accelerating pace of digitalisation, fuelled by the COVID-19 pandemic, has led to a record-breaking year for cybercrime with ransomware attacks rising 151% in 2021, and an average of 270 cyberattacks per organisation being faced. • Each successful cyber breach cost a company $3.6 million (almost Rs. 27 crore) last year. • The global digital economy had surged during COVID-19 pandemic, but cybercrime also increased.
India-Sri Lanka 5th Joint Committee on S&T Cooperation	**In News:** India and Sri Lanka extended the existing S&T cooperation for 3 more years, with focus on new areas like waste-water technologies, biotech, sustainable agriculture, aerospace engineering, robotics, big data analytics, and artificial intelligence, as well as industrial collaborations. **Relations between India & Sri Lanka** • India and Sri Lanka have a great legacy of intellectual, cultural, and religious interaction and relationship of more than 2500 years old. • Trade and investment and cooperation in education and other sectors have gone up in recent times, and in this line, cooperation in S&T becomes very critical • The **advent of Buddhism** to Sri Lanka during the time of Emperor Ashoka was the result of cross-border discourse • Buddhist temples in Sri Lanka, to this day, contain shrines for Hindu deities • The **colonial expansion** of European maritime nations reshaped the Sri Lankan economy. • Labour from South India was brought to Sri Lanka to work in plantations which in post-independence era created tensions with indigenous communities and continues to persist till date • The **Indian freedom struggle** had its influence on Sri Lanka as well. There was cross-border support for the revival of culture, tradition, local languages, spiritual practices and philosophies, and education. • Both countries transformed into modern nations with constitutional and institutionalised governance under colonial rule. • The nearly **three-decade long armed conflict** between the Sri Lankan forces and the LTTE came to an end in May 2009. During the course of the conflict, India supported the right of the Sri Lankan Government, much to the anger of Srilankan Tamils

Amar Jawan Jyoti, War Memorial merged	**Context:** The iconic Amar Jawan Jyoti, which was inaugurated after the 1971 Liberation War of Bangladesh by former Prime Minister Indira Gandhi was removed recently. • It was merged with National War Memorial. • Indian Prime Minister also announced the construction of a statue of Subhas Chandra Bose, restructuring the symbolism around the India Gate. **Do you know?** • The National War Memorial in India is a national monument built to honour and remember soldiers of the Indian military who fought in armed conflicts of post-independent India. • It is located at India Gate, New Delhi.

Arc De Triomphe Monument	**Context** French authorities took down a temporary installation of the European Union flag from the Arc de Triomphe monument in Paris, after rightwing opponents of President Emmanuel Macron accused him of "erasing" French identity. **Key takeaways** • The giant blue flag was raised in place of a French flag on New Year's Eve to mark France's turn at the rotating presidency of the EU Council. • The Arc de Triomphe de l'Étoile ('Triumphal Arch of the Star') is one of the most famous monuments in Paris, France. • It honours those who fought and died for France in the French Revolutionary and Napoleonic Wars, with the names of all French victories and generals inscribed on its inner and outer surfaces. • The arch, a monument to war dead, and other landmarks including the Eiffel Tower and the Pantheon are also being illuminated with blue lights for the remainder of this week.
Pangong Tso (lake)	**Context** China is constructing a bridge in eastern Ladakh connecting the north and south banks of Pangong Tso (lake), which will significantly bring down the time for the People's Liberation Army (PLA) to move troops and equipment between the two sectors. The bridge is in China's territory and the Indian Army would have to factor this in its operational plans. **About the lake** • Pangong Tso or Pangong Lake is an endorheic lake spanning eastern Ladakh and West Tibet. • It is divided into five sublakes, called Pangong Tso, Tso Nyak, Rum Tso (twin lakes) and Nyak Tso. • Approximately 50% of the length of the overall lake lies within Tibet China, 40% in Ladakh India and the rest is disputed and is a de-facto buffer zone between India and China. • During winter the lake freezes completely, despite being saline water. • It has a land-locked basin separated from the Indus River basin by a small elevated ridge, but is believed to have been part of the latter in prehistoric times.
Nuclear Weapons	**Context:** Five global nuclear powers pledged to prevent atomic weapons spreading and to avoid nuclear conflict, in a rare joint statement ahead of a review of a key nuclear treaty later this year. **Key takeaways** • The permanent UN Security Council members - China, France, Russia, the U.K. and U.S have said that they strongly believed that the further spread of such weapons must be prevented. • The statement was issued after the latest review of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) which first came into force in 1970. • The statement comes as tensions between Russia and the United States have reached heights rarely seen since the Cold War over a troop build-up by Moscow close to the Ukrainian border. • That has raised fears that Russia is planning a new attack on its pro-Western neighbour. • The rise of China meanwhile has also raised concerns that tensions with USA could lead to conflict, notably over the island of Taiwan.
Free trade agreement (FTA)	**Context**: Recently, the Union minister for Commerce & Industry has said that India is looking to have a free trade agreement (FTA) with 5 countries – UAE, UK, Australia, Canada and Israel. **What is a free trade agreement (FTA)?** • FTA, also called Regional Trade Agreement (RTA) is a pact between two or more nations to reduce barriers to imports and exports among them.

	• Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.
	• The concept of free trade is the opposite of trade protectionism or economic isolationism.
	• FTA is implemented by means of a formal and mutual agreement of the nations involved.
	• However, a free-trade policy may simply be the absence of any trade restrictions.
	• There are two types of trade agreements – bilateral and multilateral.
	  ○ FTA is an example of a Bilateral trade agreement.
	  ○ Multilateral trade agreements are agreements among three or more countries, and are the most difficult to negotiate and agree.
	• FTAs determine the tariffs and duties that countries impose on imports and exports with the goal of reducing or eliminating trade barriers, thus encouraging international trade

Trincomalee oil tank farm	**Context:** Marking a major milestone in a strategic project in Sri Lanka, Indian Oil Corporation subsidiary Lanka IOC, Ceylon Petroleum Corporation and the Government of Sri Lanka have signed three lease agreements on jointly developing the Trincomalee oil tank farm in eastern Sri Lanka. **Key takeaways** • The move firms up India's role in the project discussed since the time of the Indo-Lanka Accord of 1987. • Trincomalee is home to 3.7 lakh Muslim, Tamil and Sinhala people • In Sri Lanka's post-war years, it has emerged a favoured destination for surfers from around the world, gradually transforming with plush resorts and restaurants dotting its coast. • At the same time, with its fine natural harbour and crucial location, Trincomalee remains in spotlight as a potential transit point for international trade routes, particularly drawing India which has known strategic interests there.
Collective Security Treaty Organization (CSTO)	**Context** A Moscow-led military alliance dispatched troops to help calm mounting unrest in Kazakhstan as the police said dozens were killed trying to storm government buildings. **Background** • Energy-rich Kazakhstan is facing its biggest crisis in decades after days of protests over rising fuel prices escalated into widespread unrest. • Kazakhstan has been regarded as one the most stable of the ex-Soviet republics of Central Asia. • Under increasing pressure, Kazakhstan's President Kassym-Jomart Tokayev appealed to the Russia-dominated Collective Security Treaty Organisation (CSTO) to combat "terrorist groups". **Do you know?** • The Collective Security Treaty Organization (CSTO) is an intergovernmental military alliance in Eurasia that consists of select post-Soviet states. • Membership: Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia and Tajikistan. • Headquarters: Moscow, Russia.

First Colombo Security Conclave	Context: The first Colombo Security Conclave Virtual Workshop on "Developing Regional Cyber Security Capabilities on Defensive operations, Deep/Dark Web handling and Digital Forensics" was hosted recently.
	Key takeaways
	• Hosted by: National Security Council Secretariat (NSCS) in association with National Forensics Science University, Gandhinagar (Gujarat) and the Secretariat of the Colombo Security Conclave
	• Delegates from Member and Observer States of the Colombo Security Conclave (CSC) including Sri Lanka, Maldives, India, Mauritius, Seychelles, and Bangladesh participated in the workshop.
	  ○ Members and Observer States had agreed on four pillars of cooperation
	  ○ Maritime Safety and Security,

	○ Terrorism and Radicalization, ○ Trafficking and Organized Crime and Cyber Security and ○ Protection of Critical Infrastructure. **What is Colombo Security Conclave?** • The decision to establish Colombo Security Conclave was taken in November 2020 at the NSA-level meeting of India, Sri Lanka, and the Maldives to forge closer cooperation on maritime and security matters among the three Indian Ocean countries. • The idea of 'Colombo Security Conclave' was initiated by President Gotabaya Rajapaksa in 2011.
India's passport rank improves to 83 from 90	**Context**: India's passport power has improved this quarter compared to 2021. • Japan and Singapore top the index. • India ranks at 83rd position in the Henley Passport Index, climbing seven places from 90th rank last year. **Do you know?** • Since 2005, Henley Passport Index ranks world's passports according to the number of destinations their holders can access without prior visa and is based on data from International Air Transport Association (IATA). **Growing disparity** • India now has visa-free access to 60 destinations worldwide with Oman and Armenia being the latest additions. • India has added 35 more destinations since 2006. • The overall increase marks a growing disparity between countries in the global north and those in the global south.
China-Iran Agreement	**Context** China would begin implementing a strategic agreement with Iran, strengthening economic and political cooperation between the two countries as China condemned USA's sanctions on Iran. **Key takeaways** • China and Iran signed the agreement with the wide-ranging partnership set to span areas including energy, security, infrastructure and communications. • China is Iran's leading trade partner and was one of the biggest buyers of the country's oil before then-U.S. president Donald Trump reimposed sweeping unilateral sanctions in 2018. • China has officially stopped importing oil from Iran, but analysts say Iranian crude is continuing to enter the country disguised as imports from other countries. **Vienna talks** • The agreement is also significant because talks continue in Vienna over a potential deal to halt Iran's development of nuclear weapons. • A 2015 deal — agreed by Iran, the U.S., China, Russia, Britain, France and Germany — offered Iran sanctions relief in exchange for curbs on its nuclear programme. • But the U.S. withdrew from the agreement in 2018, reimposing biting sanctions and prompting Iran to begin rolling back on its commitments.
INS Ranvir	**Context:** Three Navy personnel were killed and 11 injured in an explosion aboard the destroyer INS Ranvir at the Naval Dockyard in Mumbai • INS Ranvir is the fourth of the five Rajput-class destroyers built for the Indian Navy. Ranvir was commissioned on 28 October 1986.
India-Denmark Cooperation on Green Fuels	**Context:** India & Denmark agreed to initiate joint research and development on green fuels including green hydrogen, during the Joint S&T Committee meeting on 14th January 2022. **Key takeaways** • The Joint Committee discussed national strategic priorities and developments in Science, Technology, and Innovation of both countries. • Special focus was on green solutions of the future - strategy for investments in green research, technology, and innovation at the virtual meeting.

	• The committee emphasised on development of bilateral collaboration on mission-driven research, innovation, and technology development, as agreed by the two Prime Ministers while adopting the Green Strategic Partnership – Action Plan 2020-2025.
India-Israel Industrial R&D & Technological Innovation Fund (I4F)	**Context:** Experts from India and Israel deliberated on widening the scope of India-Israel Industrial R&D and Technological Innovation Fund (I4F) at its 8th Governing Body meeting. **Key takeaways** • They approved 3 joint R&D projects worth 5.5 million $ and suggested measures to create a broader India-Israel collaborative ecosystem. • India-Israel Industrial R&D and Technological Innovation Fund (I4F) fund is a cooperation between the Department of Science and Technology (DST), Government of India, and the Israel Innovation Authority, Government of Israel. • Objective: To promote, facilitate and support joint industrial R&D projects between companies from India and Israel to address the challenges in the agreed 'Focus Sectors'. • Aim: To promote, facilitate and support joint industrial R&D between India & Israel, which would lead to the co-development and commercialization of innovative technologies benefiting both countries. • Global Innovation & Technology Alliance (GITA) is appointed to implement the I4F program in India, while Israel Innovation Authority is the implementing agency in Israel.
Inauguration of Social Housing Units Project in Mauritius	**Part of:** Mains GS-2: India and its neighborhood **In News:** Prime Ministers of the respective countries jointly inaugurated the Social Housing Units Project in Mauritius. ● Implemented as part of the vibrant development partnership between India and Mauritius. ● The two Prime Ministers also laid foundation for two other projects, undertaken as part of India's development support – ○ **Construction of a state-of-the-art Civil Service College** ○ **8 MW Solar PV Farm** ● Included exchange of two key bilateral agreements: ○ Agreement for the extension of USD 190 million Line of Credit from the Government of India to the Government of Mauritius for the Metro Express and other infrastructure projects ○ MoU on the Implementation of Small Development Projects ***Relations between India and Mauritius*** Despite the challenges posed by Covid-19, India-Mauritius Development Partnership projects have progressed rapidly. India and Mauritius share close ties anchored in our common history, ancestry, culture and language. This is reflected in the privileged development partnership between our two countries, with Mauritius being a key development partner for India in the Indian Ocean Region. ● India in May 2016 had extended a grant of US$ 353 mn to the Government of Mauritius as Special Economic Package (SEP) to execute five priority projects identified by Government of Mauritius, among others. ● These were: the Metro Express Project, Supreme Court Building, New ENT Hospital, Supply of Digital Tablets to Primary School Children, and the Social Housing Project. ● With the inauguration of the Social Housing Project, all the high profile projects under the SEP have been implemented.

First India-Central Asia summit	**Context:** Indian Prime Minister will hold the first India-Central Asia summit, in a videoconference with five Presidents from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. **Key takeaways** • The major areas of focus would be: ○ trade and connectivity ○ building development partnerships ○ enhancing cultural and people-to-people contacts, • A number of global and regional developments will also form a large part of the discussions. • Ways to increase trade between India and the region may also be proposed. • India hopes to build on its trilateral working group on Chabahar with Iran and Uzbekistan to strengthen connectivity to the region. **Central Asia** • Central Asia is a region in Asia which stretches from the Caspian Sea in the west to China and Mongolia in the east, and from Afghanistan and Iran in the south to Russia in the north • It includes the former Soviet republics of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan • All five nations became independent states after the collapse of the USSR in 1991, post-Cold war.
India-Oman Defence Relations	**Context:** Oman's top defence official Mohammed Nasser Al Zaabi, is on an official visit to Delhi to co-chair the Joint Military Cooperation Committee (JMMC) with Indian Defence Secretary. **Key takeaways** • The JMCC is the highest forum of engagement between India and Oman in the field of defence that evaluates and provides guidance to the overall framework of defence exchanges between the two sides. • The JMCC is expected to meet annually, but could not be organised since 2018 when the meeting of the 9th JMCC was held in Oman. **Why is Oman important from a defence and strategic point of view?** • Oman is India's closest defence partner in the Gulf region and an important anchor for India's defence and strategic interests. • Defence cooperation has emerged as a key pillar for the robust India-Oman strategic partnership. Defence exchanges are guided by a Framework MOU which was recently renewed in 2021. • Oman is the only country in the Gulf region with which all three services of the Indian armed forces conduct regular bilateral exercises and staff talks. • Oman also provides critical operational support to Indian naval deployments in the Arabian sea for anti-piracy missions. • Oman also actively participates in the Indian Ocean Naval Symposium (IONS).

- The Indian Ocean Naval Symposium is a series of biennial meetings between the littoral states of the Indian Ocean region.
- It provides a forum to increase maritime security cooperation, discuss regional maritime issues, and promote friendly relationships among the member states

MISCELLANEOUS

Place in news: Horn of Africa	**Context** China would appoint a special envoy to the Horn of Africa, signalling China's intention to play a greater role in the conflict-torn region. **The Horn of Africa or HOA** • It is a peninsula situated in the northeast of the African continent. • The HOA extends out into the Arabian Sea for hundreds of kilometres and is located along the south of the Gulf of Aden. This region is the easternmost projection of Africa. • In ancient and medieval periods, the area was called Bilad al Barbar meaning land of the Berbers. • The countries included in the HOA are Somalia, Ethiopia, Eritrea and Djibouti.
India's first Open Rock Museum: Hyderabad	• Displays around 35 different types of rocks from different parts of India with ages ranging from 3.3 Billion years to around 55 Million years of the Earth's history • Represent the deepest part of the earth up to 175 kms of distance from the surface of the earth. "Big Earth data" occupies the strategic high ground in the era of knowledge economies and India is fully exploiting this new frontier contributing to the advancement of Earth science.
Veer Baal Diwas:	26th December; in the honour of the supreme sacrifice made by Sahibzada Zorawar Singh and Sahibzada Fateh Singh, the younger sons of the 10th Sikh Guru Govind Singh Ji, for their supreme and unparalleled sacrifice on 26th December, 1705 at the tender age of 9 and 6 years respectively to defend the dignity and honour of Sikhism.
Thiruvalluvar Day: 15th January	• Thiruvalluvar, commonly known as Valluvar, was a celebrated Tamil poet and philosopher. • Best known as the author of the Tirukkural, a collection of couplets on ethics, political and economical matters, and love. • Statue at Kanyakumari
Padma awardee Shanti Devi	• Known as the voice of the poor and underprivileged • Known for the eradication of Yaws, a chronic bacterial infection • She served the poor for nearly six decades, dedicating her life to the education and upliftment of tribal girls in the Maoist-hit Rayagada region.
Rafael Nadal	• Rafael Nadal made history by becoming the first male tennis player ever to reach 21 Majors. • Rafa has been on a relentless journey to clinch this historic 21st Slam. • Tennis is a racket sport that can be played individually against a single opponent or between two teams of two players each • Organized tennis is played according to rules sanctioned by the International Tennis Federation (ITF), the world governing body of the sport

MAINS

POLITY AND GOVERNANCE

Female Leadership	**Context**: The lack of representation of women in a parliamentary panel examining a bill to increase the legal age of marriage for women from 18 to 21 years has come under scrutiny following the comments of Rajya Sabha MP Priyanka Chaturvedi. • This shows how prejudices about the efficacy of women in key political roles need to be systemically eradicated. **What do Germany, Taiwan and New Zealand have in common?** • These are all countries that have women heading their governments. • And although they are located in three different continents, the three countries seem to have managed the pandemic much better than their neighbours. • Much along the same lines, a detailed recent study by researchers in the United States reports that States which have female governors had fewer COVID-19 related deaths, perhaps partly because female governors acted more decisively by issuing earlier stay-at-home orders. • However, there were criticisms by pointing out deficiencies in the data — admittedly somewhat limited — or the econometric rigour of the analysis. Many will also point out that it is dangerous to make **sweeping generalisations based on one study.** **What is the important takeaway from such studies?** • The point about the danger of making sweeping generalisations is valid. Of course, studies such as these do not establish the superiority of all female leaders over their male counterparts. • All female leaders are not necessarily efficient, and there are many men who have proved to be most effective and charismatic leaders. • The important takeaway from the recent experience and such studies is the necessity of **getting rid of inherent biases and perceptions about female effectiveness in leadership roles**. **What is the experience with India's gram panchayats?** • Importantly, female leaders also bring something quite different to the table. In particular, they perform significantly better than men in **implementing policies that promote the interests of women.** • This was demonstrated in another study conducted by Nobel Laureate Esther Duflo and co-author Raghabendra Chattopadhyay, who used the system of mandated reservations of pradhans in gram panchayats to test the effectiveness of female leadership. • Their study was made possible by the 1993 amendment of the Indian Constitution, which mandated that all States had to reserve one-third of all positions of pradhan for women. • Chattopadhyay and Duflo concluded that pradhans invested more in rural infrastructure that served better the needs of their own gender. For instance, women pradhans were more likely to invest in providing easy access to drinking water since the collection of drinking water is primarily, if not solely, the responsibility of women. • In addition to the instrumental importance of promoting more space for women in public policy, this is also an important goal from the **perspective of gender equality**. **What is the situation with suffrage and participation?** • The right to vote is arguably the most important dimension of participation in public life. There are others. • Independent India can rightly be proud of its achievement in so far as women's suffrage is concerned. Women were allowed to vote from 1950 onwards and so

	could participate on an equal footing with men from the first general election of 1951-52. This is in striking contrast to the experience in the so-called "mature democracies" of western Europe and the United States. ○ In the U.S., it took several decades of struggle before women were allowed to vote in 1920. ○ Most countries in Europe also achieved universal suffrage during the inter-war period. • Since most able- bodied men went away to the battlefields during the First World War, increasing numbers of women had the opportunity to show that they were adequate substitutes in activities that were earlier the sole preserve of men. This, it is suggested, mitigated the anti-female bias and earned women the right to vote in European countries. • The female representation in the current National Democratic Alliance (NDA) government at the Centre is probably not very far from the typical gender composition in Indian central and State governments. Female members make up only about 10% of the total ministerial strength. ○ The underrepresentation of female Ministers in India is also reflected in the fact that Ms. Mamata Banerjee is currently the only female Chief Minister. • The **underrepresentation of women in Indian legislatures** is even more striking. For instance, the 2019 election sent the largest number of women to the Lok Sabha. Despite this, women constitute just over **14% of the total strength of the Lok Sabha**. ○ Tiny Rwanda comes out on top with a staggering 60% of seats in its lower house occupied by women. • Attempts have also been made to extend quotas for women in the Lok Sabha and State Assemblies through a Women's Reservation Bill. ○ The Bill was first presented to the Lok Sabha by the H.D. Deve Gowda government in 1996. Male members from several parties opposed the Bill on various pretexts. ○ Subsequently, both the NDA and UPA governments have reintroduced the Bill in successive Parliaments, but without any success. • Although the Rajya Sabha did pass the bill in 2010, the Lok Sabha and the State legislatures are yet to give their approval — despite the 24 years that have passed since it was first presented in the Lok Sabha. **What can be the steps to reduce prejudice?** • Of course, there is a simple fix to the problem. • The major party constituents of the NDA and UPA alliances can sidestep the logjam in Parliament by reserving say a third of **party nominations for women**. • This will surely result in increasing numbers of women in legislatures and subsequently in cabinets. • There is substantial evidence showing that increased female representation in policy making goes a long way in improving perceptions about female effectiveness in leadership roles. • This decreases the bias among voters against women candidates, and results in a subsequent increase in the percentage of female politicians contesting and winning elections. • So, such quotas have both a short-term and long-term impact. • Indeed, voter perceptions about the efficacy of female leadership may change so drastically in the long run that quotas may no longer be necessary!
Hate Speech	**Context**: A recent religious conclave held in Haridwar witnessed inflammatory and provocative speeches by proponents of Hindutva, many of them leaders of religious organisations.

- Reports say many of the speakers called for organised violence against Muslims and hinted at a Myanmar-type 'cleansing campaign'.
- Political parties and concerned citizens have termed these as 'hate speech' and demanded legal action against those involved in the propagation of hate and violence.

What is 'hate speech'?

- There is no specific legal definition of 'hate speech'.
- Provisions in law criminalise speeches, writings, actions, signs and representations that **foment violence and spread disharmony** between communities and groups and these are understood to refer to 'hate speech'.
- The Law Commission of India, in its 267th Report, says: "Hate speech generally is an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief and the like ... Thus, hate speech is any word written or spoken, signs, visible representations within the hearing or sight of a person with the intention to cause fear or alarm, or incitement to violence."
- In general, hate speech is considered a **limitation on free speech** that seeks to prevent or bar speech that exposes a person or a group or section of society to hate, violence, ridicule or indignity.

How is it treated in Indian law?

- **Sections 153A and 505 of the Indian Penal Code** are generally taken to be the main penal provisions that deal with inflammatory speeches and expressions that seek to punish 'hate speech'.
- Under Section 153A, 'promotion of enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony', is an offence punishable with three years' imprisonment. It **attracts a five-year term** if committed in a place of worship, or an assembly engaged in religious worship or religious ceremonies.
- Section 505 of IPC makes it an offence to making "statements conducing to public mischief". Under subsection (3), the same offence will attract up to a **five-year jail term** if it takes place in a place of worship, or in any assembly engaged in religious worship or religious ceremonies.

What has the Law Commission proposed?

- The Law Commission has **proposed that separate offences be added to the IPC** to criminalise hate speech quite specifically instead of being subsumed in the existing sections concerning inflammatory acts and speeches.
- It has proposed that two new sections, Section 153C and Section 505A, be added.
- Its draft says Section 153C should make it an offence if anyone (a) uses gravely threatening words, spoken or written or signs or visible representations, with the intention to cause fear or alarm; or (b) advocates hatred that causes incitement to violence, on grounds of religion, race, caste or community, sex, gender identity, sexual orientation, place of birth, residence, language, disability or tribe. It proposes a two-year jail term for this and/or a fine of ₹5,000 or both.
- Its draft for Section 505A proposes to criminalise words, or display of writing or signs that are gravely threatening or derogatory, within the hearing or sight of a person, causing fear or alarm or, with intent to provoke the use of unlawful violence against that person or another". It proposes a prison term of up to one year and/or a fine up to ₹5,000 or both.
- Similar proposals to add sections to the IPC to punish acts and statements that promote racial discrimination or amount to hate speech have been made by the **M.P. Bezbaruah Committee and the T.K. Viswanathan Committee**.

	• At present, the Committee for Reforms in Criminal Laws, which is considering more comprehensive changes to criminal law, is examining the issue of having specific provisions to tackle hate speech.
Reaping Demographic Dividend	**Context**: With falling fertility (currently 2.0), rising median age (from 24 years in 2011, 29 years now and expected to be 36 years by 2036), a falling dependency ratio (expected to decrease from 65% to 54% in the coming decade taking 15-59 years as the working age population), India is in the **middle of a demographic transition.** ● This provides a window of opportunity towards faster economic growth. ● In India, the benefit to the GDP from demographic transition has been lower than its peers in Asia and is already tapering. Hence, there is an urgency to take appropriate policy measures. **What are the challenges of demographic transition?** ● Without proper policies, the increase in the working-age population may lead to rising unemployment, fueling economic and social risks. ● This calls for forward-looking policies incorporating ○ Population dynamics ○ Education and skills ○ Healthcare ○ Gender sensitivity ○ Providing rights and choices to the younger generation. **What measures are required to reap the best of Demographic Dividend?** ● **Update National Transfer Accounts (NTA) Assessment:** India's per capita consumption pattern is way lower than that of other Asian countries. A child in India consumes around 60% of the consumption by an adult aged between 20 and 64 (In China it is 85%). The NTA data for India (State-Specific) needs to be updated to capture the progress made on such investments since 2011-12. ● **Invest more in children and adolescents:** Given that India's workforce starts at a younger age, a greater focus needs to be on transitioning from secondary education to universal skiling and entrepreneurship, as done in South Korea. ● **Make health investments**: The public spending on health has remained flat at around 1% of GDP. Evidence suggests that better health facilitates improved economic production. ● **Rights-based approach to make reproductive healthcare services accessible:** The unmet need for family planning in India at 9.4% as per the latest National Family Health Survey-5 (2019-21) is high as compared to 3.3% in China and 6.6% in South Korea, which needs to be bridged. ● **Bridge Gender Inequality in Education:** In India, boys are more likely to be enrolled in secondary and tertiary school than girls. In the Philippines, China and Thailand, it is the reverse. In Japan, South Korea, and Indonesia, the gender differences are rather minimal. This needs to be reversed. ● **Address the diversity between States:** While India is a young country, the status and pace of population ageing vary among States. Southern States already have a higher percentage of older people whereas north-central region can act as the reservoir of India's workforce. ● **Federal approach to governance reforms:** A new framework need to be put in place for policy coordination between States on various emerging population issues such as migration, ageing, skiling, female workforce participation and urbanisation. ● **Increase female workforce participation:** As of 2019, 20.3% of women were working or looking for work, down from 34.1% in 2003-04. New skills and opportunities for women and girls befitting their participation in economy is urgently needed. **Why is increasing female workforce participation important?** ● Finding work will likely delay her age of marriage and make her participate in the economy more productively, as also exercise her rights and choices.

	● South Korea's female workforce participation rate of 50% has been built on ○ legally compulsory gender budgeting to analyse gender disaggregated data and its impact on policies ○ increasing childcare benefits ○ boosting tax incentives for part-time work. ● It is predicted that if all women engaged in domestic duties in India who are willing to work had a job, female labour force participation would increase by about 20%.
Uniform Civil Code (UCC) in India: An overview	**Context:** As per the recent Allahabad High Court judgement that states that the Uniform Civil Code (UCC) is a necessity and mandatorily required, there is a need to understand the phenomenon of the UCC in India. ● Article 44 of the Constitution declares that the state shall endeavour to secure the citizens a uniform civil code. This article finds a place under **Part IV** of the Constitution that deals with **Directive Principles of State Policy**, which are **not enforceable** in any court, but the principles therein laid down are nevertheless **fundamental in the governance** of the country and it shall be the **duty of the State to apply** these principles in law-making. ● The significance attached to the directive principles was recognised in the **Minerva Mills versus Union of India case**, where the Supreme Court held that the fundamental rights must be harmonised with the directive principles and such **harmony** is one of the **basic features of the Constitution**. **The idea of Uniform Civil Code** ● Historically, the idea of UCC was influenced by similar codes drafted in European countries during the 19th century and early 20th century, and in particular the French code of 1804 that had eradicated all forms of customary or statutory laws prevailing at that time and replaced it with a uniform code. ● However, the First War of Indian Independence in 1857 sent a strong signal to the British to not alter the social fabric of India and respect the personal codes governing aspects of marriage, divorce, maintenance, adoption, and succession. ● Post-Independence, against the backdrop of Partition, which resulted in communal disharmony and resistance to remove personal laws resulted in accommodating the UCC as a directive principle as discussed above. ● Although, the writers of the Constitution attempted to bring a Hindu Code Bill in the Parliament that included progressive measures like women's equal rights of inheritance, unfortunately, it could not see the light of the day. ● It was only on 5th September 2005, when the Hindu Succession (Amendment) Act, 2005 received assent from the President of India that the discriminatory provisions regarding property rights in the Hindu Succession Act, 1956 were removed. **Is UCC – the need of the hour?** *The Supreme Court has emphasised the importance of having a UCC in several cases - starting from the Shah Bano Begum case to the recent Shayara Bano versus Union of India case that questioned the legitimacy of the practice of talaq-e-bidat (triple talaq) and declared it unconstitutional.* ● **Mohd. Ahmed Khan v. Shah Bano Begum and others case:** The Supreme Court dealt with the issue of maintenance under Section 125 of the Code of Criminal Procedure after Shah Bano's husband pronounced talaq against her. While ruling on the case, Chief Justice YV Chandrachud observed that the Parliament should outline the contours of a common civil code as it is an instrument that facilitates national harmony and equality before law. Despite this, the government did not address the issue and brought forth the Muslim Women's Protection of Rights on Divorce Act in 1986. ● Silence until… ● **The case of Sarla Mudgal, President, Kalyani, and others versus Union of India and others**, where the Supreme Court urged the government to secure a Uniform Civil

	Code based on the model of the Hindu code to protect the abused and achieving national solidarity. ● In a similar vein, the cases of **Lily Thomas versus Union of India** and **ABC v. The State (NCT of Delhi)** was dealt with. While in the former, the Supreme Court emphasised the significance of UCC in terms of succession, and in the latter, it held that a single mother of the Christian religion was eligible to apply for sole guardianship of her child without the assent of the natural father under the Guardian and Wards Act, 1890 that had not recognised the right of Christian single mothers. In this context, the court pointed out the inconvenience caused in absence of a uniform civil code. **Conclusion** ● While different minorities have been opposing UCC to uphold their individual rights and upholding their right to religion; the majority wants it to maintain homogeneity. The solution lies in debate, deliberation, taking different stakeholders into consideration, it should be completely depoliticized process-keeping the national interest at the core, it should be more of bottom-up than a top-down approach. ● As the current government brings measures like increasing the age of girl child to 21 for marriage which is a laudable step to ensure gender equality, it needs to think how to ensure the overall development of the society including women by bringing in a UCC and how to balance the aims of **Article 51 A (f) and Article 51 A(e)** of the Constitution that deals with the aspects of valuing and preserving the rich heritage of composite culture and renouncing practices that are derogatory to the dignity of women respectively. **Can you answer the following questions?** 1. How did the concept of UCC come into being? What were the steps taken in the post-Independence period to bring the UCC about? 2. What lies behind the current government's failure to implement it, and what is the possible way forward?
IAS cadre rules amendments	**Context**: The Centre has proposed amendments to the IAS (Cadre) Rules in order to exercise greater control in central deputation of IAS officials, which has often been at the centre of tussles between the Centre and the states. **Significant role of AIS** ● It was Sardar Patel who had championed the creation of the Indian Administrative Service (IAS) and the Indian Police Service (IPS) as "All India Services" (AIS) whose members would be recruited and appointed by the Centre and allotted to various States, and who could serve both under the State and the Centre. ● AIS is considered as essential to knit the administrative framework of a vast and diverse country into an integrated whole. It will provide a **connecting link** between implementation at the field level and policymaking at the top. **What is current rule on deputation?** ● AIS officers are made available for central deputation through a **consultative process** involving the Centre, the States and the officers concerned. ● Central deputation in the Indian Administrative Service is covered under Rule-6 (1) of the IAS (Cadre) Rules-1954, inserted in May 1969. ○ It states: "A cadre officer may, with the **concurrence of the State Governments** concerned and the Central Government, be deputed for service under the Central Government (or to another State or a PSU)." ● In the past, certain healthy conventions were generally followed. Before any officer of the AIS is called for deputation to the Centre, **his or her concurrence is required**. ● Every year, the **States would prepare an "offer list" of officers** who had opted for central deputation without arbitrarily withholding any names. ● The Centre would choose officers only from among those "on offer" from the States.

- The States would relieve the officers picked up by the Centre at the earliest.
- In 2020, the DoPT, to ensure that more officers come to the Centre, changed norms and made it mandatory for IAS officers from the 2007 batch onwards to mandatorily serve for two years in Central deputation within first 16 years of their service

What were the political challenges with such deputation?

- Unfortunately, both the Centre and the States have at times flouted the above healthy conventions for political considerations.
- In July 2001, the Centre unilaterally "placed at its disposal" the services of three IPS officers of Tamil Nadu cadre.
- In December 2020, the Centre did the same in respect of three IPS officers of West Bengal cadre.
- In May 2021, the Centre unilaterally issued orders for the central deputation of the Chief Secretary of West Bengal just before his last day in service.
- In all these cases, the **States concerned refused to relieve the officers.**
- Some States used to vindictively withhold the names of some of the officers who had opted for central deputation or delay their relief after they were picked up by the Centre.
- On the other hand, **Union government was unable to fill vacancies** at director and joint secretary level in various Central ministries.
    - Around 40% or 390 Central Staffing Scheme (CSS) posts are at joint secretary level (more than 19 years experience) and 60% or 540 such posts are at the rank of deputy secretary (nine years) or director rank (14 years of service).

What are the proposed amendments?

Four amendments are proposed to Rule 6 of IAS (Cadre) Rules.

- One of the major changes proposed is if the State government delays posting a State cadre officer to the Centre within the specified time, "the **officer shall stand relieved** from cadre from the date as may be specified by the Central government."
    - Presently, officers have to get a no-objection clearance from the State government for Central deputation.
- The other change proposed is the **Centre will decide the actual number of officers** to be deputed to the Central government in consultation with the State and the latter should make eligible the names of such officers
    - According to existing norms, States have to depute the All India Services (AIS) officers, including IPS officers, to the Central government offices and at any point it cannot be more than 40% of the total cadre strength.
- The third proposed amendment says that **in case of any disagreement** between the Centre and the State, the matter shall be decided by the Central government and the State shall give effect to the decision of the Centre "within a specified time."
- The fourth change proposed is that in **specific situation (**discretionary power) where services of cadre officers are required by the Central government in "public interest" the State shall give effect to its decisions within a specified time.

What are the criticisms raised?

- **Consent of Officers neglected:** The proposed amendment more or less compels a State government to offer IAS officers for central deputation even when these officers themselves may not wish to go on central deputation.
- **Scope for Political Misuse:** New rules may be misused for political considerations. For instance: Centre can unilaterally place at its disposal the services of the Chief Secretary, Principal Secretary to CM and other key officers of a State ruled by a rival party, thereby hampering the smooth administration of states.
- **Affects the administration of States**: States perceive the proposed amendments as a serious infringement of their rights to deploy IAS officers as they deem best, especially when the cutting edge of policy implementation is mostly at the State level.

	● **May decline the sheen of All India Services:** The contemplated changes have grave implications for the independence, security and morale of IAS officers. If States begin to doubt the loyalty of IAS officers, they are likely to reduce the number of IAS cadre posts and also their annual intake of IAS officers. They may prefer officers of the State Civil Services to handle as many posts as possible **Conclusion** ● In a federal setup, it is inevitable that differences and disputes would arise between the Centre and the States. But all such quarrels should be resolved in the spirit of cooperative federalism and keeping the larger national interest in mind. **Connecting the dots** ● Lateral Entry into bureaucracy ● Mission Karmayogi
Need for shared parenting	**Context**: In child custody matters, the access to courts are getting tougher with pandemic induced restrictions, impacting both non-custodial parents and children. ● Seeking custody of a child in the event of a marriage breaking down is a messy affair. ● While the concept of shared parenting is a reality in countries such as the U.S., the U.K. and Australia, it is not an option in India. **What does the law say?** Two laws determine the custody of children in India. ● The first is **The Hindu Minority and Guardianship Act (HMGA**) of 1956, which states that the natural guardian of a Hindu minor boy or unmarried girl shall be the father and mother, provided that custody of a minor who has not completed five years of age shall ordinarily be with the mother. ● But the HMGA does not contain any independent, legal or procedural mechanism for deciding custody rights or declaring court-appointed guardians. Therefore, we fall back on the second law, which is colonial in nature. ● The second law is the **Guardian and Wards Act of 1890** (GWA) which deals with the appointment of a person as a 'guardian' to a child, both with respect to the child and property. ○ Child custody, guardianship and visitation issues between parents are determined under the GWA, if a natural parent wants to be declared as an exclusive guardian to his/her own child. ● Upon disputes between parents in a petition under the GWA, read with the HMGA, guardianship and custody can be vested with one parent with visitation rights to the other parent. ● In doing so, the **welfare of the minor or "best interests of the child"** shall be of paramount consideration. **What does "best interests of the child" mean?** ● India is a signatory to the United Nations Convention on the Rights of the Child (UNCRC). ● The definition of "best interests of the child" has been incorporated from the UNCRC in the Juvenile Justice (Care and Protection of Children) Act, 2015. ● The "best interests of the child" means to ensure fulfillment of his/her basic rights and needs, identity, social well-being and physical, emotional and intellectual development". ● In 2019, the Supreme Court of India held in *Lahari Sakhamuri v. Sobhan Kodali* that the "best interests of the child" is wide in its connotation and "cannot remain the love and care of the primary care, i.e., the mother in case of an infant or the child who is only a few years old." This is child-centric approach. ● Again, in 2022, the Supreme Court in ***Vasudha Sethi v. Kiran V. Bhaskar*** held that a child's welfare, not the individual or personal legal right of the parents, is of paramount concern in a custody battle. Welfare of the child must get precedence over the parents' rights.

	Have any recommendations been made for joint parenting? ● Recommendations have been made for joint parenting by various committees. ● The Law Commission of India Report in 2015, on Reforms in Guardianship and Custody Laws in India, recommended joint custody and shared parenting. It **disagreed with the idea of singular child custody** with one parent. ● Law Commission made exhaustive recommendations for amendments in the HMGA and GWA for joint custody and for guidelines for such custody, child support, and visitation arrangements. ● A complete draft of The Protection of Children (Inter-Country Removal and Retention) Bill, defining wrongful removal and retention, with a complete mechanism for redress was given in a two-volume report to the Government of India by **Justice Bindal Committee**. **What has happened to these recommendations?** ● Unfortunately, these reports have been ignored and impasse over the issue has resulted in ugly custody disputes. ● Against this backdrop, in 2017, in ***Vivek Singh v. Romani Singh,*** Supreme Court highlighted the concept of **Parental Alienation Syndrome**, which refers to the unjustified disdain of a child towards his or her parents. ● The judgment underlined its "**psychological destructive effects".** Sadly, alienated children do not even want to speak to or see the parent whose custody they are not under. ● The court held that "a **child-centric human rights jurisprudence** that time is founded on the principle that public good demands proper growth of the child, who are the future of the nation." ● Regrettably, a prolonged separation divides and splits families. **What is the way forward?** ● Despite the idea of joint parenting growing in India, the laws remain unchanged. Courts are bound to the HMGA/GWA and have no other option. As a result, it is children who suffer in silence. ● During the pandemic, there have been many cases of custodial parents taking advantage of the laws and denying visitation rights to non-custodial parents. ● Therefore, general guidelines or practice directions by the Supreme Court are the need of the hour. ● Shared or joint parenting with equal rights is a viable, practical, balanced solution for the child's optimal growth. ● Family courts are equipped under the Family Courts Act of 1984 to devise their own procedure, independent of the technicalities of law. They can formulate out-of-box methods and insist that children be shared by the father and mother. ● For a child to be caught in a conventional single parent custody trap is archaic and destructive to the child. It ruins the child's life and also causes misery to the parent, especially to the one who does not have custody. **Connecting the dots** ● Child Labour & Pandemic ● Impact of Lockdown on Women & Children ● Pandemic & Domestic Violence
Tamil Nadu model of public health	**Context**: The recent Supreme Court judgement upholding the constitutionality of reservation for OBCs in NEET's All-India Quota (AIQ) seats for undergraduate and postgraduate medical and dental courses is considered as landmark in the history of social justice in the country. ● "Merit should be socially contextualised and reconceptualised as an instrument that advances social goods like equality that we as a society value," the apex court said. **Tamil Nadu's Public Health Model** ● **Govt. in-Service doctor Reservation:** The state provides reservation of 50% of the postgraduate and super-specialty medical seats for in-service government doctors

	● **Criteria of Rural Service:** Serving for three years in Primary Health Centres (PHCs) in rural areas is an eligibility criterion for graduates to avail themselves of this reservation policy. ● **Bond of government service till retirement:** The reservation Policy has unique superannuation bond for these government doctors to ensure that those who secure postgraduate or super-specialty seats by availing themselves of in-service reservation will serve the government till their retirement. **What are the merits of such Public Health Policy model?** ● **Increased Skilled manpower:** The introduction of the reservation scheme ushered in a tectonic shift in providing tertiary health care in government hospitals by ensuring the availability of specialists in government hospitals. ● **Regional development:** It led to a steady rise in the availability of multi-specialty experts not only in metropolitan cities like Chennai, Coimbatore and Madurai, but also Tier-2 cities as early as the 1990s. ● **Strengthened Primary Health Centres:** It encouraged young MBBS graduates to serve in rural areas as it was part of criteria to avail the reservation benefits. As a consequence, State PHCs and government hospitals never witnessed a shortage of doctors and people got better healthcare facilities at their doorsteps. ● **Prevents Brain Drain**: The superannuation bond has ensured that a vast majority of the specialists continues their service in the government sector throughout their career. This has prevented the brain drain either to the private sector or to places abroad. **What are the changes brought in with the introduction of NEET?** ● The Medical Council of India (MCI) has framed a policy of giving only 50% of postgraduate diploma seats to service doctors, **exempting postgraduate degrees.** ● Also, it became compulsory for individual States to surrender all the seats of super-specialty courses to the central pool for common counselling, forgoing the domiciliary needs. ○ 15% of MBBS seats, 50% of postgraduate seats but 100% of super-specialty seats are surrendered to Centre, which is known as AIQ ○ It also became compulsory for abolishing government doctors' reservation. **Criticism of new NEET Policy** ● The Union government went to the extent of filing affidavits opposing in-service reservation before the Courts when the new rule was challenged by the Tamil Nadu. This is considered as against the Federal spirit, especially when it was done without adequate consultation with State. ● Tamil Nadu State government says that dismantling incentives to serving doctors would jeopardise healthcare delivery system in the State. It has also criticised that MCI which is a mere regulatory watchdog doesn't any legal teeth to formulate such a policy. **Connecting the dots** ● Tamil Nadu's Case against NEET ● Medical Education: Over-centralisation is harsh (Criticism of NEET) ● National Medical Commission
Governance 4.0	**Context**: In the post-COVID world, there will be new challenges- failure of climate action, re-emergence of infectious diseases, debt crises and inadequate tech regulation, erosion of social cohesion – which requires different governance model. ● When the institutions are well governed, little attention is paid to them. They are invisible supports for the economy and social order. **Governance 1.0** ● In the Governance 1.0 period after World War II, both public and corporate governance were marked by the **rule of a "strong leader".** ● This type of leadership worked well in a society where

- The cost of information was high
- Hierarchical management functioned relatively smoothly
- Tech and economic advances benefited almost everyone.

Governance 2.0

- The Governance 2.0 model, which emerged at the end of the 1960s, affirmed the **primacy of material wealth.**
- It coincided with the rise of "**shareholder capitalism"** and progressive global financialization.
- Managers accountable only to shareholders reigned supreme and had global reach.
- While the 2008 crisis dealt this model a blow, its narrow vision persisted.

Governance 3.0

- The covid shock ushered in Governance 3.0.
- **Crisis management** dominates decision-making, with leaders focusing on operational issues and showing a relative disregard for possible unintended consequences.
- This trial-and-error approach has led to haphazard management of the pandemic and its fallout.
- Once the pandemic ends, we will need a new governance model (4.0 version)

Need for a New Governance Model:

- Global governance has an unresolved problem: both the **institutions and the leaders are no longer fit for their purpose.**
- As the Fourth Industrial Revolution and climate change continue to disrupt the current lives, public and corporate governance needs to change.
- Technologies such as blockchain are replacing centralized organizations with decentralized entities, while social, economic and digital inequities are increasing.
- For now, many leaders remain stuck in the shareholder capitalism mentality of Governance 2.0, while some societies still favour the strongman leadership and structure of Governance 1.0. However, these are inadequate to deal with post-COVID world.

What should be the approaches in Governance 4.0?

- **Long term Strategic Thinking**
  - Governance 4.0 must replace today's short-term management with long-term strategic thinking.
  - A focus on problems such as the pandemic, socioeconomic crises and people's mental health must be complemented with action to tackle climate change, reverse biodiversity loss and environment damage.
- **Replace the tunnel Vision & Top-down approach**
  - As we live in a complex and interconnected world full of discontinuities, the roles of each stakeholder in society must change.
  - Business can no longer ignore its social and ecological impact, while governments can't act as if they alone have all the answers.
- **Primacy on Society**
  - The emphasis on a narrow conception of economics and short-term financial interests must cease. Instead, the primacy of society and nature must be at the core of any new governance system.
  - Finance and business are vitally important. But they must serve society and nature, not the other way around.
- **New Crop of Leader**
  - Leaders embrace and consent to stakeholder responsibility over shareholder responsibility.

Foreign funds and the Missionaries of Charity

Context: Recently, Ministry of Home Affairs (MHA) said the Missionaries of Charity's application for renewal of the Foreign Contribution (Regulation) Act registration was rejected on December 25 for not meeting eligibility conditions and after "some adverse inputs" were received.

- The registration of **Missionaries of Charity, founded by Mother Teresa** in Kolkata, under FCRA was valid up to October 31, 2021, but had been extended till December 31, 2021.
- MHA also said that it did not freeze any account of the Missionaries of Charity but that the State Bank of India had informed it that the organisation itself sent a request to the bank to freeze its accounts, which the Missionaries of Charity confirmed.
- Licences of non-governmental organisations are routinely checked and suspended if the MHA finds any irregularities regarding their working in the country.

What is the FCRA?

- The Foreign Contribution (Regulation) Act, 2010 regulates foreign donations and ensures that such contributions do not adversely affect internal security.
- First enacted in 1976, it was amended in 2010 when a slew of new measures were adopted to regulate foreign donations.
- The FCRA is applicable to all associations, groups and NGOs which intend to receive foreign donations.
- It is mandatory for all such NGOs to register under the FCRA, **initially valid for five years** that can be renewed subsequently if it complies with all norms.
- Registered associations can receive foreign contribution for social, educational, religious, economic and cultural purposes.
- Filing of annual returns, on the lines of Income Tax, is compulsory.
- In 2015, the MHA notified new rules, which required NGOs to give an undertaking that the acceptance of foreign funds is not likely to prejudicially affect the sovereignty and integrity of India or impact friendly relations with any foreign state and does not disrupt communal harmony.
- It also said all such NGOs would have to operate accounts in either nationalised or private banks which have core banking facilities to allow security agencies access on a real time basis.

Who cannot receive foreign donations?

- Members of legislature, political parties, government officials, judges, media persons are prohibited from receiving any foreign contribution.
- However, in 2017, the MHA through the Finance Bill route amended the 1976 repealed FCRA law paving the way for political parties to receive funds from the Indian subsidiary of a foreign company or a foreign company where an Indian holds 50% or more shares.

Is there any other way to receive foreign contributions?

- The other way to receive foreign contributions is by applying for prior permission. It is granted for receipt of a specific amount from a specific donor for carrying out specific activities or projects.
- But the association should be registered under statutes such as the Societies Registration Act, 1860, Indian Trusts Act, 1882 or section 25 of the Companies Act, 1956 etc.
- A letter of commitment from the foreign donor **specifying the amount and purpose is also required.**
- In 2017, the MHA suspended the FCRA of Public Health Foundation of India (PHFI), one of India's largest public health advocacy groups, on grounds of using 'foreign funds' to lobby with parliamentarians on tobacco control activities.
    - After several representations by the PHFI to the government, it was placed under the 'prior permission' category.

	When is a registration suspended or cancelled? ● The MHA on inspection of accounts and upon receiving any adverse input against the functioning of an association can suspend the FCRA registration initially for a period of 180 days. ● Till the time any decision is taken, the association cannot receive any fresh donation and cannot utilise more than 25% of the amount available in the designated bank account without permission of the MHA. ● The MHA can cancel the registration of an organisation which will not be eligible for registration or grant of 'prior permission' for three years from the date of cancellation. ● According to MHA data, since 2011 when the Act was overhauled, **the registration of 20,664 associations were cancelled** for violations such as misutilisation of foreign contribution, non-submission of mandatory annual returns and for diverting foreign funds for other purposes. ○ As of December 29, there are 22,762 FCRA-registered NGOs. **Connecting the dots:** ● FCRA Changes: Ease of Monitoring vs Crippling Curbs ● Importance of NGOs in Democracy ● FDI Policy & Atmanirbhar Bharat
Flex-Fuel Vehicles	**Context**: The government has advised carmakers to start making Flex Fuel Strong Hybrid Electric Vehicles (FFSHEV). **About Flex Fuel Vehicles (FFV)** ● Flex fuel vehicles (FFV) are capable of running on 100% petrol or 100% bio-ethanol or a combination of both. ● Flex Fuel Strong Hybrid Electric Vehicles (FFSHEV) essentially houses an electric motor which powers the vehicle alongside the traditional petrol engine. ● However, such vehicles are yet to be made widely available in world markets. ● **Dual fuel** vehicle means the engine uses two fuels (gas and diesel) at the same time ● **Bi Fuel** means the engine could run on either fuel separately. ● **Flex Fuel Vehicles (FFV)** is capable of running on either petrol or ethanol or a combination of both hence it is a synthesis of Dual fuel vehicle and Bi fuel vehicle. **How much blending is being done presently?** ● Bio-ethanol contains less energy per litre than petrol ● However, the calorific value will become on par with petrol with use of advanced technology. ● A litre of petrol sold in India has an average of 8% ethanol content even though oil marketing companies have clearance to do 10% (E10) blending. ● All vehicles manufactured in India are tuned for E10. They will not be able to run on higher ethanol content beyond 10%. **Why factors are pushing government to promote Flex Fuel Vehicles?** ● **Reduce Import Bill**: In FY21 India's oil import bill stood at $62.7 billion. The government is desperate to bring down the oil import bill by creating fuel substitutes like ethanol, hydrogen and electricity. ● **Savings**: Even a push till the E20 level (20% blending) can result in savings of $4 billion per annum. This is possible only if flex-fuel vehicles are made available in the market. ● **Paris Climate Commitments:** Also, FFVs will also help the government meet its commitments when it comes to reducing emission. By hitting E20 ○ Carbon monoxide emissions were 50% lower in two-wheelers and 30% lower in four-wheelers compared to petrol. ○ Hydrocarbons were lower by 20%. **What are the challenges with FFV?** ● **Fuel Efficiency:** E20 blending will result in drop in fuel efficiency by nearly 6-7% in 4 wheelers designed for E0 and calibrated to E10.

	• **Requirement of Automobile Parts:** Auto parts that come in contact with higher ethanol content have to be replaced with a compatible product to avoid corrosion. • **Increased Cost**: Because of changes required for vehicle components, higher blending of ethanol increases manufacturing costs of vehicles. Nevertheless, Automotive companies say that they are ready to move with E20 by 2025. **Connecting the dots** • Significance of BS VI vehicles for cleaner air • Paris Climate Accord

Digital Banks	**Context**: NITI Aayog, in a recent discussion paper titled Digital Banks: A Proposal for Licensing & Regulatory Regime for India, floated the idea of setting up full-stack digital banks.
	What are digital banks?
	• Digital banks or DBs are defined in the **Banking Regulation Act, 1949**.
	• These entities will issue deposits, make loans and offer the full suite of services that the Banking Regulation Act empowers them to.
	• They will principally rely not on physical branches but on the internet and other proximate channels to offer their services.
	• Digital Banks helps in following ways
	  ○ Helps overcome financial inclusion challenges in the country
	  ○ Helps reduce cost of transactions
	  ○ Useful for utilisation of the JAM trinity
	  ○ Helps reduce banking-inequality
	  ○ Helps make India as the global leader in Fintech
	What is the status of banking sector in India?
	• Over the past few decades, banking-licence categories have grown in number.
	• Today, the banking sector includes
	  ○ Public sector banks
	  ○ Private sector banks (21)
	  ○ Small finance banks (12)
	  ○ Payments banks (6)
	  ○ Regional rural banks (43)
	  ○ Foreign banks (44)
	  ○ Local area banks (3)
	  ○ Financial institutions (4)
	  ○ Urban cooperative banks (1,531)
	  ○ Multi-state cooperative societies & banks (1,130)
	What is the suggestion of Niti Aayog?
	• The paper also suggests a two-stage approach:
	  1. Granting of a digital business bank license
	  2. Granting of a digital (universal) bank licence after gaining experience as the former
	• Even with the Digital Business Bank license, it recommends a carefully calibrated approach comprising of issue of a restricted digital business bank license (in terms of volume/ value of customers serviced and the like).
	• It recommends the enlistment of the licensee in a **regulatory sandbox framework** enacted by the RBI.
	• It also suggests the issuance of a "full-stack" Digital Business Bank license based upon the satisfactory performance of the licensee in the regulatory sandbox.
	• It further suggested that minimum paid-up capital for a restricted digital business bank operating in a regulatory sandbox may be proportionate to its status as restricted.

	• As per the illustration, upon progression from the sandbox into the final stage, a full-stack digital business bank will be required to bring in Rs. 200 crore (equivalent to that required of the Small Finance bank). **What are the challenges?** • RBI's experience with private sector banks licensing over the past isn't all rosy given that RBI had to step in to contain damage in the case of private sector banks like Yes Bank and LVB. • While RBI has a "bank under repair" sign-board in its PCA framework, it has not said anything about the efficacy of the various other banking categories such as payments banks or SFBs. • Some of the banking categories as well as the older licence categories seem to have no visibility of viability and have not been able to showcase their significance in terms of the intended objective. • **Until legislation catches up**, regulation has to adapt to ensure that the financial system absorbs digital innovation in a non-disruptive manner. • RBI like other central bankers of world also has concerns over the **ownership of banks.** Global regulators have worries about the ultimate ownership of banks preferring **resident in their jurisdiction** which could be a challenge for many aspirants of digital-only bank licences. • The challenge for digital banks will be to show that they can **raise a liability pool**, instead of just using large equity capital as a debt-funding source. • In terms of consumer protection, everything related to cyber security or digital data security or privacy rights is a concern. • Even stable NBFCs with large capital bases are not allowed to use the word "bank" in describing themselves in any consumer communication, whereas many new-age fintech platform has named itself a **neo bank.**
The Devas Arbitration	**Context**: On January 3, Devas shareholders said they had won an order allowing seizure of **$30 million worth of properties of Air India** and the Airports Authority of India after a Canadian court's order in connection with the arbitration award it had won against the Indian government. • Both Indian entities have sought quashing of this order and the court has reserved its decision. **What happened in Canada?** • A court in Canada had ordered seizure of amounts collected by the International Air Transport Association (IATA) on behalf of Air India and AAI. • This is the latest attempt by Devas shareholders to enforce the arbitration awards it won at international tribunals **after India cancelled the Devas-Antrix deal in 2011.** • So far, Devas has moved to seize U.S. $17.3 million of ticketing fees collected on behalf of Air India and U.S. $12.76 million of air navigation and aerodrome charges international airlines owe to AAI. **What was the Antrix-Devas deal and why was it cancelled?** • Telecommunications firm Devas Multimedia signed a contract with Antrix (ISRO's commercial arm) in 2005 under which Antrix would build and launch two ISRO satellites **and lease the corresponding S-band satellite spectrum to Devas**, which in turn would use it to provide its Internet services. • Following a leaked draft CAG audit report that pointed to a number of potential irregularities in the deal, including alleged financial mismanagement and violation of standard operating procedures the UPA government cancelled the Antrix-Devas deal in February 2011. • However, the final CAG report and a number of other panel probes **did not find any evidence of quid pro quo or bribery.** • Questions have also been raised about the calculation of losses by the CAG in the Antrix-Devas deal as it compared satellite spectrum with telecom spectrum.

	Why has Devas sought to attach AAI and Air India assets overseas? ● After the Devas-Antrix deal was cancelled in 2011, Devas Multimedia Private Limited and its shareholders won **three arbitration awards at international tribunals.** ● Despite the compensation awarded to Devas shareholders**, India has not paid any money yet** and challenged the awards multiple times. ● Devas says that in 2020 the BJP government agreed to a negotiated global financial settlement, but walked away from it and until India returns to the negotiating table, it has no alternative but to **move against India's assets globally.** ● The first award on September 14, 2015 by the International Chamber of Commerce (ICC) Tribunal, seated in New Delhi, unanimously rejected Antrix's cancelling the deal and awarded Devas U.S. $562.5 million in damages plus 18% interest per annum. ○ ISRO's commercial arm, Antrix, has filed a petition to set aside the ICC award which is currently under adjudication before the Delhi High Court. ● In 2012, shareholders of a Devas arm incorporated in Mauritius moved the **Permanent Court of Arbitration (PCA)** against India, alleging violation of the obligation to protect their interest as guaranteed under the **India-Mauritius Bilateral Investment Treaty (BIT).** ○ The PCA Tribunal, seated at The Hague, on July 25, 2016 found India liable for breaching its obligations. On October 13, 2020 the PCA Tribunal awarded Devas shareholders over U.S. **$111 million plus interest as compensation.** ● A third arbitration by one of the other shareholders of Devas —Deutsche Telekom (DT)—under the **India-Germany Bilateral Investment Treaty** at the PCA, won DT more than $132 million plus interest (in December 2017 and May 2020). ● Meanwhile, in January 2021, after a plea from Antrix, the National Company Law Tribunal ordered winding up of Devas on grounds of being fraudulent, which was upheld by NCLAT in September, 2021. ● NCLAT has also held the Antrix-Devas agreement to be illegal. Devas has moved the Supreme Court and its appeals are pending. **What about Air India's sale to the Tatas?** ● Devas's move to seize Air India assets comes just weeks before Tata Sons is set to take over the airline. ● However, the events in Canada are unlikely to hamper the transfer of the airline as Tata Sons has been granted indemnity from past legal claims in the shareholder's agreement. **Connecting the dots** ● Tax Terrorism ● Bilateral Investment Treaties
GST reform needs a new grand bargain	**Context**: Just a day ahead of the 46th meeting of the GST Council on December 31, the Finance Ministers of several States had a **pre-Budget interaction** with the Union Finance Minister and demanded that the GST compensation scheme be extended beyond June 2022, when it is set to expire. • Three years ago, the Centre and the States of the Union of India struck a grand bargain resulting in the launch of the unified Goods and Services Tax (GST) era. • The States gave up their right to collect certain taxes, and the Centre gave up excise and services tax. • The nationwide GST promised frictionless commerce across State borders, buoyant and leakproof tax compliance, and removal of inefficiencies like the cascade of "tax on tax". • This historic grand bargain was the result of painstaking consensus building, which inter alia involved addressing the apprehension of States, of revenue loss due to the GST. **Challenges of GST – Abdication of responsibility by Centre**

- State's consent was secured by a promise of reimbursing any shortfall in tax revenues for a period of five years. This reimbursement was to be funded by a special cess called the **GST compensation cess**.
- The promised reimbursement was to fill the gap for an assured **14% year on year tax growth for five years.**
- As the economy battles a pandemic and recession, the **tax collection has dropped** significantly, while expenditure needs are sharply higher, especially at the frontline of the battle, at the State level.
- But it seems that the States have been told that they are on their own to meet the shortfall in revenues.
- Using an equivalent of the **Force Majeure clause in commercial contracts,** the Centre is abdicating its responsibility of making up for the shortfall in 14% growth in GST revenues to the states.
    - Farce Majeure means unforeseeable circumstances that prevent someone from fulfilling a contract.

Why the onus is on the Centre

The abdication of responsibility by centre is wrong on many counts.

- First, the States do not have recourse to **multiple options that the Centre has**, such as issue of a sovereign bond (in dollars or rupees) or a loan against public sector unit shares from the Reserve Bank of India.
- Second, the Centre can anyway command much lower **rates of borrowing** from the markets as compared to the States.
- Third, in terms of **aggregate public sector borrowing**, it does not matter for the debt markets, nor the rating agencies, whether it is the States or the Centre that is increasing their indebtedness.
- Fourth, fighting this recession through increased fiscal stimulus is basically the job of **macroeconomic stabilisation**, which is the Centre's domain.
- Fifth, and most importantly, breaking this important promise, using the alibi of the COVID-19 pandemic causes a serious dent in the **trust built up between the Centre and States.**
    - Kautilya too would have advised the sovereign against reneging on the promised bailout, as fulfilling the obligation helps build trust with sub-sovereigns.
- The issue of GST compensation to the States is just the latest in the bumpy three-year journey of the new tax design. It is clear that the design needs a radical overhaul.
- Just tinkering with the compensation mechanism, or frequently changing rate slabs, or pushing more goods in the "sin tax" cess category, to earn revenue that is not shareable with the States, is not the way forward. What we instead need is a Grand Bargain 2.0 between the sovereign and the sub-sovereign entities.

The Australian example

- A comparison with Australia which also coincidentally shares its GST anniversary with India, is apt. For the past two decades **their GST rate has been constant at 10%.**
- Of course India's single rate of 12% has to cover petrol, diesel, electricity, transport and real estate as well. Some extra elbow room for the States' revenue autonomy is obtained by allowing the States non VATable surcharges on a small list of "sin" goods such as liquor, tobacco, polluting goods such as sport utility vehicles, and industrial fuels such as diesel, aviation turbine fuel and coal.
- A low moderate single rate of 12% encourages better compliance, reduces the need to do arbitrary classification and discretion, reduces litigation and will lead to buoyancy in collection.

	• Incidentally this redesign will scrupulously avoid the bogey of a "revenue neutral rate" (RNR) which needlessly occupied the attention of lawmakers and officials. • GST is a long-term structural reform, while RNR is a short term and basically an elusive concept. • In the long term there are many changes in consumption patterns, production configurations and locations, which cannot be anticipated and hence a static concept of RNR cannot be the reference. • The commitment to a low and stable rate, à la Australia and many other federal democracies, is a must. • Of course the compensation-cum-reimbursement incentive can remain, but more in the nature of what was done for VAT harmonisation. **Third tier of government** • This new grand bargain must recognise the increasing importance of the third tier of government. • Even after 28 years of the 73rd and 74th Amendments, the local governments do not have the promised transfer of funds, functions and functionaries. • These local bodies face increased responsibility of providing government services especially in view of increased urbanisation and decentralisation. • Of the 12% GST, 10% should be equally shared between the States and the Centre, and 2% must be earmarked exclusively for the urban and rural local bodies, which ensures some basic revenue autonomy to them. • The actual distribution across panchayats, districts and cities would be given by respective State Finance Commissions. • GST consumption tax paid by every citizen establishes a tighter link between the governed and the government. • The quality of governance improves as also, the tax base is better aligned with responsibilities of various tiers of government. • We also need to zero rate exports. GST is a crucial and long-term structural reform which can address the fiscal needs of the future, strike the right and desired balance to achieve co-operative federalism and also lead to enhanced economic growth. • The current design and implementation has failed to deliver on that promise. A new grand bargain is needed.
Planetary Pressure Adjusted HDI	**Context**: The 2020 Human Development Report of UNDP, titled "The Next Frontier – Human Development and the Anthropocene" proposed a **planetary pressure-adjusted Human Development Index (HDI)**. • Ever since the UNDP took up computation of the HDI driven by the vision of Mahbub ul Haq and articulated by Amartya Sen in 1990, there have been adjustments such as inequality-adjusted HDI. • Besides, there was computation of several other indices such as Gender Development Index, Gender Inequality Index, and Multidimensional Poverty Index to flag the issues that warranted the attention of policymakers. **What is the purpose of Planetary Pressure Adjusted HDI (PHDI)?** • The environment is one such issue now considered to be an essential component to be **factored in to measure human development.** • The concept of the planetary boundary was introduced by a group of scientists across the world, led by J. Rockström of the Stockholm Resilience Centre in 2009. • It is how established that **human-induced environmental change** can irrevocably destabilise the long-term dynamics of the earth system, thereby disrupting the life-supporting system of the planet. • Both global and local evidence indicate that biodiversity loss, climate change, land system/land-use change, disruption of biogeochemical cycles, and scarcity of freshwater availability are a threat and increase the vulnerability of society.

- The purpose of the planetary pressure adjusted HDI, or PHDI, is to **communicate to the larger society the risk involved** in continuing with existing practices in our resource use and environmental management, and the retarding effect that environmental stress can perpetuate on development.

What will be the impact on country rankings due to PHDI?

- When planetary pressure is adjusted, the world average of HDI in 2019 came down from 0.737 to 0.683. This adjustment has been worked out by factoring per capita carbon dioxide (CO_2) emission (production), and per capita material footprint.
- The average per capita global CO_2 emission (production) is 4.6 tonnes and the **per capita material footprint is 12.3 tonnes.**
- The global ranking of several countries was altered, in a positive and negative sense, with adjustment of planetary pressure.
    - Switzerland is the only country in the group of high human development countries whose world rank has not changed with adjustment of planetary pressure, although the HDI value of 0.955 has come down to 0.825 after the necessary adjustment.
- Among 66 very high human development countries, 30 countries recorded a fall in rank values. It succinctly brings out the nature of planetary pressure generated by the developed countries and indirectly indicates their responsibility in combating the situation.
- In the case of India, the PHDI is 0.626 against an HDI of 0.645 with an average per capita CO_2 emission (production) and material footprints of 2.0 tonnes and 4.6 tonnes, respectively.
- **India gained in global rankings by eight points** (131st rank under HDI and 123rd rank under PHDI), and its per capita carbon emission (production) and material footprint are well below the global average.

What are the challenges in India?

- India's natural resource use is far from efficient, environmental problems are growing, and the onslaught on nature goes on unabated.
- At the same time, India has 27.9% people under the Multidimensional Poverty Index ranging from 1.10% in Kerala to 52.50% in Bihar, and a sizable section of them directly depend on natural resources for their sustenance.
- The **twin challenges of poverty alleviation and environmental safeguarding** that former Prime Minister Indira Gandhi first articulated in her lecture during the Stockholm conference on the human environment in 1972 still remain unattended. In fact, the situation is much more complex now.
- Any standalone environmental safeguarding actions are not sufficient to navigate the Anthropogenic caused planetary pressures.
- It is now well established that there are interdependencies of earth system processes including social processes, and their relationships are non-linear and dialectic.
- Therefore, the central challenge is to **nest human development including social and economic systems into the ecosystem**, and biosphere building on a systematic approach to nature-based solutions that put people at the core.

What should be the way forward?

- It is now essential to consider people and the planet as being a part of an interconnected social-ecological system.
- Social and environmental problems cannot be addressed in isolation anymore; an **integrated perspective is necessary**.
- This can be conceived and addressed at the local level, for which India has constitutional provisions in the form of the 73rd and 74th Amendments.
- What is required is a reorientation of the planning process, adoption of a decentralised approach, a plan for proper institutional arrangements, and steps to enable political decisions.

National Education Alliance for Technology (NEAT) Scheme	**Context**: A first-of-its-kind government scheme, set in motion over two years ago (in Sep 2019), has finally taken shape, bringing courses offered by a group of edtech platforms within the reach of college and university students from socio-economically disadvantaged backgrounds. **What is the scheme about?** • The National Education Alliance for Technology (NEAT), which is being implemented by the **All India Council for Technical Education (AICTE),** aims to act as a bridge between edtech companies, academic institutions and students. • The initiative was taken after government noted that learning tools developed by edtech platforms can supplement classroom teaching need to be made more accessible. • Accordingly, it was proposed that a portal be created where edtech platforms can be roped in to display their products after a shortlisting process. **What are the products on display in the portal?** • The portal — neat.aicte-india.org– has separate sections listing products for students and educational institutes respectively. • So far the government has roped in 58 edtech companies. The companies were shortlisted by independent expert committees leaving no room for favouritism. • Under the B2B (business to business) segment of the portal, courses are on offer for higher education institutes to purchase in bulk for their students. And the B2C (business to customer) section lists courses that eligible students can browse through and choose from. • The courses range from accounting and finance to coding, including advanced programming languages like python. **How were students picked under the scheme?** • The basic objective of the scheme is to make students from disadvantaged backgrounds aware of the availability of such opportunities that can help them learn new skills or polish existing ones. • In that regard, the AICTE reached out to higher education institutes across the country, directing them to inform students about the portal and enroll them based on their needs and consent. • The edtech platforms have been allowed to charge fees as per their policies. **But then how will it benefit students from backward communities?** • In order to do that, the government has mandated that every shortlisted company will have to **offer free coupons to the extent of 25 per cent of the total registrations** for their solution through NEAT portal. • Through this route, the government created a **bank of 12.15 lakh free coupons** over the last two years. And it has now started distributing those coupons among students belonging to SC/ST/OBC and EWS categories with the annual family income cap fixed at Rs 8 lakh. • After the government opened the registrations for students of these categories for free courses, nearly 37 lakh applications were received. • As the number of free coupons were limited, the authorities **used an AI tool to pick students** with caste, income, gender, age as filters. Older students and women have been given preference over men. • A state-wise break up shows that of the total, 4.12 lakh free coupons are being distributed among students of Uttar Pradesh, followed by 2.23 lakh in Tamil Nadu, 1.38 lakh in Maharashtra and 1.21 lakh in Andhra Pradesh. • The top five courses in terms of demand are python programming, C, C++, Java programming, data science, life science and healthcare analysis, and interview preparation.

Predatory Pricing by New Age Companies	**Context**: Recently, people in the small town of Talode in Nandurbar district in Maharashtra could not buy Colgate toothpaste from their only local store. • It was because distributors in Nandurbar district had decided to boycott Colgate's products and not supply them to the *kirana* stores in Talode. **Why did distributors decided to boycott Colgate's products?** • Nearly half-a-million of India's distributors pick up goods from consumer companies such as Colgate and deliver them to 13 million small local stores located in 7,00,000 villages and towns across the country through a web of millions of traders and other intermediaries. • A vast majority of these distributors and traders are small family businesses that have developed relationships with their local stores over many decades. • All consumer goods distributors in Maharashtra were protesting against Colgate's alleged unfair treatment of traditional distributors *vis-à-vis* B2B technology companies such as Reliance's JioMart, Udaan and others. **How are B2B technology companies causing disruption?** • The *kirana* store generally sells a 100g tube of Colgate toothpaste to the consumer for ₹55, the maximum retail price (MRP). The distributor sells Colgate toothpaste to the kirana store for ₹45 and the manufacturer, Colgate, sells it to the distributor for ₹40. • New age technology B2B companies have developed technologies to connect directly to the *kirana* stores through a mobile phone app, bypassing the intermediaries. • These B2B companies supply Colgate toothpaste to the local store for ₹35, lower than the ₹45 charged by the distributor. • These technology companies bear a 15%-20% loss on every Colgate toothpaste they sell to the local store. • They deliberately offer their product at a price lower than what it costs them **(Predatory Pricing),** to lure local stores away from the traditional distributors. • Further, these technology companies offer extensive credit terms and working capital to the local stores. • In other words, these technology companies rely not just on their mobile phone app innovation but also **steep price discounting and cheaper financing** to win customers. • Udaan has suffered total losses of more than ₹5,000 crore in just five years and JioMart reports even greater losses. **How is that these technology companies are able to absorb losses?** • Indian companies are able to absorb such heavy losses because they have access to copious amounts of money. • These companies are flush with **funds from foreign venture capital firms**, which in turn are largely funded by American pension funds and university endowments. • Evidently, these companies use the money to not only build new technologies but also to undercut competitors and steal market share. • They are able to sustain huge losses for several years until they **destroy incumbents and gain dominant market share.** After which, they will presumably raise their prices to turn profitable. ○ It is similar to what India experienced in the telecom sector with Jio. • The flip side is that India's millions of distributors and intermediaries have no access to such finance. **What are the challenges due to such predatory pricing?** • The issue is about **illegal predatory pricing and abuse of pricing power** by startups and big corporates through preferential access to easy foreign money.

	• While consumers may benefit from lower prices, should **the livelihoods of millions of distributors,** traders and their families suffer because they do not have equal access to easy money as these technology companies. ○ By some estimates, there are more than **20 million families** (100 million people) in India whose livelihoods depend on intermediary roles in the consumer goods supply chain. • The distributor, trader and the *kirana* store owner generally belong to the same local community. Surely, there will be social ramifications within that community for some of these families lose their livelihood. • The conventional economic notion that lower prices, regardless of **the means adopted,** are a sole and worthy pursuit is under severe challenge. • Social media companies such as Facebook give away their products for free and e-commerce companies such as Amazon sell at lower prices, benefiting consumers enormously, but also causing immense **social strife and disharmony.** • Even erstwhile champions of free capital flows are now cautious about their social implications. The new Chairperson of the Federal Trade Commission in America, is seeking to frame new rules to check such **anti-competitive behaviour.** **Connecting the dots** • COVID-19 and FDI Policy • New Social Media Code • Dominance of Big tech • Australia's News Media Bargaining Code

Trickle-down Wage: Analysing Indian inequality from a gender lens	**In News:** The pandemic has exposed and fed off the profound socio-economic inequalities of the existing world. Gender-based discrimination, being an important dimension of socio-economic inequality has had adverse economic outcomes for women in these unprecedented times.
	• Women are 10 percent more likely to be living in extreme poverty in India by 2021 in comparison to men cites the UN Women Report of 2020.
	• The pandemic has disrupted an already skewed ratio in educational opportunities, access to finance, wage disparities, and other social constraints for them demographically.
	Gender inequalities and shares in labour income
	Gender inequality is one of the oldest and most pervasive forms of inequality in the world and as a result, social and economic impacts of the COVID-19 pandemic have been far from gender neutral.
	• India's numbers here stand at a grim 18 percent and are amongst the lowest in Asia's average at 27 percent, ahead of only Pakistan and Afghanistan, both of which fall under 10 percent.
	• World Economic Forum's Global Gender Gap Report of 2021 places India amongst countries with the **largest Gender Gaps in Economic participation and opportunity** due to an observed declining trend from 27 percent in 2010 to 22 percent in 2020 in **Female Labour Force Participation.**
	• Azim Premji's State of Working India Report 2021-
	  ○ During the lockdown and months after, while 61 percent of men remained employed and only 7 percent lost employment, only 19 percent women remained employed and a vast 47 percent suffered a permanent job loss.
	  ○ The imposition of lockdowns, has affected the feminised sectors, such as the care economy and the gig economy, much more severely than the sectors in which men are over represented.
	• The Global Gender Gap Report 2021 describes the concept of 'Labour Market scarring' in which temporary limitation of in-person work has caused permanent and long-lasting effects on women's chances at decent employment in future.

	• According to the Inequality Report 2022,
	  ○ While women represent about 50 percent of the population, they earn only about one-third of the labour income for it.
	  ○ Those who do step into the workforce are often offered work in the informal sector, which categorically provides no protection of labour laws, or social benefits like pension, paid sick leave, maternity leave.
	  ○ Informal sector rarely provides any resilience against market fluctuations; this makes them more vulnerable and keeps them in poverty and altogether wary of potentially entering the workforce.
	  ○ While men moved to the informal workforce during lack of better opportunities, women quit the workforce altogether due to increased burden of the household and an acute lack of safety nets.
	Gaps and the road to recovery
	• Through various practices, be it discriminatory policies and social structures, lack of access to lucrative jobs and labour market or the **double bind of performing both paid and unpaid labour**, women have only been earning a third of the labour they have promise for.
	• Without **adequate focus on policy change**, India faces a threat of leaving behind a half of its population in this road to recovery, not to mention bear the brunt of inequalities even further.
	• We need to **revisit the labour distribution** in our country and rethink formal and informal structures at a policy level.
	• There is a need to **enhance the social security mechanisms** for informal workers with a special focus on women.
	• **Upskilling women** for 'hard professions' and **adopting a 'care lens'** is hence essential for defeminising care work and would contribute to redistributing it equally amongst family members irrespective of their gender.
	• It is also important to create **gender sensitive fiscal policies** and **educate the masses** about the criticality of rising inequalities and formulate a **framework of labour laws** to sustain in the neoliberal world.
	Can you answer the following questions?
	1. As women bear the brunt of the rising income inequality, the need for a positive policy change has become even more pronounced. Discuss.

India Challenges WTO verdict on sugar	**Context**: India has filed an appeal with the Appellate Body of the World Trade Organization (WTO) disputing a verdict by the WTO's dispute settlement panel on sugar subsidies. • The WTO's dispute settlement panel had ruled that India, by subsidising sugar producers, was breaking rules framed under the General Agreement on Tariffs and Trade (GATT) which govern international trade. • India is the second-largest sugar producer in the world after Brazil and it is estimated that more than 5 crore people depend on the cultivation of sugarcane alone for their livelihood. **What is the dispute?** • In 2019, Australia, Brazil, and Guatemala complained against India at the WTO arguing that **subsidies offered by the Indian government to sugar producers** were against the rules governing international trade. • They argued that these subsidies, which include both domestic subsidies as well as export subsidies, **exceed the limits imposed by WTO trade rules.** • According to WTO rules, subsidies cannot **exceed 10% of the total value of sugar** production. • These countries believe that subsidies offered by India have led to increased production of sugar and caused the **price of sugar to drop** significantly in the global market.

	• After two years, the WTO ruled in December that India's sugar policy was favouring domestic producers through subsidies to the detriment of foreign producers. • The panel recommended that **India withdraws its alleged prohibited subsidies** under the Production Assistance, the Buffer Stock, and the Marketing and Transportation Schemes within 120 days from the adoption of this report. **What is India's stand?** • India has stated that the WTO's dispute panel ruling has made certain "erroneous" findings about domestic schemes to support sugarcane producers and exports and the findings of the panel are completely "unacceptable" to it. • India has argued at the WTO that it **does not offer direct subsidies** to sugarcane farmers and thus doesn't break any international trade rule. • This argument, however, has not convinced other countries who point out that, among other things, the Centre and the State governments in India mandate the minimum price (the **Fair and Remunerative Price, or FRP**) at which sugar mills can buy sugarcane from farmers. • The high procurement price (High FRP) for sugarcane set by the Government is believed to have led to increased supply that in turn has caused sugar prices to drop. • To help the sugar sector, the Centre has even mandated **the compulsory blending of ethanol** derived from sugarcane with fuels such as petrol and diesel. • Further, the Centre also regularly sanctions **funds to encourage sugar mills to export sugar** depending on sugar prices in the global market. In the budget last year, the Centre allocated a total of ₹3,500 crore to fund the export of 6 million tonnes of sugar. **What lies ahead?** • The WTO Appellate Body's decision will be considered final on the dispute. • In case India refuses to comply with the decision, it might have to face retaliatory action from other countries. This could be in the form of additional tariffs on Indian exports and other stringent measures. • Such retaliatory measures may benefit producers in these countries but affect consumers who have enjoyed lower sugar prices due to subsidies offered by India. • It should be noted that the WTO was founded to prevent exactly such tit-for-tat tariffs that shrink international trade. • Incidentally, the **appellate body of the WTO is not functioning because** of differences among member countries to appoint members, and disputes are already pending with it. The U.S. had blocked the appointment of members. **Connecting the dots** • Reforms in Sugar Industry • Why Sugar Industry needed export subsidy • MSP in age of Surplus: Sugarcane Pricing and Milk Pricing

Towards Complete Capital Convertibility	**Context**: The process of capital account convertibility is likely to receive a further push this year, as the government and RBI move towards allowing greater foreign participation in domestic bond markets.
	What is the capital account convertibility?
	• The balance of payments account, which a statement of all transactions made between a country and the rest of the world world, consists of two accounts
	  ○ Current account: deals mainly with import and export of goods and services
	  ○ Capital account: It is made up of cross-border movement of capital by way of investments and loans.
	• **Capital account convertibility (CAC)** means the freedom to conduct investment transactions without any constraints.
	• In other words, CAC means there is no restrictions on the amount of rupees an Indian resident can convert into foreign currency to enable to acquire any foreign asset.

- Similarly, there should be no restraints on the NRI relative bringing in any amount of foreign currency to acquire an asset in India.

How did the capital account convertibility evolve?

- In 1991 put India adopted the path of economic liberalisation (set in motion by the **Narasimham Committee's recommendations**). Within five years, the country had moved to a **market-determined exchange rate** and full current account convertibility.
- Though this also marked the beginning of the process of liberalising the capital account, in the three decades since liberalisation began, progress on this aspect has remained gradual.
- While the current position is a partially open capital account, non-residents essentially have complete freedom to engage in most investment and other capital transactions in India
- Capital account convertibility has mostly been in a single direction since 1991—with **more flexibility around inflows rather than outflows.**
- **Foreign Exchange Management Act,** 1999 further liberalised current account, and to some extent, capital account transactions, albeit maintaining strong control over the latter.
- Gradually, foreign investors have been allowed to participate in the domestic equity, debt and bond markets over the past two decades.
- As a result, foreign direct investment in India now is **largely unrestricted,** and its impact is stark: in the past five years, the flow of FDI has accounted for almost 50% of total FDI inflows since 1991.
- **Foreign Portfolio investors (FPIs**) have also been active in the equity, debt and G-sec markets. During 2021, FPIs invested $10.8 billion in initial public offerings (IPOs) of Indian firms—the highest ever amount
- According to latest data on India's international investment position, direct overseas investments total around $200 billion, while portfolio investments are below $8 billion, after several years of moderate growth.
- To be fair, **liberalisation of the capital account has been consistent** through business cycles in the past three decades. This suggests that institutional capacity and political willingness to achieve capital account convertibility is strong.

What are the challenges associated?

- The two Tarapore Committee Reports—1997 and 2006—laid out a path to full convertibility. However, both reports did set a number of preconditions for convertibility to be achieved. These include
    - gross fiscal deficit being less than 3.5% of GDP
    - Inflation rate of 3-5% over three years
    - Effective CRR being 3%
    - Gross NPAs of 5% or less.
    - **India has yet to fully meet all of these criteria.**
- Inflows and outflows of the foreign and domestic capital, which are prone to volatility, can lead to excessive appreciation/depreciation of their currency and impact the monetary and financial stability.
- The 2006 **Tarapore committee's report** on fuller capital account convertibility released argued that even countries that had comfortable fiscal positions have experienced **currency crises and rapid deterioration** of the exchange rate.
- The report further points that an excessive appreciation of the exchange rate causes exporting industries to become unviable, and imports to become much more competitive, causing the **current account deficit** to worsen.
- However, there has been an improvement in the economy. India's foreign reserves today stand at $635 billion, the fourth largest in the world.

	How fuller convertibility would benefit India? • Large foreign exchange reserves lead to high sterilisation costs. In 2018, SBI estimated the sterilisation coefficient at -0.93. If some control is brought over India's sterilisation costs through an opening of the capital account, it is estimated this could **free up almost 1% of GDP in sterilisation costs** over time ○ Sterilization is a form of monetary action in which a central bank seeks to limit the effect of inflows and outflows of capital on the money supply. • Gurther liberalisation of the capital account is needed to **power the next stage of India's economic development.** **Way Forward** • Limiting sovereign debt to 60% of GDP (as recommended by the **NK Singh panel**) should be part of economic policy in a post COVID-19 world. • RBI governors have been cautious time and again, calling for convertibility to be seen as a process, and not a single event. Thus, the process towards full convertibility will not be linear and India looks set to continue moving gradually • RBI can bank on India's current economic strengths and macro stability to further the cause of capital account convertibility in 2022. **Connecting the dots** • Budget & Economic Recovery
Growth & fiscal consolidation	**Context**: The National Statistical Office (NSO) released the first advance national accounts estimates for 2021-22 on January 7, 2022. India's real GDP growth in 2021-22 is estimated at 9.2% • t is 30 basis points lower than the projection by the RBI and IMF projection of 9.5%. **Challenges to the 2021-22 growth forecast** • Due to the three waves of COVID-19 that India has experienced, two years of real growth in **economic activities have been wiped out**. The economy has to now start on a clean slate. • The adverse effect of the **third wave of COVID-19,** which is mainly affecting the last quarter of 2021-22, may call for a further downward adjustment in the growth rate to about 9% • The main sectors that have held back a more robust recovery are **trade, transport,** *etc.* on the output side and **private final consumption expenditure** (PFCE) on the demand side (low growth of 6.9%), whose estimated 2021-22 figures remain below the corresponding levels in 2019-20. • Growth in 2022-23 would also continue to be constrained by **supply-side bottlenecks** and high prices of global crude and primary products. **Growth prospects of 2022-23** • IMF and OECD forecasts have indicated growth rates at 8.5% and 8.1%, respectively. • Growth in 2022-23 would depend on the basic determinants such as the **saving** and **investment rates** in the economy. ○ The gross fixed capital formation (GFCF) relative to GDP at current prices stands at 29.6% in 2021-22. • The implicit price deflator (IPD)-based inflation which was as high as 7.7% in 2021-22, may come down to about 5%-6%. • Thus, we may expect a **nominal GDP growth of about 12%-13%** in 2022-23. It is the nominal magnitude which is crucial as far as the Budget is concerned. • With good buoyant tax revenues, the Government may be able to limit the 2021-22 **fiscal deficit to its budgeted level of 6.8% of GDP** although a marginal slippage may be possible.

	○ **Tax buoyancy** is an indicator to measure efficiency and responsiveness of revenue mobilization in response to growth in the Gross domestic product or National income. ○ A tax is said to be buoyant if the tax revenues increase more than proportionately in response to a rise in national income or output. **What measures government need to take to support growth in next fiscal?** • The major **corporate income tax (CIT) reform** undertaken in 2019-20 had provided a concessional rate of 15% for fresh investment in manufacturing by domestic companies provided their production took off on or before March 31, 2023. • As nearly two years have been lost due to COVID-19, the **Government may consider extending the time limit** for availing this benefit of CIT reform. • The **GST compensation** provision would also come to an end in June 2022, which may impact the revenues of certain big states. Hence, GST Council may consider extending the compensation time period to tide over the setbacks caused by COVID-19 pandemic. • With respect to non-tax receipts, the scope of **the National Monetization Pipeline** (NMP) may be extended to cover monetisation of government-owned land assets. Disinvestment initiatives may have to be accelerated. • Expenditure prioritisation in 2022-23 should focus on **reviving both consumption and investment demand.** • Some fiscal support in the form of an **urban counterpart to MGNREGA** may be considered to support some of the sectors which are directly impacted by COVID-19. • The Fifteenth Finance Commission had suggested a fiscal consolidation path where the Centre's fiscal deficit was benchmarked at 5.5% (6% in worse scenario) of GDP for 2022-23. At this point, while supporting growth is critical, **signalling a return to fiscal consolidation** is also important **Connecting the dots** • National Monetisation Pipeline
Controlling the Subsidy bill	**Context**: Between 2015-16 and 2019-20, the aggregate outlay on food and fertilizer subsidy fell, both in absolute terms (from Rs 211,834 crore to Rs 189,813 crore) and as a share of the Centre's total expenditure (from 11.8% to 7.1%). • A further drop, to Rs 186,879 crore and 6.1%, was projected in the Budget for 2020-21. • That declining trend has, however, since completely reversed. • The combined food and fertiliser subsidy bill in the revised estimates for 2020-21 was a massive Rs 556,565 crore, representing 16.1% of the Centre's entire Budget (Refer image below)

TABLE 1

CENTRE'S SPENDING ON SUBSIDY (Rs CRORE)

FISCAL YEAR (APR-MAR)	FOOD SUBSIDY (1)	FERTILISER SUBSIDY (2)	TOTAL (1+2)	CENTRE'S BUDGET* (3)	TOTAL AS % OF (3)
2013-14	92,000	67,339	1,59,339	15,59,447	10.22
2014-15	1,17,671	71,076	1,88,747	16,63,673	11.35
2015-16	1,39,419	72,415	2,11,834	17,90,783	11.83
2016-17	1,10,173	66,313	1,76,486	19,75,194	8.94
2017-18	1,00,282	66,468	1,66,749	21,41,973	7.78
2018-19	1,01,327	70,605	1,71,932	23,15,113	7.43
2019-20	1,08,688	81,124	1,89,813	26,86,330	7.07
2020-21**	1,15,570	71,309	1,86,879	30,42,230	6.14
2020-21***	4,22,618	1,33,947	5,56,565	34,50,305	16.13
2021-22**	2,42,836	79,530	3,22,366	34,83,236	9.25

*Centre's total expenditure; **Budget Estimates; ***Revised Estimates.
Source: Union Budget documents for various years.

What are the reasons for the reversal in 2020-21?

First reason is government coming clean in food & fertilizer subsidy bill

- The first has to do with the Centre, until 2021, **not providing fully for the subsidy,** arising from FCI's subsidies and fertiliser firms selling nutrients at below cost to farmers.
- In the case of food, the Centre wasn't wholly funding the difference between the FCI's economic cost and its average issue price, multiplied by the quantities sold.
    - **FCI's economic cost** includes costs of procuring, handling, transporting, distributing and storing grain.
- To bridge the gap, FCI had to borrow heavily, especially from the National Small Savings Fund (NSSF), with interest rates ranging from 7.4% to 8.8% per annum.
- **FCI's borrowings from NSSF** in 2019-20, at Rs 110,000 crore, exceeded the food subsidy of Rs 108,688 crore provided through the Budget.
- Similarly in fertilizer sector, the industry was owed Rs 48,000 crore of subsidy dues at the start of 2020-21.

TABLE 2

FCI'S BORROWINGS FROM NSSF (Rs CRORE)

	BORROWED	REPAID	OUTSTANDING*
2016-17	70,000	0	70,000
2017-18	65,000	14,000	1,21,000
2018-19	97,000	27,000	1,91,000
2019-20	1,10,000	46,400	2,54,600
2020-21**	1,36,600	68,400	3,22,800
2020-21***	84,636	3,39,236	Nil
2021-22	Nil	Nil	Nil

**As of end-fiscal;*
***Budget Estimates;*
****FCI data.*

Source: Budget papers and FCI.

- But in the revised estimates for 2021-22, Finance Minister **allocated an additional Rs 3,69,687 crore** towards food and fertiliser subsidy. As a result, all outstanding NSSF loans to FCI got repaid and the fertiliser subsidy dues cleared at one go.
- This exercise of coming clean — the Centre owning up its expenditures, rather than transferring to the balance sheets of FCI and fertiliser companies — also meant a huge **one-time spike in the subsidy bill.**

Second reason is COVID

- The second source of overshooting has been Covid (in respect of food subsidy) and soaring international prices (vis-à-vis fertilisers).
- The post-Covid crisis led the Centre to not only distribute, but also procure, unprecedented quantities of grain. 5 kg of free grain/ person/ month was given under the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY**), apart from the regular 5 kg quota of wheat or rice at Rs 2 and Rs 3/kg, respectively.
- In 2020-21, a record 93.11 million tonnes (mt) of rice and wheat was sold through the PDS (62.19 mt, 65.91 mt and 60.37 mt in previous three years)
- A similar overshooting, despite no pending past dues, is expected in fertiliser subsidy. The primary reason is **global prices.** Urea imports into India are taking place now at $900-1,000 per tonne (nearly $300 in 2019-20) and di-ammonium phosphate at $900 (nearly $400 in 2019-20).

What is the way ahead for rationalising subsidy bill?

- Hiking PDS issue prices
- Capping grain procurement
- Decontrolling urea and providing a fixed per-tonne nutrient-based subsidy similar to that for other fertilisers.

	Connecting the dots ● Fertiliser Subsidy: Direct Benefit Transfer
Unlock India's food processing potential	**Context**: The challenge to feed the 10 billion population by mid-century is being deliberated on several fronts. ● It demands efficient ways of production that are both economically viable and ecologically sustainable. ● Fortunately, technologies are emerging that revamp the traditional approach of agriculture with a lower environmental footprint. **India and Processed Food Industry** ● Being one of the largest producers of fruits and vegetables in the world, India has formulated a unique Production-Linked Incentive Scheme (PLIS) to boost processed food in large quantities. ● The scheme incentivises firms for incremental sales and branding/marketing initiatives taken abroad. ○ In export market, sales promotion is positively related to increased sales volume but inversely related to profitability. To bridge this gap government provides support for branding and marketing activities in foreign markets. ● A **sum of ₹10,900 crores** has been earmarked for the scheme. ● Beneficiaries have been obliged to commit a minimum investment while applying for the scheme. The sector is likely to witness at least **₹6,500 crore worth of investment** by 2024. ● Higher investment is being concentrated in States such as AP, Gujarat, Maharashtra, Tamil Nadu and UP, as these states have better public infrastructure. ○ A study in the US concluded that a 1% increase in public infrastructure increased the food manufacturing output by 0.06% in the longer run **Pandemic & impact on Food Processing sector** ● As a result of pandemic, significant number of people are now working from home which has accelerated the **demand for ready-to-eat products** (saw 170% increase in sales volume between March-June 2020) ● The pandemic has bolstered **consumer awareness of functional foods**, which is expected to provide a boost for health-orientated start-ups and micro-food processing units. **What should be the way forward?** ● **Address access to capital**: The access of MSMEs to finance is a perennial problem in the country due to a lack of proper credit history mechanism for MSMEs. Smart financing alternatives such as **peer-to-peer (P2P) lending** hold potential for micro-food processors ● **Reform TReDS platform:** Access to working capital has in theory been addressed by the Trade Receivables Discounting System (TReDS). However, the platform requires considerable scaling-up and simultaneous enforcement of stringent measures for corporates to comply with. ○ Integrating the **TReDS platform with the Goods and Service Tax** Network's e-invoicing portal will make TReDS more attractive and give relief to financiers. ● **International Collaboration**: With growing populations, changing food habits and unrestricted use of natural resources, nations must come together and lay out a road map for a common efficient food value chain. ● **Promote innovation in both food products and processes:** There is a need to replace the staples of rice and wheat in the form of Nutri-cereals, plant-based proteins, fermented foods & health bars. **Conclusion** 50 years hence, the progress of nations will be benchmarked to their ability to sustainably feed their populations.

	Connecting the dots ● Food Processing Sector ● New Food Processing Policy
India's economy and the challenge of informality	**Context**: Despite witnessing rapid economic growth over the last two decades, 90% of workers in India have remained informally employed, producing about half of GDP. ● Formal jobs, as per India's official definition, are those providing at least one social security benefit — such as EPF. ● Official PLFS data shows that **75% of informal workers are self-employed and casual** wage workers with average earnings lower than regular salaried workers. ● About half of informal workers are engaged in non-agriculture sectors which spread across urban and rural areas. **Evolution of Informal Sector in India** ● Early on, in an attempt to promote employment, India protected small enterprises engaged in labour intensive manufacturing by providing them with fiscal concessions and regulating large-scale industry by **licensing**. ● Due to **inefficiency**, such measures led to many labour-intensive industries getting diffused into the informal/unorganised sectors. ● Further, they led to the formation of dense output and labour market inter-linkages between the informal and formal sectors via **sub-contracting and outsourcing arrangements.** ● In the textile industry, the rise of the power looms at the expense of composite mills in the organised sector and handlooms in the unorganised sector best illustrates the policy outcome. ● While such policy initiatives may have encouraged employment, **bringing the enterprises into the tax net** has been a challenge. ● Industries thriving without paying taxes are only the tip of the informal sector's iceberg. What remains hidden is large number of low productivity informal **establishments working as household and self-employment units** which represent "petty production". ● Survival is perhaps the biggest challenge for most informal workers (and their enterprises), and precarity defines their existence. Since 2016, the Government has made several efforts to formalise the economy, some of which are: ● Currency demonetisation ● Introduction of the Goods and Services Tax (GST) ● Digitalisation of financial transactions ● Enrolment of informal sector workers on numerous government portals **Why the impetus for formalisation?** ● The formal sector is more productive than the informal sector ● Also, it is established that formal workers have access to social security benefits. ● Pandemic has reversed the progress made in formalisation, hence there is a need to speed up the formalisation process. ○ Research by the SBI recently reported the economy formalised rapidly during the pandemic year of 2020-21, with the informal sector's GDP share shrinking to less than 20%, from about 50% a few years ago — close to the figure for developed countries. **What factors have led to continuation of informal activities?** ● Excessive state regulation of enterprises and labour. ● High Taxation ● Informality is also an outcome of structural and historical factors of economic backwardness. ● Studies show that informality decreases with economic growth, albeit slowly.

	● In many parts of the developing world, including India, informality has reduced at a very slow pace, manifesting itself most visibly in urban slums, poverty and (open and disguised) unemployment. **What steps needs to be taken to enhance formalisation?** ● Simplifying registration processes, **easing rules for business conduct** and lowering the standards of protection of formal sector workers will bring informal enterprises and their workers into the fold of formality. ● Also, the economy will get formalised when informal enterprises (especially those involved in petty production) become more productive through **greater capital investment and increased education** and skills are imparted to its workers. ● A mere registration under numerous official portals will not ensure access to social security, unless there is robust **implementation of labour laws.** **Connecting the dots** ● Urban Joblessness rate ● Women Employment
Understanding the Budget formulation	**Context**: With the economy still hurting from the pandemic, the Budget on February 1 is likely to address concerns around growth, inflation and spending. **What are the major components of the Budget?** ● There are three major components — ○ Expenditure ○ Receipts ○ Deficit indicators. ● Based on their impact on assets and liabilities, total expenditure can be divided into capital and revenue expenditure. ○ **Capital expenditure** is incurred with the purpose of increasing assets of a durable nature or of reducing recurring liabilities. Ex: constructing new schools or new hospitals. ○ **Revenue expenditure** involves any expenditure that does not add to assets or reduce liabilities. Ex: payment of wages and salaries, subsidies or interest payments. ● Depending on the manner in which it affects different sectors, expenditure is also classified into ○ (i) general services ○ (ii) economic services include expenditure on transport, communication, rural development, agricultural and allied sectors. ○ (iii) social services include expenditure on the social sector including education or health ○ (iv) grants-in-aid and contribution. ● The sum of expenditure on economic and social services together form the **development expenditure**. Again, depending on its effect on asset creation or liability reduction, development expenditure can be further classified as revenue and capital expenditure. ● The receipts of the Government have three components — ○ **Revenue receipts** involve receipts that are not associated with increase in liabilities and comprise revenue from taxes and non-tax sources. ○ **Non-debt receipts** are part of capital receipts that do not generate additional liabilities. Ex: Recovery of loans and proceeds from disinvestments. ○ **Debt-creating capital receipts** are ones that involve higher liabilities and future payment commitments of the Government. ● **Fiscal deficit** by definition is the difference between total expenditure and the sum of revenue receipts and non-debt receipts. Therefore, fiscal deficit indicates total borrowings of the government.

- **Primary deficit** is the difference between fiscal deficit and interest payments.
- **Revenue deficit** is derived by deducting capital expenditure from fiscal deficits.

What are the implications of the Budget on the economy?

- The Budget has an implication for **aggregate demand** of an economy.
    - All Government expenditure generates aggregate demand in the economy since it involves purchase of private goods and services by the Government sector.
    - All tax and non-tax revenue reduces net income of the private sector and thereby leads to reduction in private and aggregate demand.
- Reduction in expenditure GDP ratio or increase in revenue receipt-GDP ratio indicates the Government's policy to reduce aggregate demand and vice-versa.
- For similar reasons, reduction in fiscal deficit-GDP ratio and primary deficit-GDP ratios indicate Government policy of reducing demand and vice versa.
- Since different components of expenditure and revenue can have different effects on income of different classes and social groups, the Budget also has **implications for income distribution**.
    - For example, revenue expenditure such as employment guarantee schemes or food subsidies can directly boost the income of the poor.
    - Concession in corporate tax may directly and positively affect corporate incomes.
    - Though both a rise in expenditure for employment guarantee schemes or reduction in the corporate tax would widen the fiscal deficit, its implications for income distribution would be different.

What are fiscal rules and how do they affect policy?

- Fiscal rules provide specific policy targets on the basis of which fiscal policy is formed. Policy targets can be met by using different policy instruments.
- In India's case, its present fiscal rule is guided by the recommendations of the **N.K. Singh Committee Report**.
- Allowing for some deviations under exceptional times, it has three policy targets —
    - Maintaining a specific level of debt-GDP ratio (stock target)
    - Fiscal deficit-GDP ratio (flow target)
    - Revenue deficit-GDP ratio (composition target).
- Though both expenditure and revenue receipts can potentially act as policy instruments to meet a specific set of fiscal rules, **tax rates within the existing policy framework happen to be determined independent** of the expenditure requirement of the economy.
- Accordingly, in the present institutional framework in India, it is primarily the **expenditure** which is adjusted to meet the fiscal rules at given tax-ratios. Such an adjustment mechanism has at least two related, but analytically distinct, implications for fiscal policy.
    - First, existing fiscal rules provide a **cap on expenditure** by imposing the three policy targets.
    - Second, under any situation when the debt-ratio or deficit ratio is greater than the targeted level, expenditure is adjusted in order to meet the policy targets.
    - By implication, independent of the state of the economy and the need for expansionary fiscal policy, existing policy targets may lead the Government to reduce expenditure.

Conclusion

In the midst of the inadequacies of fiscal policy to address the contemporary challenges of unemployment and low output growth rate, the nature and objective of fiscal rules in India would have to be re-examined.

Connecting the dots

- Budget & Economic Recovery

	● Union Budget Gist 2021-22 ● Participatory Budgeting
DLI scheme and the chip making industry	**Context**: India has invited applications from 100 domestic companies, startups and small and medium enterprises to become a part of the **design-linked incentive (DLI) scheme.** ● Also, IT ministry has sought proposals from academia, start-ups and MSMEs **to train 85,000 qualified engineers** on semiconductor design and manufacturing. **Do You Know?** ● It is estimated that the semiconductor industry is growing fast and can reach $1 trillion dollar in this decade. India can grow fast and reach $64 billion by 2026 from $27 billion today. ● Mobiles, wearables, IT and industrial components are the leading segments in the Indian semiconductor industry contributing around 80% of the revenues in 2021. The mobile and wearables segment is valued at $13.8 billion and is expected to reach $31.5 billion in 2026 **What is the DLI scheme?** ● The DLI scheme aims to provide financial and infrastructural support to companies **setting up fabs or semiconductor making plants** in India. ● It will offer fiscal support of up to 50% of the total cost to eligible participants who can set up these fabs in the country. ● It will also offer fiscal support of 30% of the capital expenditure to participants for building compound semiconductors, silicon photonics and sensors fabrication plants in India, under this scheme. ● An incentive of 4% to 6% on net sales will be provided for five years to companies of semiconductor design for integrated circuits, chipsets, system on chips, systems and IP cores. ● It is expected to facilitate the growth of at least 20 such companies which can achieve a turnover of more than ₹1500 crore in the coming five years. **How can the scheme make a difference in the semiconductor manufacturing industry in India?** ● The **sudden increase in demand of chips** and semiconductor components has enhanced the need to establish a robust semiconductor ecosystem in India. ● Several sectors, including auto, telecom, and medical technology suffered due to the scarcity of chips manufactured by only a few countries. ● Schemes like the DLI are crucial **to avoid high dependencies** on a few countries or companies. ● The inception of new companies will help in meeting the domestic demand and **encourage innovation** in India. ● The DLI scheme aims to **attract existing and global players** as it will support their expenditures related to design software, IP rights, development, testing and deployment. ● It is a big step to bring India on the world map for semiconductor manufacturing. **What are other countries doing to be dominant in the race of chip making?** ● Currently, semiconductor manufacturing is dominated by companies in the U.S., Japan, South Korea, Taiwan, Israel and the Netherlands. They are also making efforts in solving the chip shortage problem. ● U.S President Joe Biden wants to bring manufacturing back to America and reduce the country's reliance on a small number of chipmakers based largely in Taiwan and South Korea. These chipmakers produce up to 70% of the world's semiconductors. ● The European Commission has also announced a public-private semiconductor alliance with the goal of increasing Europe's chip production share to 20% by 2030. ● South Korea has offered various incentives to attract $450 billion in investments by 2030. **What are the challenges in making semiconductors in India?**

	• In India, more than 90% of global companies already have their R&D and design centres for semiconductors but never established their fabrication units, • Although India has semiconductor fabs in Mohali and Bangalore, they are purely strategic for defence and space applications only. • Setting up fabs is **capital intensive** and needs investment in the range of $5 billion to $10 billion. • Lack of investments and supportive government policies are some of the challenges to set up fabs in India. • Infrastructure like connectivity to airports, seaports and availability of gallons of pure water are some other challenges to set up fabs in India. **Conclusion** • Design Linked Incentive (DLI) scheme along with the recent Production-Linked Incentive (PLI) scheme have become crucial in shaping India as an efficient, equitable, and resilient design and manufacturing hub. **Connecting the dots** • Semiconductors and Industry 4.0 • Semiconductor Shortage

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Forest Restoration in the Net Zero Race

Context: India's pledge to set a net zero target by 2070, at the COP26 summit, Glasgow, has again highlighted the importance of forests as an undisputed mechanism to help mitigate the challenges of climate change.

Importance of Forests

- According to study, land-based sinks (natural climate solutions which also include forests) can provide up to 37% of emission reduction and help in keeping the global temperature below 2° C.
- Also, forests are said to secure nearly 32% carbon storage, as per one report of the Intergovernmental Panel on Climate Change.

Continued degradation of forests in India

- Though India is said to have increased its forest cover by 15,000 square kilometres in the last six years, the degradation of existing forests continues.
- As per the State of Forests Report (1989), the country had 2,57,409 sq.km (7.83% of its geographical area) under the open forest category, having a density of 10% to less than 40%.
- However, in 30 years (2019) this has been increased to 3,04,499 sq.km (9.26%). This means every year on average, nearly **1.57 lakh hectare of forests was degraded**.
- This degradation highlights the presence of **anthropogenic pressures** including encroachment, grazing, fire, which our forests are subjected to.
- Having diverted nearly 1.5 million hectares of forests since 1980 for developmental activities and losing nearly 1.48 million hectares of forests to encroachers coupled with an intricate link between poverty and unemployment, India is witnessing enormous degradation of forests and deforestation.

What is the best route to restore forests?

- The degradation of forests warrants the participation of people as an essential and effective route to achieve the desired target of carbon sequestration through the restoration of forests.
- In a historic departure from pursuing commercial objectives to supporting the needs of people in a participatory manner (as envisaged in **National Forest Policy, 1988**), India made its attempt, in 1990, to engage local communities in a partnership mode while protecting and managing forests
- This concept of joint forest management spelt much hope for States and forest-fringe communities.
- The efforts to make this participatory approach operative resulted in the formation of nearly **1.18 lakh joint forest management committees** managing over 25 million hectares of forest area.
- The similar system of joint management in the case of national parks, sanctuaries and tiger reserves which existed in the name of **eco-development committees** initially proved effective as it could garner the support of these participating communities.
- Such local participation not only for the protection and development of biodiversity but also in the considerable reduction in man-animal conflicts and the protection of forests from fires and grazing.

What are the main concerns with joint forest management?

- However, the completion of the project period and lack of subsequent funding affected their functionality and also the protection of forests due to a lack of support from participating local communities including associated non-governmental organisations.
- Except for the National Mission for Green India, in all other centrally sponsored programmes, the lack of priority and policy support to ensure the participation of local communities via the institutions of joint forest management committees slowly made their participation customary. This caused a **gradual decline in their effectiveness.**

	• The role of local institutions of gram panchayat or joint forest management committees is now **restricted to be a consultative institution** instead of being partners in planning and implementation. • This **indifference and alienation from** the participatory planning and implementation of various schemes further affects the harmony between Forest Departments and communities, endangering the protection of forests. **Telangana Model** • To achieve net zero targets there is a need to **revisit the existing legal and policy mechanisms**, incentivise the local communities appropriately and ensure fund flow for restoration interventions, duly providing for the adequate participation of local people in planning and implementation through local institutions. • Political priority and appropriate policy interventions, as done recently in Telangana by amending the panchayat and municipal acts for environmental concerns and creating a **provision for a Green Fund,** or Telangana Haritha Nidhi, for tree planting and related activities, need replication in other States. • These should be supported by enabling **financial and institutional support** mechanisms and negotiations with stakeholders to incentivise local communities to boost efforts to conserve and develop forest resources. • Though India did **not become a signatory** of the **Glasgow Leaders' Declaration on Forests and Land Use,** the considerations of land tenure and the forest rights of participatory communities with accelerated finances will help aid steps in the race toward net zero. • This inclusive approach with political prioritisation will not only help reduce emissions but also help to conserve and increase 'our forest cover' to 'a third of our total area'. It will also protect our once rich and precious biological diversity.
Forest Survey Report 2021	**Definition of Forest Cover** • The Forest Survey of India defines 'forest cover' as all lands of a hectare or more with tree patches with canopy density of more than 10 per cent. • This covers all lands, irrespective of legal ownership and land use. • 'Recorded forest area' includes only those areas recorded as forests in government records and includes pristine forests. **Categories of Forest** • Very Dense Forest (with tree canopy density of 70 per cent or above) • Moderately Dense Forest (tree canopy density of 40 per cent or above but less than 70 per cent) • Open Forest (tree canopy density of 10 per cent or above but less than 40 per cent) • Scrub (tree canopy density less than 10 per cent) Open forests currently have the biggest share in the country's forest cover, with 9.34 per cent of the total forest cover (307,120 sq km). Very dense forests (the pristine natural forests) account for just 3.04 per cent (99,779 sq km) of the total forest cover. **Key Findings** • **Increase** of 2,261 sq km in the **total forest and tree cover** of the country in last two years. • Area-wise **Madhya Pradesh** has the **largest forest cover** in the country. • States in North East India have the highest percentage of forest cover. • Maximum increase in forest cover witnessed in Andhra Pradesh (647 sq km) followed by Telangana (632 sq km) and Odisha (537 sq km). • 17 states/UT's have above 33 percent of the geographical area under forest cover. • Total **carbon stock** in country's forest is estimated to be 7,204 million tonnes, an **increase** of 79.4 million • Total **mangrove cover** in the country is 4,992 sq km, an **increase** of 17 sq Km observed **Forests in India's mountainous states**

	• There has been an **increase in forest loss** in India's mountainous states along its Himalayan frontier, which are already in the throes of climate change
	• Jammu and Kashmir has lost very dense forests but gained open forests. The increase in open forests is led by **commercial plantations**.
	• The report has attributed the loss of forest cover in the Himalayas and North East to an increase in **developmental activities as well as agriculture**.
	Forest cover across India's 52 tiger reserves
	There has been an overall decadal decline in forest cover across India's 52 tiger reserves.
	• 20 of the 52 tiger reserves have shown an increasing trend
	• But the 32 remaining reserves have shown sharp declining trend
	• The **Sundarbans Tiger Reserve** has the **largest area under wetlands** at 2,549.44 sq km. This means 96.76 per cent of its area is wetland. But the world's largest mangrove delta and home to the Royal Bengal Tiger, is gradually losing its very dense mangrove cover.
	  ○ The rising salinity level in the delta is taking a toll on several mangrove species such as Sonneratia apetala, Nypa fruticans and Bruguiera gymnorhiza, among others. Due to reduced sweet water flow and intrusion of salt water from the sea, these trees are either dying or suffering from stunted growth.
	  ○ Increasing number of cyclones especially Cyclone Amphan
	• The **Kanha Tiger Reserve** has the **highest number of wetlands** at 461, most of which are less than 2.25 hectares (ha) in size.
	• **The Kanha to Navegaon-Nagzira-Tadoba-Indravati** tiger corridor that passes through Madhya Pradesh, Chhattisgarh and Maharashtra has the **largest forest cover** at 2,012.86 sq km.
	Forest cover at its sole Lion Conservation Area (LCA) at Gir in Gujarat
	• The LCA has seen a decrease of 33.43 sq km in its forest cover during the last decade
	• It attributed the decrease to 'habitat improvement measures' taken in the last decade.
	• This includes the removal of ***Prosopis juliflora***, an invasive species from grassland areas and canopy manipulation for creating openings in the Very Dense Forest and Moderately Dense Forest areas.
	• Gir National Park and Wildlife Sanctuary have **31 wetlands**
	About India State of the Forest Report (ISFR)
	• ISFR is a **biennial publication of Forest Survey of India (FSI),** an organization under the Ministry of Environment Forest & Climate Change.
	• The ISFR assesses the forest and tree cover, bamboo resources, carbon stock and forest fires.
	Did you know: As per UNESCO's assessment on World Heritage forests, India's Sundarbans National Park is among five sites that have the highest blue carbon stocks globally.

Saving the Tiger	**Context:** India has registered **biggest margin of drop in tiger numbers** in a decade in the year 2021. • 127 big cats have fallen prey to everything from poachers and accidents to natural causes with man-animal conflict last year. • India is home to a third of the global tiger population and the country's success in saving the big cat is crucial to global efforts to protect their numbers. **Current Numbers** • At present, India has around 75% of tiger population and its source areas amongst the 13 tiger range countries in the world. • 2.24% of country's geographical area is spread out in 51 tiger reserves in 18 States. **Protection Status** • Indian Wildlife (Protection) Act, 1972: Schedule I. • IUCN Red List: Endangered. • CITES: Appendix I **Save the tiger, save the forests**

The tiger is not only our national animal but a symbol of the ecosystem.

- As a top predator, wild tigers play an important role in maintaining the harmony of the planet's ecosystems. Tiger happens to be at the pinnacle of the eco-system triangle. If the tiger disappears, the entire eco-system gets affected and our flora and fauna is hit hard.
- In conserving the tiger, we are not just saving a particular species, but our endangered ecosystem. The large range needed by tigers leads us to focus on landscape connectivity and conservation, which is also beneficial for the entire biosphere.
- At the beginning of the 20th century, the number of Indian tigers was around 40,000; after Independence, tigers were killed mercilessly and the 1972 tiger put their number at less than 1500.
- Every year, more than 100 tigers die due to several reasons (like health factors or poaching). They move between different habitats, and therefore, although protected areas are fundamental for their survival, **connecting landscape** are also essential. These areas often have limited protection as many development, mining and extraction projects are coming up in such regions. These activities not only diminish our forest areas but give additional opportunities to poachers to kill and hunt tigers and leopards.

Efforts taken by the Government

India was **the first country** in the world to champion the cause of conservation of the tiger and its natural habitats.

- **Project Tiger**, launched in 1973, was one of the largest conservation initiatives of its kind globally. Starting with nine tiger reserves in 1973, there are now around 50 tiger reserves in India covering an area of nearly 40000 sq. kms.
- **International Tiger Day** is celebrated on July 29 every year to raise awareness about the dwindling population of the Tiger. It is the anniversary of the agreement of Saint Petersburg Tiger Summit in Russia in 2010.
- The National Tiger Conservation Authority (NTCA) (*earlier ProjectTiger*) has launched the **M-STrIPES** (Monitoring System for Tigers – Intensive Protection and Ecological Status), a mobile monitoring system for forest guards.
- India's 2018 Tiger Census had made it to the Guinness Book of World Records for being the world's largest camera trapping wildlife survey.

Why is a tiger census needed?

The tiger estimation exercise includes **habitat assessment and prey estimation**.

- The numbers reflect the success or failure of conservation efforts.
- This is an especially important indicator in a fast-growing economy like India where the pressures of development often run counter to the demands of conservation.

National Tiger Conservation Authority

- Established in December 2005 following a recommendation of the Tiger Task Force which was constituted by the Prime Minister of India for reorganised management of Project Tiger and the many Tiger Reserves in India.
- The Wildlife Protection Act of 1972 was amended in 2006 to provide for its constitution.
- It is responsible for implementation of the Project Tiger to protect endangered tigers.
- National Tiger Conservation Authority (NTCA) felicitated some of the forest frontline workers as 'BaghRakshaks', to recognize their outstanding contribution towards the protection of tigers and forests during the pandemic.

Conclusion

	"Do not cut down the forest with its tigers and do not banish the tigers from the forest. The tiger perishes without the forest and the forest perishes without its tigers" (Udyogaparva). There is an emergent need to protect the forests and other natural habitats including the tiger reserves of India. We must engage local communities to ensure the survival of tigers. A strong message to protect our ecosystem through tiger conservation should reach the masses.

A proposal for Indian Environmental Service	**Context**: The Supreme Court has asked the Government if it will create an Indian Environmental Service (IES) as recommended by a committee headed by former Cabinet secretary T.S.R Subramanian in 2014.
	What is the T.S.R Subramanian committee report on environment?
	• The Subramanian committee was set up in August 2014 to review the country's green laws and the procedures followed by the Environment Ministry.
	• It suggested several amendments **to align with the Government's economic development agenda.**
	• The report submitted to then Union environment minister, had suggested amendments to almost all green laws, including those relating to environment, forest, wildlife and coastal zone clearances.
	• However, a Parliamentary Standing Committee which scrutinised the report rejected it on the grounds that it ended up **diluting key aspects of environmental legislation** designed to protect the environment.
	• Parliamentary committee suggested that another committee, with more expertise and time, be constituted to review the environmental laws.
	What did the T.S.R report recommend?
	• **Dedicated Legislation**: The report proposed an 'Environmental Laws (Management) Act' (ELMA), that envisioned full-time expert bodies—National Environmental Management Authority (NEMA) and State Environmental Management Authority (SEMA).
	  ○ Also, the Air Act and the Water Act is to be s**ubsumed within the Environment Protection Act.**
	  ○ The existing Central Pollution Control Board and the State Pollution Control Boards are proposed to be integrated into NEMA and SEMA once the new bodies come into existence.
	• **Accelerate environmental decision-making process:** NEMA and SEMA would evaluate project clearance (using technology and expertise), in a time bound manner, providing for single-window clearance.
	  ○ To accelerate the environmental decision-making process, they suggested a "fast track" procedure for "linear" projects (roads, railways and transmission lines), power and mining projects and for "projects of national importance."
	• **Appellate Mechanism:** It also suggested an appellate mechanism against the decisions of NEMA/SEMA or MoEF&CC, in respect of project clearance, prescribing a three-month deadline to dispose appeals.
	• **Environmental Cost**: The report also recommends that an "environmental reconstruction cost" should be assessed for each project on the basis of the damage caused by it to the environment and this should be added into the cost of the project. This cost has to be recovered as a cess or duty from the project proponent
	• **Research Institute:** The report also proposed a National Environment Research institute "on the lines of the Indian Council of Forestry Research and Education" to bring in the application of high-end technology in environment governance
	• **Dedicated Civil Service:** Finally, the report recommended an Indian Environment Service to recruit qualified and skilled human resource in the environment sector.
	Has the report been accepted by the Government?

	• The Centre never formally accepted this report and neither constituted a new committee as recommended by the Parliamentary Standing Committee. • However, many of these recommendations are implicitly making their way into the process of environmental regulation. • The Government has proposed rewrites to the Forest Conservation laws, set timelines to the pace at which expert committees that appraise the suitability of infrastructure projects must proceed. **How did the subject of the IES come to the fore?** • The Supreme Court was responding to a petition filed by a lawyer Samar Vijay Singh, whose counsel pointed out that matters of environment required special expertise. • Currently matters of environmental regulation rests on scientists of the Ministry of Environment and Forests as well as bureaucrats from the Indian Administrative Services. • The apex court expressed reluctance at getting into administrative matters of the Government but nevertheless asked the Centre if it expects to go about constituting such a mechanism. **Connecting the dots** • Tackling the Climate Crisis • IPCC report on Climate Change • Paris Climate Accord
Kerala's SilverLine project	**Context**: Despite the protests taking place across Kerala against SilverLine, state government remains firm on implementing the project. **What is Kerala's SilverLine project?** • The proposed 529.45-km line will link Thiruvananthapuram in the south to Kasaragod in the north, covering 11 districts through 11 stations. • When the project is completed, one can travel from Kasaragod to Thiruvananthapuram in less than four hours at 200 km/hr. • On the existing Indian Railways network, it now takes 12 hours.

- The deadline for the project, being executed by the Kerala Rail Development Corporation Limited (KRDCL), is 2025.
- KRDCL, or K-Rail, is a joint venture between the Kerala government and the Union Ministry of Railways created to execute big railway projects.
- According to K-Rail, the project will have trains of electric multiple unit (EMU) type, each with preferably nine cars extendable to 12. A nine-car rake can seat a maximum of 675 passengers in business and standard class settings.

What was the need for the SilverLine project?

- Urban policy experts have long been arguing that the existing railway infrastructure in Kerala **cannot meet the demands of the future.**
- Most trains run at an average speed of 45 km/hr due to a **lot of curves and bends on the existing stretch**.
- The government claims the SilverLine project can take a **significant load of traffic off the existing stretch** and make travel faster for commuters, which in turn will **reduce congestion on roads** and help reduce accidents.
- The government claims the line will also
    - Reduce greenhouse gas emissions
    - Help in expansion of Ro-Ro services
    - Produce employment opportunities
    - Integrate airports and IT corridors,
    - Enable faster development of cities it passes through.

Where does the project stand now?

- The state government has begun the **process of land acquisition** after the Cabinet gave its approval in June 2021. Out of 1,383 hectares needed to be acquired, 1,198 hectares will be private land.
- The Cabinet has also **approved administrative sanction** to get Rs 2,100 crore from the Kerala Infrastructure Investment Fund Board (KIIFB), the investment arm of the government.
- While Kerala Chief Minister has written to Prime Minister Modi requesting his 'personal intervention' to give all necessary clearances, **the Centre has only given an in-principle approval** to the project.
- The line is expected to be constructed using equity funds from the Kerala government, the Centre and loans from multilateral lending agencies.
- A part of the detailed project report (DPR) was released by the government following demands by opposition parties and activists.
- Also, the state government is **planning to issue a 'white paper'** on the project, explaining its benefits and potential in the future. Members of the planning board will hold extensive consultations as part of the drafting of the 'white paper'.

Why are there protests against the project?

- Political parties and citizen outfits have been spearheading separate protests.
- A petition signed by 17 Opposition MPs from the state said the project
    - Project was financially unviable
    - Would sink the state further into debt.
    - Would lead to the displacement of over 30,000 families
    - An "astronomical scam in the making"
- Green activists allege that SilverLine would cause great **environmental harm** as its route cuts through precious wetlands, paddy fields and hills.
- Citizen outfits allege that building of embankments on either side of the major portion of the line will **block natural drainage** and cause floods during heavy rains.

Connecting the dots

- On Paris Climate deal
- COP26 Climate Conference

Role of Bengal in the Freedom Movement of India	**Context:** Bengal, as West Bengal is popularly known, enjoys eminence for its immense contribution to Indian Independence Movement. In the early 20th-century, Bengal emerged as a hotbed of the Indian independence movement, as well as the **epicenter of the Bengali Renaissance**. Revolutionary nationalism emerged as a potent political force in Bengal in the wake of the **Swadeshi Movement** in the first decade of the 20th century The Swadeshi Movement was the expression of the outrage triggered in Bengal by the **partition of the province of Bengal in 1905**. **Contributions of Bengal in India's freedom struggle:** • From 1763 to 1800 we witnessed the **Sanyasi rebellion** in Bengal. It was basically a peasant rebellion starting from Dhaka (now the capital of Bangladesh), and spread up to Bihar the number of the rebels reached up to fifty thousand. • The **Indigo revolt** was largely non-violent and it acted as a precursor to Gandhiji's non-violent Satyagraha in later years. The revolt was made immensely popular by its portrayal in the play **Nil Darpan** and also in many other works of prose and poetry. This led to the revolt taking centre stage in the political consciousness of Bengal and impacted many later movements in Indian freedom struggle. • **Bankim Chandra Chatterjee** raised nationalism to the level of religion by identifying the Motherland with the Mother-Goddess. It was in **Anandamath**, he wrote the poem '**Vande Mataram**'. • **Bengal Renaissance** created many journal houses and associated with many newspapers, journalistic publications like Tattwabadhini Patrika, Samprakash, Sarbashubhankarr Patrika and Hindu patriot to bring social and educational reforms with regards to the women. This gave the larger social base to Indian national movement. • Bengal rose into national consciousness on the back of Swadeshi movement and also further became the hub of leftist, socialist elements predominantly the Bengal Intelligentsia (**The Bhadralok**). • The leftists under **MN Roy** also influenced the development of Democratic, civic libertarian polity with socialist policy that the Indian state finally developed itself into. • Farmers also became the key stake holders in the freedom struggle as the National Movement took upon itself the ideology of **Radical Agrarian Reform** as one of its core principles which was also influenced by the Communist struggles in Bengal. • Movements in support of Bengal's unity and the swadeshi and boycott agitation were organised in many parts of the country. Tilak, who played a leading role in the spread of the movement outside Bengal, saw in this the ushering in of a new chapter in the history of the national movement. He realised that here was a challenge and an opportunity to organise popular mass struggle against the British rule to unite the country in a bond of common sympathy. • **Bengal School of Art** promoted a distinctly Indian modernism which blossomed throughout India during the British Raj of the early 20th century. By synthesizing folk art, Indian painting traditions, Hindu imagery, indigenous materials and depictions of contemporary rural life, artists of the Bengal School of Art celebrate humanism and bring a dynamic voice to Indian identity, freedom, and liberation. • The **Anushilan Samiti and Jugantar** would serve as the two main organisations that would mark what was termed as the "**Agni Yug**" (the era of fire). Underground cells sprung up to train Indians in weapons and bomb-making. Assassinations of anti-Swadeshi officials, who brutally crushed protests, became commonplace. Such tactics and their success would subsequently inspire revolutionaries all across the nation from Bhagat Singh in Punjab to Surya Sen in Chittagong and, of course, later Subhas Chandra Bose.

	• The revolutionary activity emerged as the most substantial legacy of swadeshi Bengal which had an impact on educated youth for a generation or more. Moreover, it encouraged quixotic heroism. No involvement of the masses was envisaged, which, coupled with the narrow upper caste social base of the movement in Bengal, severely limited the scope of the revolutionary activity. • However, **Lord Curzon** had perfected his divide and rule policy by providing a substantial sum of money to **Nawab Salim Ullah**, one of the founders of the Muslim League, not to participate in the boycott. The rise of separatism and discontent among Muslims would later be promoted through separate electorates and often Muslim League leaders would not cooperate with the Indian National Congress as seen during the Quit India Movement of 1942. It can be fairly concluded that the events of 1905 contained the seeds that shaped the future of the subcontinent for years to come in terms of nationalism, economic policy and educational reforms. Unfortunately, it also sowed the seeds of division, which culminated in the Partition of the country in 1947. **Conclusion** Bengal's contribution to the freedom movement has been immense starting from Battle of Plassey in 1757, up to the strike of 700000 workers in Calcutta in solidarity with the revolt of Indian navy in February 1946. India's struggle for freedom against British Imperialism is incomplete without mentioning the pivotal role of Bengal.
Battle of Wandiwash	**Also known as:** Third Carnatic War **Between:** A battle in India between the French and the British (part of the global Seven Years' War) • Count de Lally (French General) • British Lieutenant-General Sir Eyre Coote **For:** Attempt by the French to acquire the Fort of Vandavasi **Where:** Vandavasi in **Tamil Nadu** **Who won:** British **Course of the War** • In Europe, as Austria started the process to recover Silesia, the **Seven Years War (1756-63)** began. Britain and France were standing once again on opposite sides. ▪ In 1758, the French army under French General, **Count Thomas Arthur de Lally** captured the English forts of St. David and Vizianagaram in 1758. ▪ The Britishers became offensive and inflicted heavy losses on the French fleet under **Admiral D'Ache** at Masulipatnam. ▪ British defeated France in India; The French lost the possession to the British and also other territories. The war came to an end with the Signing of the **Treaty of Paris**. ▪ The acquired territories of both the sides were restored, but the **French lost their influence in India** forever. **Significance of the War** • French lost their political influence in India forever. • The English became the supreme European power in the Indian subcontinent with no rival. This was a huge turning point for the Britishers which led to dominance and establishing their rule across the country. **How did British won and French lost?** ***A. Lesser Governmental Control over British:*** • The English company was a private enterprise. With less governmental control over it, this company could take instant decisions when needed without waiting for the approval of the government. Qucik decisions >> better outcomes • The French company, on the other hand, was controlled and regulated by the French government and was hemmed in by government policies and delays in decision-making.

	B. Superior British Navy and Bigger Cities under Control: ● The English navy was superior to the French navy ● It helped to cut off the vital sea link between the French possessions in India and France. ***C. Strong presence of British on Indian land:*** ● The English held three important places, namely, Calcutta, Bombay and Madras ● Bengal was the richest province at that time providing the British more money for the maintenance of their army. ● French had only Pondicherry. ***D. British were Strong in terms of monetary position:*** ● The French did not focus on their commercial interests compared to their imperialistic ambitions, which made the French company short of funds. ● In spite of their imperialistic motives, the British never neglected their commercial interests. ***E. Superior British Commanders:*** ● A major factor in the success of the English in India was the superiority of the commanders in the British camp- Sir Eyre Coote, Major Stringer Lawrence, Robert Clive and many others ● There was only Dupleix on the French side. **Note:** 1. **The First Carnatic War** (1746–1748): ● Fought between the French and the British. ● The first of the 3 war fought between the French and the British ● An extension of the Anglo-French rivalry in Europe, Austrian War of Succession 2. **Second Carnatic War** (1749-1754) ● Fought between Nasir jung on one side, supported by the English, and on the other was Chanda Sahib and Muzaffar Jung, supported by French, vying to become the Nawab of Arcot. ● The war ended with the Treaty of Pondicherry, signed in 1754 which recognised Muhammad Ai khan walajah as the Nawab of Carnatic **Can you answer the following questions?** 1. How did internal rivalries lead to early British expansion and control in India? Discuss. 2. Explain the causes and consequences of the third Carnatic War?

SCIENCE AND TECHNOLOGY

Breakthrough in battery tech	**Context**: Shareholders of California-based QuantumScape Corp, a **battery startup** backed by Volkswagen AG, have approved a multibillion-dollar pay package for CEO Jagdeep Singh, who could receive stock options potentially valued at $2.3 billion, subject to the company meeting some performance milestones. **A quantum leap** ● QuantumScape's **solid-state battery —** lithium metal with a solid electrolyte separating the two electrodes — is seen as an exceptionally bright prospect in an increasingly crowded space. ● The company, which was co-founded by Singh a decade ago was valued at **almost $50 billion** on the promise that its novel battery technology could offer a safer, cheaper **alternative to lithium-ion batteries.** ● Earlier efforts to build a solid-state separator (electrolyte) capable of working with lithium metal had to compromise on aspects such as the cycle life and operating temperature of the battery, and the issue of **excess lithium deposits on the anode**.

	● QuantumScape claims to have circumvented this: its use of a solid state separator technology **eliminates the side reaction** between the liquid electrolyte and the carbon/graphite in the anode of conventional lithium-ion cells. ● This technology could make car batteries cheaper, more reliable and quicker to recharge. ● Volkswagen plans to have production running for solid-state batteries by 2025 via the partnership with QuantumScape. **What are the challenges with lithium-ion batteries?** ● The **energy density of lithium-ion cells** used in today's mobile phones and electric vehicles is nearly four times higher than that of older-generation nickel-cadmium batteries. ● Lithium-ion batteries use **aqueous electrolyte solutions,** where ions transfer to and fro between the **anode (negative electrode generally made of graphite)** and **cathode (positive electrode made of lithium),** triggering the recharge and discharge of electrons. ● Despite improvements in technology over the last decade, issues such as long charging times and weak energy density persist. ● While lithium-ion batteries are seen as sufficiently efficient for phones and laptops, they still **lack the range that would make EVs a viable alternative** to internal combustion engines. ● One major problem is that **lithium metal is extremely reactive.** The main form of lithium corrosion are dendrites, which are branched lithium structures that grow out from the electrode and can potentially pierce through the separator and on to the other end, short-circuiting the cell. ● In current lithium-ion batteries, in which the **electrolyte is a flammable liquid**, dendrite formation can trigger a fire. **What is the innovation in Solid-State battery developed by QuantumScape?** ● QuantumScape says its solid-state lithium-metal battery replaces the polymer separator used in conventional lithium-ion batteries with a solid-state separator. ● The replacement of the separator enables the use of a **lithium-metal anode in place of the traditional carbon/graphite anode.** ● The lithium metal anode is more energy-dense than conventional anodes, which **allows the battery to store more energy** in the same volume. **What are the advantages of Solid-State batteries?** ● The advantages of the solid-state battery technology include ○ Higher cell energy density (by eliminating the carbon anode) ○ Lower charge time (by eliminating the need to have lithium diffuse into the carbon particles in conventional lithium-ion cells), ○ Ability to undertake more charging cycles and thereby a longer life, ○ Improved safety. ○ Lower cost could be a game-changer, given that at 30 per cent of the total cost, battery expenses are a key driver of the vehicle costs. ○ Lithium-ion battery costs are currently about $137 per kWh, and are expected to reach $101/kWh by 2023. QuantumScape claims it is targeting to lower battery cost by 15-20% relative to the cost of lithium-ion batteries in several years.
Shortage of Computer Chips	**Context**: Carmakers slashed production. Broadband providers faced monthslong delays for internet routers. All of these phenomena and more had a similar cause: an abrupt and cascading shortage of semiconductors. ● Also known as integrated circuits or more commonly just chips, they may be the tiniest yet most exacting product ever manufactured on a global scale.

- The combination of cost and difficulty in producing them has fostered a **worldwide reliance on two Asian powerhouses** — Taiwan Semiconductor Manufacturing Co. (TSMC) and South Korea's Samsung Electronics Co.
- That dependence was brought into stark relief when the Covid-19 pandemic and rising U.S.-China tensions made chips scarce.
- Hundreds of billions of dollars will be spent in the coming years in a global race to expand production, with geopolitical as well as economic implications.

What is a chip?

- It's the thing that makes electronic items smart.
- Made from a material, usually silicon, that "semi-conducts" electricity, the chip performs a variety of functions.
- **Memory chips,** which store data, are relatively simple and are traded like commodities.
- **Logic chips**, which run programs and act as the brains of a device, are more complex and expensive. These often carry names like Apple or Nvidia, but those companies are actually just the designers of the semiconductors, which are manufactured in factories called foundries.

Why is it so hard to produce chips?

- Manufacturing advanced logic chips requires extraordinary precision, along with huge long-term bets in a field subject to **rapid change**.
- Plants cost billions of dollars to build and equip, and they have to run flat-out 24/7 to recoup the investment.
- Also, factory also gobbles up enormous amounts of water and electricity and is **vulnerable to even the tiniest disruptions**, whether from dust particles or distant earthquakes.

Who are the major players in chip manufacturing?

- TSMC (Taiwan company) pioneered the foundry business — purely manufacturing chips for others — with government support in the 1980s. Its share of the global foundry market is larger than its next three competitors combined.
- Samsung dominates in memory chips and is trying to muscle in on TSMC's gold mine.
- Intel Corp. is the last U.S. heavyweight in the field, but its business is heavily concentrated in manufacturing its own-brand chips that serve as the central processing unit (CPU) for laptops and desktop computers.

Why are there shortages?

- **The stay-at-home shift**: This pushed chip demand beyond levels projected before the pandemic. Lockdowns spurred growth in sales of laptops to the highest in a decade. Home networking gear, webcams and monitors were snapped up as office work moved out of the office. Sales also jumped for home appliances, from TVs to air purifiers, that now come with customized chips.
- **Fluctuating forecasts:** Automakers that cut back drastically early in the pandemic underestimated how quickly car sales would rebound. They rushed to re-up orders late in 2020 which caused mismatches in production & demand.
- **Stockpiling**: PC makers began warning about tight supplies early in 2020. Then around the middle of that year, Chinese company Huawei Technologies Co (dominates the global market for 5G networking gear) began building up inventory to ensure it could survive U.S. sanctions that were set to cut it off from its primary suppliers. Other companies followed suit and China's chip imports climbed to almost $380 billion in 2020, up from about $330 billion the previous year.
- **Disasters**: A bitter cold snap in Texas in February led to power outages that shut semiconductor plants clustered around it; it was late March before Samsung's facilities there were back to normal. A plant in Japan belonging to Renesas Electronics Corp., a major provider of automotive chips, was damaged by fire in March, disrupting production for months.

Who is affected?

- Chip shortages are expected to **wipe out $210 billion of sales for carmakers** this year, with production of 7.7 million vehicles lost.
  - Toyota Motor Corp. suspended output at 14 plants in September.
- Samsung warned that it saw a "serious imbalance" in supply and demand globally. It is forecasted that the shortages could extend into 2022.
- Some **broadband providers** were facing delays of more than a year when ordering internet routers.
- Apple said in April that supply constraints were crimping sales of iPads and Macs, which it said would knock $3 billion to $4 billion off its third-quarter revenue.

Fighting Epidemics

Context: 27th December marked the second International Day of Epidemic Preparedness – aims to promote international awareness and action on the prevention of, preparedness for and partnership against epidemics.

- This year would mark the second year that this day is observed, after the first International Day of Epidemic Preparedness was marked in 2020 based on a call for it made by the United Nations General Assembly.
- It is important for us to stay aware of the fact how infectious diseases can sweep across the world, push health systems to the brink and devastate lives and families.
- The havoc caused by Covid-19 reflects that the world learnt no lessons from outbreaks like Ebola, Zika, SARS and others.

Major Epidemics

A glimpse through major pandemics of the world which caused huge loss to life:

The Plague of Justinian	• It killed between 30 million and 50 million people. • The cause of the Plague of Justinian was infectious fever caused by Yersinia pestis.
Black death	• Between 1347 and 1351, it spread throughout Europe, killing **approximately 25 million people**. • It is believed to have been the result of plague – an infectious fever caused by bacterium **Yersinia pestis**. • It was likely transmitted from rodents to humans by the bite of infected fleas.
Smallpox (15th – 17th centuries)	• Smallpox claimed the lives of approximately 20 million people, close to 90% of the population, in the Americas. • The pandemic helped Europeans colonize and develop the newly vacated areas. • Smallpox is caused by infection with the **variola virus** transmitted through various ways.
Cholera (1817 – 1823)	• The first cholera pandemic began in **Jessore, India**. • It was the first of 7 major cholera pandemics that **have killed millions of people.** • The World Health Organization has called cholera **"the forgotten pandemic"**. • Its seventh outbreak, which began in 1961, continues to this day. • It is caused by eating food or drinking water contaminated with a bacterium called **Vibrio cholera.**
Spanish Flu or H1N1 (1918 – 1919)	• It is caused due to **H1N1 virus**. • It infected around 500 million people, or a third of the world's population, of that time.

	• The pandemic was responsible for killing over **50 million people** globally.
Hong Kong Flu or H3N2 (1968 – 1970)	• Global fatalities were around **one million.** • It was caused by an H3N2 strain of the influenza A virus. • It is believed that the virus responsible for the Asian flu evolved and re-emerged 10 years later into this so-called "Hong Kong flu". • H3N2 was **exceptionally contagious**.
HIV/AIDS (1981 – present)	• Since 1981, 75 million people have had the HIV virus and approximately 32 million have died as a result. • HIV/AIDS is a persistent epidemic that continues to impact millions of people every year. • The HIV infection is caused by the **human immunodeficiency virus (HIV).** • The virus can be transmitted through contact with infected blood, semen or vaginal fluids.
SARS (2002 – 2003)	• SARS, or **severe acute respiratory syndrome**, is an illness caused by one of the 7 **coronaviruses** that can infect humans. • In 2003, an outbreak that originated in the Guangdong province of China became a global pandemic. • It infected around 8,000 people and killing **774 of them**. • The consequences of the 2003 SARS pandemic were **largely limited** due to an intense public health response by global authorities.
Swine Flu or H1N1 (2009 – 2010)	• It was a **new form of the influenza virus** which emerged in 2009. • It infected approximately millions of people with global deaths in the range of **151,700 to 575,400**. • It is called the "swine flu" because it appeared to cross over from pigs to humans in transmission. • 80% of the virus-related deaths occured in people younger than 65.
Ebola (2014 – 2016)	• It began in a small village in Guinea in 2014 and spread to a handful of neighbouring countries in West Africa. • It is caused by infection with a virus of the **Filoviridae family, genus Ebolavirus**. • The virus killed **11,325** of the 28,600 infected people, with most cases occurring in Guinea, Liberia, and Sierra Leone.
Coronavirus, or COVID-19 (2019 – present)	• Coronavirus disease (COVID-19) is an infectious disease caused by **a newly discovered coronavirus**. • Worldwide cases have surpassed 500,000 with more than **24,000 deaths** globally. • It is believed to be transmitted from animals to humans. • The vast majority of cases are reported from USA now.

	• On March 11, the WHO characterized the outbreak as a **pandemic**. • Estimates indicate that Coronavirus could eventually infect **40% to 70% of the global population**. • Practicing **social distancing** is recommended. • The damage to the world economy threaten **the worst recession** since the Great Depression or the "panics" of the 1800s, depending on the scale of government responses.

Prevention of, preparedness for and partnership against epidemics

A lack of international attention on this need would result in future pandemics surpassing previous outbreaks in terms of intensity and gravity. Preparedness for epidemics is important to prevent the healthcare structures across the world from collapsing under the increased burden that usually accompanies epidemics.

- Conduct surveillance at points of entry into the country, like border crossings, ports and airports to identify people coming from affected countries and suffering from fever or any other symptom of the disease in question. Such people should be then sent to the nearest health unit.
- The health authorities to prepare personnel and Rapid Response teams to undertake surveillance within the community and investigate any outbreak
- ICMR (Indian Council of Medical Research) and its designated labs to test predetermined clinical samples of fever cases to be tested for COVID.
- Strengthen the infrastructure needed to develop vaccines via academia-industry interface, while also supporting skill development as well as capacity building.
- Strengthening internal inter-ministerial co-ordination for rapid vaccine development and testing to address known and unknown infectious disease threats
- Strengthening of development frameworks, surveillance and logistics for use of new vaccines, where appropriate.

India has been able to delay, if not entirely defy, a third wave of the pandemic with the help of a strong vaccination drive across the country, and is hoping to ensure that such quick vaccine development can be undertaken for any potential epidemic at a later stage as well, which can be a strong point in India's epidemic preparedness.

On the other hand, the second wave of coronavirus exposed several shortcomings of the healthcare sector in the country, with beds, medicines as well as oxygen falling short of the demand. Though it is true that the magnitude of the second wave was unprecedentedly high, it is also true that healthcare systems across the country fell short by a wide margin.

As we respond to this health crisis, we need to prepare for the next one.

- Scaling-up investments in better monitoring, early detection and rapid response plans in every country — especially the most vulnerable
- Strengthening primary health care at the local level to prevent collapse
- Ensuring equitable access to lifesaving interventions like vaccines for all people
- Achieving Universal Health Coverage
- Building global solidarity to give every country a fighting chance to stop infectious diseases in their tracks.

Conclusion

The coronavirus pandemic will not be the last one that humanity will face; therefore there is a need for immediate, coordinated action by the world to prepare for future health emergencies.

Can you answer the following questions?

	1. Is the learning curve for India over? Is India prepared to handle the third wave? 2. Discuss the shortcomings that India experienced while dealing with the second wave of Covid-19.
The challenge of antimicrobial resistance	**Context**: Global Research on Antimicrobial Resistance (GRAM) report recently published provides the most comprehensive estimate of the global impact of Antimicrobial resistance (AMR) so far. **What is Antimicrobial resistance?** Antimicrobial resistance (AMR) is a major public health threat where antibiotics are becoming ineffective because pathogens such as viruses, fungi and bacteria become resistant to them. **Do You know?** • Between 1980 and 2000, 63 new antibiotics were approved for clinical use. Between 2000 and 2018, just 15 additional antibiotics were approved. • Out of the seven deadliest drug-resistant bacteria, vaccines are only available for two (Streptococcus pneumoniae and Mycobacterium tuberculosis). **What did the GRAM report find?** • As many as 4.95 million deaths may be associated with bacterial AMR in 2019. • AMR is a leading cause of death globally, higher than HIV/AIDS or malaria. • In South Asia, over 389,000 people died as a direct result of AMR in 2019. • The death rate was the highest in Western sub-Saharan Africa, at 27.3 deaths per 100,000 and lowest in Australasia, at 6.5 deaths per 100,000. • Lower respiratory-tract infections accounted for more than 1.5 million deaths associated with resistance in 2019, making it the most common infectious syndrome. **What are the implications of this study?** • **Increased mortality:** Common infections are now killing hundreds of thousands of people every year because bacteria have become resistant to treatment. This includes historically treatable illnesses, such as pneumonia, hospital-acquired infections, and foodborne ailments. • **Children at risk**: Everyone is at risk from AMR, but the data shows that young children are particularly affected. In 2019, one in five global deaths attributable to AMR occurred in children under the age of five – often from previously treatable infections. • **Challenging Healthcare services:** AMR is threatening the ability of hospitals to keep patients safe from infections and undermining the ability of doctors to carry out essential medical practice safely, including surgery, childbirth and cancer treatment since infection is a risk following these procedures. **What is the way forward?** • **Better Monitoring:** They recommend greater action to monitor and control infections, globally, nationally and within individual hospitals. • **Better access to basic necessities:** Access to vaccines, clean water and sanitation ought to be expanded to be able to effectively tackle AMR. • **Optimising usage of antibiotics:** The use of antibiotics unrelated to treating human disease, such as in food and animal production must be “optimised” • It is recommended to be “more thoughtful” about the use of antimicrobial treatments – expanding access to lifesaving antibiotics where needed, minimising use where they are not necessary to improve human health

	• **Enhanced Funding:** It is also recommend to increase funding for developing new antimicrobials and targeting priority pathogens such as K. pneumoniae and E. coli and ensuring that they are affordable to accessible to most of the world. **Connecting the dots** • Boosting Health Infrastructure
Web3: A vision for the future	**Context**: The concept of Web3, also called Web 3.0, used to describe a potential next phase of the internet, created quite a buzz in 2021. • The model, a decentralised internet to be run on **blockchain technology**, would be different from the versions in use, Web 1.0 and Web 2.0. • In web3, users will have ownership stakes in platforms and applications unlike now where tech **What do we need to know of versions in use?** • To understand web3, we should start with Web 1.0 and Web 2.0. • Web 1.0 is the world wide web or the internet that was invented in 1989. It became popular from 1993. • The internet in the **Web 1.0 days was mostly static web pages** where users would go to a website and then read and interact with the static information. • Even though there were e-commerce websites in the initial days it was still a closed environment and the users themselves could not create any content or post reviews on the internet. • Web 1.0 lasted until 1999. Web 2.0 started in some form in the late 1990s itself though 2004 was when most of its features were fully available. It is still the age of Web 2.0 now. • The differentiating characteristic of Web 2.0 compared to Web1.0 is that **users can create content.** They can interact and contribute in the form of comments, registering likes, sharing and uploading their photos or videos and perform other such activities. • Primarily, a social media kind of interaction is the differentiating trait of Web 2.0. **What are some of the concerns?** • In Web 2.0, most of the data in the internet and the internet traffic are **owned or handled by very few large companies.** • This has created issues related to **data privacy, data security and abuse of such data**. • There is a sense of disappointment that the original purpose of the internet has been distorted. It is in this context that the buzz around Web3 is significant. • Over the past few years, owing to the popularity of crypto-currency, more discussions happened on Web3. **What is Web3 and how will it address the problems of data monopoly?** • As per the Web3 foundation, Web3 will deliver “decentralized and fair internet where users control their own data”. • Currently if a seller has to make a business to the buyer, both the buyer and seller need to be registered on a “shop” or “platform” like Amazon or any such e-commerce portal. • What this “platform” currently does is that it authenticates that the buyer and seller are genuine parties for the transaction. • Web3 tries to **remove the role of the “platform”.** • For the buyer to be authenticated, the usual **proofs aided by block chain technology** will be used. The same goes for the seller. • With block chain, the time and place of **transaction are recorded permanently.**

- Thus, Web3 enables peer to peer (seller to buyer) transaction by eliminating the role of the intermediary. This concept can be extended to other transactions also.
- Consider a social media application where one wants to share pictures with their followers. It could be a broadcast operation from the person, aided by blockchain and there is no need of social media accounts for all the participants to be able to perform this.
- The spirit of Web3 is **Decentralized Autonomous Organization (DAO**) which is that all the business rules and governing rules in any transaction are transparently available for anyone to see and software will be written conforming to these rules.
- With DAO, there is **no need for a central authority** to authenticate or validate. Crypto-currency and block chain are technologies that follow the DAO principle.

Will it take off?

- There is much scepticism from top tech brains in the industry and the academic community that Web3 does not solve the problems it purports to solve.
- Elon Musk and Jack Dorsey (founder of Twitter), for example, are a couple of tech entrepreneurs who do not foresee a future for Web3.
- From a technology perspective, Web3 will **require deviation from the current architecture** where there is a front-end, middle layer and back-end.
- Web3's architecture will need backend solutions for handling block chain, persisting and indexing data in block chain, peer to peer communications and so forth.
- Similarly, the middle layer, also called the business rules layer, will need to include handling block chain-based backend.
- It is not know yet if Web3 will become the dominant mode of handling the internet but the questions it raises are relevant.

Connecting the dots

- Blockchain Technology & Voting

China's border law and India

Context: China's new law on land borders, passed on October 23, came into effect on January 1.

- This has happened at a time when the border standoff in eastern Ladakh remains unresolved, when China has renamed several places in Arunachal Pradesh as part of its claim on the Indian state.

What is the new law?

- The Standing Committee of China's National People's Congress passed the law for the "protection and exploitation of the country's land border areas".
- Under the law, "the sovereignty and territorial integrity of… China are sacred and inviolable", and the **state needs to "take measures to safeguard territorial integrity** and land boundaries and guard against and combat any act that undermines these".
- It mandates the state to take measures "to strengthen border defence, support economic and social development as well as opening-up in border areas, encourage and support people's life and work there, and promote coordination between border defence and social, economic development in border areas".
- This means that it is encouraging the **development of villages for civilians** in the border areas.
- However, the law also asks the state to follow the principles of equality, mutual trust, and friendly consultation, handle land border related-affairs with **neighbouring countries through negotiations** to properly resolve disputes and longstanding border issues.
- The law lays down four conditions under which the state can impose emergency measures, including border shutdown.

Why did China bring it?

- This law reflects Beijing's renewed **concerns over the security of its land border** while it confronts a number of unsettled disputes on its maritime front.
- The confrontations on the Sino-Indian borders in recent years may have reminded Beijing that as a **classic land-sea power** China must always ready itself to cope with threats in both the continental and maritime domains.
- The Covid-19 pandemic also underscores the imperative for Beijing to exert greater control over its somewhat **porous land border.**
- Also, the law reflects Beijing's worries about the stability of its **hinterland bordering Central Asia** as the withdrawal of the US forces and Taliban takeover of Afghanistan that may become a hotbed for terrorism and extremism that could spread to Xinjiang

Does it concern India?

- Although the law is not meant specifically for India, it is bound to have some impact.
- China and India share a **disputed 3,488-km boundary,** the third longest among China's 22,457-km land boundaries with **14 countries**, after the borders with Mongolia and Russia.
- Besides India, Bhutan (477 km) is the only other country with which China has a disputed land border.
- There is a growing suspicion that China may have been stalling further negotiations on the standoff in eastern Ladakh for this new law to come into force.
- India had hoped that China would agree to disengage from Patrolling Point 15 in Hot Springs, which it did not. It is seen in the context of Chinese delegation trying to use the new law to bolster their existing positions.
- Another sticking point could be that the new law **prohibits construction of permanent infrastructure** close to the border without China's permission. Both, India and China

	have been building new roads, bridges and other facilities faster since the standoff began; in fact, China had objected to India's workers even before. **What impact can it have on India-China relations?** ● The view is still divided. Much depends on China's actions, regardless of the new law. ● Some experts feel the new law will make China work towards the ongoing standoff as well as for resolution of the larger boundary issue. ○ It is said "Beijing appears to be signaling determination to resolve the border disputes on its preferred terms. The law sets an overall tone of resolve upfront." ● Others feel the new law is only a tool China government will use if it wants, as its actions have been aggressive even before this law. It is viewed that the law has created conditions for a 'militarised solution' to the boundary issue. ○ Gautam Bambawale, who was India's ambassador to China in 2017-18 says that the law only states the obvious and that the Chinese are clearly indicating that they are tired of trying to resolve the boundary or the LAC through negotiations; they're indicating they'll do it through use of force." ● China has been building "**well-off" border defence villages** across the LAC in all sectors, which the new law encourages. As a result, when India starts discussing the border between the two sides, they will say we [China] have settled population in this area thus making the claim much stronger.
China's bridge over Pangong Tso	**Context**: China is building a bridge across the Pangong Tso within its territory connecting the North and South Banks which will significantly reduce the time for moving troops and equipment between the two sides. • This is part of the overall infrastructure build up by China on its side of the Line of Actual Control (LAC) to address deficiencies it noticed since the standoff began in May 2020. **What is the status on the ground in Eastern Ladakh?** • The two countries are working out details for the 14th round of **Corps Commander talks** to take forward the disengagement that has stalled after two phases of disengagement. • The 13th round of Corps Commander talks **remained inconclusive** with the two sides releasing sharp statements on the outcome. • At the same time, the two Armies had **prepared to keep over 1 lakh soldiers** on both sides deployed through the extreme winter in the high altitude region. • Since May 2020, the two sides have been holding **regular military to military talks** on the ground and also **diplomatic level talks** in addition to the 13 rounds of Corps Commander level talks to resolve the standoff. • The two sides have so far undertaken **two phases of disengagement,** from both banks of Pangong Tso last February and from Gogra in August in addition to Galwan after the violent clash. Other friction areas yet to be resolved are Hot Springs, Demchok and Depsang. • The two sides had also agreed on a moratorium on patrolling in the disengaged areas and **set up buffer zones** until a resumption is discussed by both sides through diplomatic and military talks. • India has insisted on comprehen**sive de-escalation of the situation** in Eastern Ladakh which includes disengagement from all friction points, de-escalation and working out of new protocols. **What is the importance of the bridge over Pangong Tso?**

	• The bridge over Pangong Tso is located around 25 kms ahead of the LAC in Chinese territory and will significantly reduce the time for movement of Chinese on the North Bank and the South Bank, a distance of around 200 kms. • The initial tensions as the standoff began in May 2020 were on the North Bank of Pangong Tso with PLA troops moving upto Finger 4 and building permanent structures. • However, tensions had flared up on the South Bank in August 2020. The **Indian Army gained tactical advantage over the PLA on the south bank** in end August by occupying several peaks lying vacant since 1962 gaining a dominating view of the Spanggur gap and Moldo area. • During this, the two sides had also deployed tanks at heights of over 15,000 feet and shots were fired in the air on the LAC for the first time in decades. • This has **prompted China to build deep alternate roads** behind the friction points away from the line of sight, officials said. • There has been massive construction of **accommodation for housing of troops** closer to the LAC and also road infrastructure for movement of troops and mechanised forces, officials say. • Earlier, PLA had to take a round about between the two sides of the Pangong lake which takes around 12 hours but the new bridge, around 500m long, would **cut down the time to 3-4 hours**. • India holds one third of the 135 km long boomerang shaped lake located at an altitude of over 14,000 feet. **How is India responding to developments on the ground?** • The bridge is **well within Chinese territory,** officials say while stating the implications of this new bridge will have to be factored in the Indian Army's operational planning for the future. • On its part, over the last few years India has been focusing on **infrastructure development in forward areas** and improving connectivity to the forward areas. Large scale construction of roads, bridges and tunnels is underway all along the LAC. • Ahead of the winter, the Army had completed **advanced winter stocking for the troops in forward areas**, including rations, specialised fuel and ammunition among others as well as repair and upgrade of habitat and infrastructure. • While the process of disengagement and de-escalation stretches on, the two armies are **geared to remain in the high altitude areas.**
The status of the Nuclear Non-	**Context**: On January 3, five global nuclear powers, China, Russia, U.S., U.K., and France, pledged to prevent atomic weapons from spreading and avoid nuclear conflict.

Proliferation Treaty	● The joint statement was issued after the latest review of the Nuclear Non-Proliferation Treaty (NPT), which first came into force in 1970, was postponed from its scheduled date of January 4 to later in the year due to the COVID-19 pandemic. **What has been the goal of the NPT?** ● The primary goals of NPT has been ○ Cessation of the nuclear arms race ○ Working towards not just more peaceful uses of nuclear energy ○ Complete nuclear disarmament. ● The NPT is joined by the Partial Test Ban Treaty (PTBT), the Strategic Arms Limitation Treaty (SALT I and SALT II), the Strategic Arms Reduction Treaties (I and II), the Comprehensive Nuclear Test Ban Treaty (CTBT), and the Treaty on the Prohibition of Nuclear Weapons (TPNW) among others. There's clearly no dearth of treaties and agreements, and yet the situation hasn't improved considerably. ● While the objectives of NPT may seem easy on paper, it has been anything but. While the 'what' and 'why' are fairly straightforward aspects of the treaty, the 'how' is where the real challenge lies. ● Nuclear competition among major powers could encourage states without nuclear weapons to acquire their own. An ideal way to solve this would be for all nuclear states to abandon their nuclear stockpile. This certainly hasn't been the case. ● A more practical solution, which for the longest time did work, but now seems to be waning, is to go for **nuclear deterrence among large powers** and provide a nuclear umbrella to non-nuclear states. **What is the new danger to NPT?** ● The **hegemonic rise of China** and its debt trapping tactics in order to gain access to the other country's key infrastructure projects has led other countries within China's immediate sphere of geographical influence to decide if they need to acquire or develop strategic capabilities to safeguard their security. ● **Australia, through AUKUS**, seems to be on a path to acquire nuclear capabilities for its naval fleet, in a bid to counter China. While this may seem like an effective counter to China's aggressiveness in the Indo-Pacific, the ramifications could be severe as it sets a terrible precedent. **What do the numbers tell us?** ● The optics within P5, while looking promising on paper, paint a different picture in reality. ○ China's current stockpile stands at around 350 ○ France's at around 290 ○ Russia's at around 6,257 ○ U.K.'s at around 225 ○ U.S.'s at around 5,600. ● While the difference between U.S.'s and Russia's may look considerable, the operational stockpile of Russia is about 1,600 and for the U.S. it is about 1,650. ● Outside the P5, ○ Pakistan possesses about 165 ○ India possesses about 160, ○ Israel and North Korea either possess or have enough fissile material to build approximately 90 and approximately 45 weapons respectively. ● The world's stockpile peaked during the 1980s and started to reduce considerably up until 2005. ● Since then, most of the reduction has come from the dismemberment of the retired stockpile.

	• **Development in technologies** also means that the world keeps seeing new ways to deploy these nuclear weapons which is another worrying trend. **What lies ahead?** • With Australia already on the road to acquire nuclear capabilities, it stands to reason that other nations would work towards developing or acquiring nuclear weapons. This could, in principle, also **re-ignite another arms race**. • The chequered history of nuclear weapons gives the impression that the NPT has not been entirely successful—but it hasn't been an abject failure either. • The impetus is on the major powers to stay on the path which the NPT has paved (even if a winding one) and signal commitment through its actions towards putting an end to the arms race and hopefully complete disarmament. **Connecting the dots** • Indo-US nuclear deal • AUKUS and India
Sri Lanka's looming economic crisis	**Context**: Sri Lanka's external reserves dropped to $1.6 billion in November 2021, triggering alarm in different quarters. Foreign reserves draining so rapidly could only mean that a sovereign default is imminent. • American credit rating agency Fitch downgraded the island nation to a 'CC' rating, which is the lowest rating prior to default. • Despite its mounting foreign debt over the years, Sri Lanka has never defaulted until now. • The current economic meltdown – marked by a persisting dollar crisis, soaring living costs, and a possible food shortage this year – is threatening to dent that record. **What is the Sri Lankan Government's response?** • Last week, the Governor of the Central Bank of Sri Lanka said the country's foreign reserves stood at $3.1 billion at year-end, apparently including the $1.5 billion **currency swap cleared by China** earlier this year. • On January 5, 2022, Governor said the Central Bank has earmarked $500 million to repay an international sovereign bond maturing on January 18. • The Rajapaksa **administration has expressed confidence** about being able to meet its debt obligations this year, despite its Balance of Payments problem. • Meanwhile, Finance Minister on January 4 announced a $1.2 billion package for "economic relief" that includes a special allowance for government employees. • The Government almost entirely **blames the pandemic** for the current crisis. • It is true that all major revenue earning sectors of Sri Lanka – exports [mainly garments, tea and spices], tourism and inward worker remittances – were severely impacted by the pandemic, but some commentators argue that the pandemic only **exacerbated an older crisis, didn't create one.** **What are the immediate challenges?** • Contrary to popular narratives, Sri Lanka's external debt is **dominated not by Chinese loans,** but by market borrowings, by way of international sovereign bonds, which amount to nearly half of the country's total foreign debt. • Following the $500 million that the Government is preparing to repay later this month, another $1 billion is due for repayment in June. • Meeting the repayment deadlines this year would mean that Sri Lanka **might be left with no dollars to import essentials** —be it food, fuel, or medical supplies.

	• That too when the country may have to import more food this year, if agricultural production drops by half, as paddy farmers and tea growers widely predict, following the Government's overnight switch to organic farming in May 2021. • Already, there are frequent instances of **consumers not finding milk powder –** which is largely imported - and other essentials in the stores. • A **shortage of LPG cylinders** persists, following a spate of explosions reportedly owing to a change in the chemical composition of the gas. **What are the options before Sri Lanka?** • The main political opposition, think tanks and most mainstream economists are advocating that Sri Lanka negotiate a programme with the International Monetary Fund (IMF), restructure its external debt, and mobilise bridging finance for the interim. • But the Government maintains it can tide the crisis without resorting to an IMF loan and is counting on other options. • IMF agreements usually come with specific conditions for the borrower, including greater transparency on how the money is spent. Transparency has never been a strong point of a Rajapaksa regime, as per critics. • Those opposing the IMF route, argue that such a deal invariably entails **austerity measures that will target social services** and welfare programmes, further aggravating poverty that is growing since the pandemic. **Can India help?** • Sri Lanka has repeatedly sought **financial assistance from India** since the pandemic struck – by way of a debt freeze, a currency swap and more recently, emergency Lines of Credit for importing essentials. • Government has reiterated that India "has always stood by" the Sri Lankan people, and Sri Lanka is an important part of India's 'Neighbourhood First' policy.
China's Developing Status at WTO	**Context**: China's status as a 'developing country' at the World Trade Organization (WTO) has become a contentious issue with a number of countries raising concerns over the upper middle-income nation deriving benefits reserved for developing countries under WTO norms. • Moreover, concerns have been raised over the 'least developed country' (LDC) status, with Bangladesh potentially losing this tag after surpassing India in terms of GDP per capita. **What are the benefits of 'developing country' tag?** • Certain WTO agreements give developing countries special rights through 'special and differential treatment' (S&DT) provisions, which can grant developing countries longer timeframes to implement the agreements and even commitments to raise trading opportunities for such countries. • WTO pacts are often aimed at reduction in government support to certain industries over time and set more lenient target for developing nations and grant them more time to achieve these targets compared to developed ones. • The classification also allows other countries to offer preferential treatment. **How is a 'developing country' decided and why are some against China being classified as one?** • The WTO has not defined 'developed' and 'developing' countries and therefore member countries are free to announce whether they are 'developed' or 'developing'. • However, given the rise in China's per capita income to become an upper middle-income country according to the World Bank and the country's alleged use of unfair trade practices such as preferential treatment for state enterprises, data restrictions and inadequate enforcement of intellectual property rights, a number of nations have called on China to either refrain from seeking benefits available to developing countries or forego its classification as a developing country altogether.

	• Australia too had recommended that China relinquish "its access to special and differential treatment". China's per capita income was $10,435 in 2020 according to the World Bank while that of India was $1,928. **How has China responded? What would be the impact of China losing this status?** • China has consistently maintained that it is the "world's largest developing economy" but has recently indicated that it may be willing to forego many benefits of being a developing country. • China's Ambassador to the WTO, has reportedly said that the country may forego all exemptions available to developing countries in negotiations aimed at cutting fishing subsidies to curb overfishing. • A change in status for China to a "developed country" would impact negotiations in future agreements. "In effect China has (like developed countries) reduced its tariffs on most products to quite a significant extent." **What are the benefits of LDC classification?** • The WTO recognises LDCs relying on a classification by the UN based on a criteria that is reviewed every three years. LDCs are often exempted from certain provisions of WTO pacts. • Bangladesh, currently classified as an LDC, receives zero duty, zero quota access for almost all exports to the EU. It is, however, set to graduate from the LDC status in 2026 as its per capita GDP has risen sharply surpassing that of India in FY21.
India-Nepal relations needs a reset	**Context**: Following Prime Minister Narendra Modi's speech at Haldwani, Uttarakhand where he stated that road construction was ongoing at Lipulekh and even further, top authorities at Nepal have asked their Prime Minister to note PM Modi's comments and demand a response. • The Indian embassy in Nepal has conveyed that India's position on the India- Nepal border remains consistent and unambiguous. **Why has the relationship between India and Nepal taken a turn for the worse?** • The immediate provocation is the long-standing **territorial issue surrounding Kalapani**, a patch of land near the India-Nepal border, close to the Lipulekh Pass on the India-China border, ○ Lipulekh Pass is one of the approved points for border trade and the route for the Kailash-Mansarovar yatra in Tibet. • However, the underlying reasons are far more complex where Nepali political class by raising the banner of **Nepali nationalism** paints India as a hegemon, that creates distrust between the neighbours.

Image courtesy: TKP

Kalapani and the maps

- India inherited the boundary with Nepal, established between Nepal and the East India Company in the Treaty of Sugauli in 1816.
- Kali river constituted the boundary, and the territory to its east was Nepal. The **dispute relates to the origin of Kali.**
- Near Garbyang village in Dharchula Tehsil of the Pithoragarh district of Uttarakhand, there is a **confluence of different streams** coming from north-east from Kalapani and north-west from Limpiyadhura.
- The early British survey maps identified the north-west stream, Kuti Yangti, from **Limpiyadhura as the origin,** but after 1857 changed the alignment to Lipu Gad, and in 1879 to Pankha Gad, the north-east streams, thus defining the **origin as just below Kalapani.**
- Nepal accepted the change and India inherited this boundary in 1947.
- The Maoist revolution in China in 1949, followed by the takeover of Tibet, created deep misgivings in Nepal, and **India was 'invited' to set up 18 border posts along the Nepal-Tibet border.**
- By 1969, India had withdrawn its border posts from Nepali territory. The base camp for Lipulekh remained at Kalapani, less than 10 km west of Lipulekh.
- In their respective maps, both India and Nepal showed **Kalapani as the origin of Kali river** and as part of their territory.
- After 1979, the Indo-Tibetan Border Police has manned the Lipulekh Pass. In actual practice, life for the locals (Byansis) remained unchanged given the open border and free movement of people and goods.
- After the 1996 Treaty of Mahakali (Kali river is also called Mahakali/Sarada further downstream) that envisaged the Pancheshwar multipurpose hydel project, the issue of the origin of Kali river was first raised in 1997.
- The matter was referred to the Joint Technical Level Boundary Committee that had been set up in 1981 to re-identify and replace the old and damaged boundary pillars along the India-Nepal border.
- The **Committee clarified 98% of the boundary,** leaving behind the unresolved issues of Kalapani and Susta (in the Terai) when it was dissolved in 2008.
- It was subsequently agreed that the matter would be discussed at the Foreign Secretary level.

- The Survey of India issued a new political map (eighth edition) on November 2, 2019, to reflect the change in the status of Jammu and Kashmir as two Union Territories. Nepal registered a protest though the map in no way had changed the boundary between India and Nepal.
- However, on November 8, the ninth edition was issued. The delineation remained identical but the name Kali river had been deleted. Predictably, this led to stronger protests, with Nepal invoking Foreign Secretary-level talks to resolve issues.

Nepali nationalism

- By April 2020, Mr. Oli's domestic political situation was weakening. Under the Nepali Constitution, a new Prime Minister enjoys a **guaranteed two-year period during which a no-confidence motion is not permitted**.
- This safe period ended in February unleashing simmering resentment against Mr. Oli's governance style and performance. His inept handling of the COVID-19 pandemic added to the growing resentment.
- The re-eruption of the Kalapani controversy, when India inaugurated newly built 80-km road in Uttarakhand's Pithoragath district leading up to Lipu Lekh pass. This provided Mr. Oli with a political lifeline.
- A subsequent comment by the Chief of the Army Staff (COAS), General Manoj Naravane, on May 15 that "Nepal may have raised the issue at the behest of someone else" was insensitive, given that the Indian COAS is also an honorary general of the Nepal Army and vice-versa, highlighting the traditional ties between the two armies.
- Mr. Oli had won the election in 2017 by flaunting his Nepali nationalism card, the flip side of which is **anti-Indianism.** This is not a new phenomenon but has become more pronounced in recent years.
- A new map of Nepal based on the older British survey reflecting Kali river originating from Limpiyadhura in the north-west of Garbyang was adopted by parliament and notified on May 20. The new alignment adds 335 sq km to Nepali territory, territory that has never been reflected in a Nepali map for nearly 170 years.
- This brief account illustrates the complexity underlying India-Nepal issues that cannot be solved by rhetoric or unilateral map-making exercises.

Way Forward: Rewriting the fundamentals

- India has often spoken of the "neighbourhood first" policy.
- For too long India has invoked a "special relationship", based on shared culture, language and religion, to anchor its ties with Nepal. Today, this term carries a negative connotation — that of a **paternalistic India** that is often insensitive and, worse still, a **bully**.
- India-Nepal relationship took a nosedive in 2015 when India first got blamed for interfering in the Constitution-drafting in Nepal and then for an "**unofficial blockade"** that generated widespread resentment against the country.
- It reinforced the notion that Nepali nationalism and anti-Indianism were two sides of the same coin that Mr. Oli exploited successfully.
- In Nepali thinking, the China card has provided them the leverage to practise their version of **non-alignment**.
- In the past, China maintained a link with the Palace and its concerns were primarily related to keeping tabs on the Tibetan refugee community. Today's **China is pursuing a more assertive foreign policy** and considers Nepal an important element in its growing South Asian footprint.
- India remained content that its interests were **safeguarded by quiet diplomacy** even when Nepali leaders publicly adopted anti-Indian postures. Long ignored by India, it has spawned distortions in Nepali history textbooks and led to long-term negative consequences.

	• The urgent need today is to pause the rhetoric on territorial nationalism and lay the groundwork for a quiet dialogue where both sides need to display sensitivity as they explore the terms of a reset of the "special relationship". **Can you answer this question?** • **What are the major irritants in Indo-Nepal relations? What are their fallouts? Examine.**
India-Germany relations	**Context**: Against all COVID odds and with due health precautions in place, the German Navy frigate *Bayern* landed in Mumbai on January 20, 2022. • After having visited Japan, Australia, Vietnam, Singapore and other countries in the region, Mumbai is the last station before the *Bayern* sets course to return to Germany • This is a concrete outcome of the Indo-Pacific Policy Guidelines that Germany adopted in autumn 2020 and the European Union's Indo-Pacific Strategy published in 2021. **Importance of India for Germany** • **Free and inclusive trade**: For Germany it is vital that trade routes through Indo-Pacific stay open and that disputes are resolved peacefully on the basis of international law. India is a maritime powerhouse and a strong advocate for free and inclusive trade — and, therefore, a primary partner on that mission. • **Footprint in Indo-Pacific:** Germany has realised that the world's political and economic centre of gravity is shifting to the Indo-Pacific region. Hence, it wants to have its presence with India as a strategic partner and long-standing democratic friend. **Why is Indo-Pacific region important for Germany & Europe?** • **Population:** The Indo-Pacific region is home to around 65% of the global population and 20 of the world's 33 megacities. • **Economy**: The region accounts for 62% of global GDP and 46% of the world's merchandise trade. More than 20% of German trade is conducted in the Indo-Pacific neighbourhood. • **Climate Cooperation**: Indo-Pacific region is also the source of more than half of all global carbon emissions. This makes the region's countries like India key partners in tackling global challenges such as climate change and sustainable energy production and consumption. • Germany is supporting the construction of a huge solar plant in Maharashtra's Dhule (Sakri). With a capacity of 125 Megawatt, it serves 2,20,000 households and generates annual CO2 savings of 155,000 tons.
Pakistan's National Security Policy	**Context:** Pakistan's Prime Minister Imran Khan recently launched his country's National Security Policy. • Prepared after seven years of consultations, it is being flaunted as the first policy document with guidelines for achieving national security goals. • Stipulates, inter alia, **economic security as the core of national security**, an expansion of the economic pie, supplementing geostrategy with geoeconomics, making Pakistan a trade and connectivity hub, curbing extremism and terrorism, and inculcating a culture of introspection and pragmatism in defining national security interests. **Pakistan's Economic Security takes centre stage** The primary push behind putting out the document seems to be the economic crisis faced by Pakistan, which experts attribute to poor fiscal management. • Foreign investors have also been staying away because Islamabad has not been tough on militants. The policy document, though, claims the government has a zero-tolerance policy for groups involved in terrorist activities. • Since 1950 Pakistan has been bailed out by the IMF 22 times including in November 2021, that time to the tune of a US$6 billion loan.

- In December the World Bank also loaned the country US$195 million to improve its electricity distribution.

The National Security Policy

The National Security Policy document is an effort to codify the **Bajwa Doctrine** into an actionable statement of purpose and a strategy for its realisation.

- **Defence and territorial integrity:** Special attention is required to manage lingering border disputes which continue to pose security threats, particularly along the Line of Control and Working Boundary where ceasefire violations by India threaten civilian lives and property while endangering regional stability.
- **Strategic stability**: Nuclear deterrence has a "critical role" in South Asia's security calculations. Pakistan's nuclear capability deters war through full spectrum deterrence within the precincts of credible minimum nuclear deterrence in concert with our conventional military capabilities and all elements of national power.
- **Internal Security**: Extremism and radicalisation based on ethnicity or religion challenges society. It asserted that "swift and uncompromising" action would be taken against those producing and disseminating hate speech and material.
- **On China and Pakistan**, the document talks about deep-rooted historical ties, shared interests, mutual understanding and strategic convergence. The mega infrastructure project 'China-Pakistan Economic Corridor' is described as one with support across Pakistan and one that can jump-start Pakistan's economy and domestic growth.
- **Regarding the US**, there seems to be an attempt to ignore the current strain in bilateral ties. Although the Pakistani Prime Minister has not received a call from US President Joe Biden since he assumed office, the document talks about the long history of bilateral cooperation between the two sides. It also describes the US as "critical" for regional peace and stability and glosses over its current tussle with China. The document acknowledges that cooperation between the US and Pakistan has narrowed down to counterterrorism only, and hoped other areas can also be worked on together soon.

The Policy on Relations with India

- **J&K:** On relations with India, the document stated that Pakistan wants to improve relationship with India but adds that a just and peaceful resolution of the Jammu and Kashmir dispute remains at the core of the bilateral relationship.
- **Dilution of Article 370 of the Indian constitution** related to the autonomous status of the erstwhile state of Jammu and Kashmir. India's pursuit of unilateral policy actions on outstanding issues are attempts to impose one-sided solutions that can have far reaching negative consequences for regional stability.
- **On Indian army and activities:** Pakistan is concerned by "growing Indian arms build-up, facilitated by access to advanced technologies and exceptions in the non-proliferation rules".
    - It is a reference to the 2008 exemption granted to India by the Nuclear Suppliers Group as a result of the India-US nuclear deal, which has been consistently criticised by Pakistan. Besides impacting regional stability, such policies of exceptionalism also undermine the global non-proliferation regime.
    - Pakistan's deterrence regime is "aimed at regional peace". The expansion of India's nuclear triad, open-ended statements on nuclear policy, and investments in and introduction of destabilising technologies disturb the strategic balance in the region.
- **Internal Indian politics:** Pakistan's immediate security is impacted by the rise of Hindutva-driven politics in India. The political exploitation of a policy of belligerence towards Pakistan by India's leadership has led to the threat of military adventurism and non-contact warfare to our immediate east.
- **Trade ties:** There is no reference to trade ties with India. The only place where India was mentioned in proximity to economic issues was about Pakistan's location and

	connectivity. Pakistan had never understood that for India, trade relationship was more of a "confidence-building measure" rather than a necessity to tap into a market. **The Way Forward** One of the most dangerous moments for a regime is when it wants to change course. When there is a significant alteration of internal or external circumstances, change becomes an urgent necessity. But in seeking major change, the sovereign takes considerable political risks. But not changing carries even bigger risks. That is the kind of moment that the Pakistani state finds itself in today. ▪ However, the present document comes across as more of a part academic and part bureaucratic exercise – almost like the output of a think tank. There does not seem to have been any political input into it, which is an obvious and major weakness. ▪ Though, there's also the fact that it did not centre Pakistan's "national security around India alone and takes a wider view of national security including in it non-traditional elements". ▪ But there is an inherent dichotomy in Pakistan's strategy of pursuing a geoeconomic strategy to encourage regional trade, particularly with India, while also pushing an adversarial relation with India, which is regarded as its main source of threat. Pakistan needs to resolve this dichotomy "before expecting trade and economic cooperation in the region to take-off". Unless and until all institutions in Pakistan work together to define the statecraft in liberal terms and the secular elite stops forging unholy alliances with Islamists who keep on fostering an image of India as an "eternal enemy", a change seems unlikely. India should definitely watch, and be prepared to react accordingly. **Can you answer the following questions?** 1. Does Pakistan's national security policy signal a rethink on India? Discuss. 2. Pakistan geo-economic transition can't succeed without shift in its India policy. Comment
India-Central Asia summit	**Context**: First India-Central Asia Summit hosted by Prime Minister Narendra Modi with the Presidents of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. ● The India-Central Asia summit, that marked 30 years of diplomatic relations, came two days after a similar China-Central Asia Conference was held where Chinese President Xi Jinping offered $500 million in assistance and pledged to ramp up trade to $70 billion (presently $40 billion) **What are the key challenges in India-Central Asia relation?** ● **Low levels of Trade**: A paltry $2 billion, spent mostly on Kazakhstan's energy exports to India. In comparison, China's trade figures with the region have exceeded $41 billion — they could double by 2030 — apart from the billions of dollars invested in the Belt and Road Initiative. ● **Lack of overland connectivity:** India doesn't have a direct transit route with landlocked Central Asian Republics, hence it has to depend on third party for the trade connectivity with the region. ○ **Obstacles by Pakistan:** With Pakistan denying India transit trade through its land, it is difficult for India to connect with five Central Asian Republics (CAR). ○ **Challenges with Iran**: New Delhi's other option to smoothen the route to Central Asia is through Iran's Chabahar port. However, this will involve greater investment in rail and road routes to Iran's northern boundaries with the CARs, something India is hesitant to do in the face of U.S. sanctions. ○ **Challenges with Russia**: Another option option is to use the Russia-Iran International North-South Transport Corridor via Bandar Abbas port, but this is not fully operational and at least two CARs (Uzbekistan and Turkmenistan) are not members. ○ **TAPI still a dream**: India too, has dragged its feet over TAPI gas pipeline plans (Turkmenistan-Afghanistan-Pakistan-India), due to supply guarantees, given the tensions with Pakistan.

	● **Afghanistan Conundrum:** Afghanistan is the tenuous link between Central Asia and South Asia. After the Taliban takeover of Afghanistan, there is no official government, a humanitarian crisis is building, and there are worries of terrorism and radicalism spilling over its boundaries. ● **Increased Competition in the region:** While Russia is the most strategic player, China is now the biggest development and infrastructure partner to the countries. Pakistan has also increased its outreach to the CARs, signing transit trade agreements, offering trade access to the Indian Ocean at Gwadar and Karachi. **Key Takeaways from the first Summit of India with CAR** ● PM Modi reiterated that ties between India and the region have been historically close, with "civilisational, cultural, trade and people-to-people linkages". ● A number of high-level exchanges between the two sides, including bi-annual summits, and annual meetings of the Foreign, Trade and Cultural Ministers and Secretaries of Security (National Security Advisors) is accepted that will enhance the diplomatic relationship. ● A plan to build a "Central Asia Centre" in New Delhi. ● Announced two "Joint Working Groups" (JWGs) on Afghanistan and the Chabahar port project. ● The Leaders emphasised that connectivity projects deserve priority attention and could be a force-multiplier for trade and economic cooperation and contacts between countries and people **Conclusion** India will need to move nimbly to ensure it stays in step with the changes, and to make certain the future of ties more closely resembles the deep ties of the distant past. **Connecting the dots** ● Belt & Road Initiative ● India's Central Asian Outreach

Q.1 Consider the following statements regarding BHarat norms:

1. To comply with higher level of Bharat norms, oil refineries need to produce diesel with less sulphur content
2. The implementation of BSV and BS VI emission norms nationwide shall take place from 2020 and 2024 respectively.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.2 The GST Council is chaired by?

a) Union Finance Minister.
b) RBI Governor
c) CEO of NITI Aayog
d) Senior-most IRS officer

Q.3 Which of the following is not true about National Centre for Disease Control (NCDC)

a) It was formerly the National Institute of Communicable Diseases (NICD).
b) It is a national level institute for training specialized manpower for public health, laboratory sciences and entomological services and is involved in various applied research activities.
c) It Undertakes investigations of disease outbreaks all over the country.
d) It is headquartered in Mumbai.

Q.4 Consider the following statements regarding Kaziranga National Park:

1. The sanctuary, which hosts two-thirds of the world's great one-horned rhinoceroses, is a World Heritage Site.
2. Kaziranga has the largest population of the Wild water buffalo anywhere accounting for about 57% of the world population.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.5 Indravati Tiger reserve is located in?

a) Chhattisgarh
b) Jharkhand
c) Madhya Pradesh
d) Uttar Pradesh

Q.6 Arc De Triomphe Monument, recently seen in news, is one of most important monuments of Which of the following country?

a) France
b) Netherlands
c) Germany
d) Belarus

Q.7 Consider the following statements regarding Pangong Tso:

1. It lies entirely in India
2. It has a land-locked basin separated from the Indus River basin by a small elevated ridge

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.8 Consider the following statements regarding small-value digital payments in offline mode:

1. An offline digital payment does not require Internet or telecom connectivity.
2. Such transactions would require an Additional Factor of Authentication.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.9 Fimbristylis sunilii and Neanotis prabhuii are associated with Which of the following?

a) Pesticide-resistant species of rice
b) Invasive species of Eastern Ghats
c) Newly discovered butterfly species in the Himalayas
d) New plant species from the Western Ghats

Q.10 Consider the following statements regarding Automatic Generation Control (AGC):

1. This is expected to facilitate achieving the government's ambitious target of 500 GW non-fossil fuel-based generation capacity by 2030.
2. Through AGC, NLDC (National Load Despatch Centre) sends signals to more than 50 power

plants that will ensure more efficient and automatic frequency control for handling variable and intermittent renewable generation.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.11 Consider the following statements:

1. Scheduled Banks in India refer to those banks which have been included in the Second Schedule of Reserve Bank of India Act, 1934.
2. Recently, Airtel Payments Bank Ltd. was designated as a Schedule Bank

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.12 NEAT 3.0 was recently launched by Which of the following Ministry?

a) Ministry of Environment
b) Ministry of Housing and Urban Affairs
c) Ministry of Finance
d) Ministry of Education

Q.13 Consider the following statements regarding Chilika Lake:

1. Chilika is the world's largest lagoon.
2. In 1981, Chilika Lake was designated the first Indian wetland of international importance under the Ramsar Convention.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.14 Consider the following statements regarding Free Trade Agreement:

1. FTA is a pact between two or more nations to reduce barriers to imports and exports among them.
2. The concept of free trade gives rise to trade protectionism or economic isolationism.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.15 Philosophy of 'Nai Talim' was given by Which of the following Historian?

a) Raja Rammohan Roy
b) Abul Kalam Azad
c) Mahatma Gandhi
d) Khan Abdul Gaffar Khan

Q.16 Consider the following statements regarding hypersonic weapons:

1. They are manoeuvrable weapons that can fly at speeds in excess of Mach 5.
2. Hypersonic weapons travel outside the atmosphere and can manoeuvre midway which makes their detection and interception extremely difficult.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.17 Which of the following is not a member of Collective Security Treaty Organization (CSTO):

a) Austria
b) Belarus
c) Kazakhstan
d) Kyrgyzstan

Q.18 Horn of Africa does not consist of which of the following country?

a) Ethiopia
b) Eritrea
c) Djibouti
d) Sudan

Q.19 Consider the following statements regarding National Statistical Office (NSO):

1. It comes under the Ministry of statistics and Programme Implementation (MoSPI).
2. It Compiles and releases the Index of Industrial Production (IIP) every year

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.20 Which of the following is incorrect about EWS quota?

a) Only those persons who are not covered under the scheme of reservation for SCs, STs and OBCs are to be identified as EWSs for benefit of reservation.

b) Wwhose family has gross annual income below 8.00 lakh rupees are to be identified as EWSs
c) Persons whose families own landholdings of a certain size such as at least five acres of agricultural land, or a residential flat of at least 1,000 sq. feet are also included in the category..
d) EWS was recently recommended for retention by the Ajay Bhushan Pandey-led Expert Committee on December 31, 2021

Q.21 Which of the following is India's ballistic missile?

a) Agni P missile
b) Shaurya missile
c) Prithvi missile
d) All of the above

Q.22 Which of the following is/are true regarding Pravasi Bhartiya Divas?

1. Pravasi Bharatiya Divas is celebrated every year
2. Youth Pravasi Bharatiya Divas was launched in 2014.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.23 Consider the following statements regarding Guru Gobind Singh :

1. He was responsible for institutionalising the Khalsa, who played a significant role in protecting the Sikhs after his death.
2. Guru Gobind Singh Ji declared Guru Granth Sahib as Sikhism's holy scripture in 1708, before his death.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.24 Starting this year, 'Veer Baal Diwas' shall be observed to mark the martyrdom of Sahibzada Zorawar Singh and Sahibzada Fateh Singh on which of the following date?

a) 26th July
b) 26th December
c) 15th August
d) 13th January

Q.25 Which of the following is/are true regarding Khadi and Village Industries Commission (KVIC)?

1. It is a statutory body established under KVIC Act, 1956
2. It functions under the Ministry of Commerce

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.26 Consider the following statements regarding Sea Dragon Exercise:

1. It is an exercise of Quad countries along with Canada and South Korea
2. This exercise primarily focuses on anti-submarine warfare (ASW) training.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.27 Which of the following state does not share a border with Myanmar ?

a) Tripura
b) Arunachal Pradesh
c) Nagaland
d) Mizoram

Q.28. Which of the following is/are true regarding Colombo Security Conclave?

1. The decision to establish Colombo Security Conclave was taken between countries India, Sri Lanka, and the Maldives to forge closer cooperation on maritime and security matters among the three Indian Ocean countries.
2. The idea of 'Colombo Security Conclave' was initiated by Indian Prime Minister Manmohan Singh in 2011.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.29 Consider the following statements regarding 'Sea to Sea' Variant Of BrahMos Missile:

1. This version of the missile has been designed to launch either in a vertical or a horizontal mode from moving/stationary assets to target both land and sea targets.

2. The missiles, fired at a speed of 2.8 Mach, significantly increase the capability of the ships in engaging long-range targets.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.30 National Portal for Transgender Persons is launched by which of the following?

a) Ministry of Home Affairs
b) Ministry of Social Justice & Empowerment
c) National Human Rights Commission
d) NITI Aayog

Q.31 Which of the following is/are true regarding Bhimbetka cave?

1. It is situated in Maharashtra.
2. The Bhimbetka rock shelters were found by V S Wakankar in1957.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.32 Consider the following statements:

1. Only the Great one-horned rhino is found in India.
2. Sumatran Rhino is the smallest of all rhino species.

Which of the above is or are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.33 Which of the following feature is borrowed from British constitution?

a) Fundamental duties
b) Concept of Concurrent list
c) Single citizenship
d) Directive Principles of State Policy

Q.34 Which of the following is/are true regarding gharial?

1. Its IUCN status is critically endangered.
2. National Chambal Sanctuary is a tri-state protected area of Rajasthan, Madhya Pradesh and Haryana for the protection of the Gharial

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.35 Dibru-Saikhowa is a national park in which of the following state of India?

a) Arunachal Pradesh
b) Assam
c) Nagaland
d) Manipur

Q.36 Which of the following is true regarding xenotransplantation?

a) It is a procedure that involves the transplantation of live cells into a human recipient from a nonhuman animal source only.
b) It is a procedure that involves the transplantation of live cells into a nonhuman recipient from a nonhuman animal source.
c) It is a procedure that involves the transplantation of live cells into a human recipient from a nonhuman animal source or human body fluids.
d) It is a procedure that involves the transplantation of live cells into diseased plants from a nonhuman animal source

Q.37 Which of the following is/are true regarding Thiruvalluvar?

1. He was a celebrated Malayalam poet and philosopher.
2. He is best known as the author of the Tirukkural, a collection of couplets on ethics, political and economical matters, and love.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.38 Global Risks Report is released by which of the following?

a) World Health Organisation
b) United Nations Framework Convention on Climate Change
c) World Economic Forum
d) World Trade Organisation

Q.39 The FAME scheme is related to which of the following?

a) Student Scholarships and Fellowships
b) Electric Vehicles

c) Encouragement to traditional Indian sports
d) Health Sector

Q.40 Which of the following is/are true regarding National Company Law Tribunal (NCLT)?

1. It is a quasi-judicial body in India that adjudicates issues relating to companies in India.
2. It is formed based on the recommendations of the Justice Eradi Committee.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.41 Kathak is a classical dance form of which of the following state of India?

a) Karnataka
b) Uttar Pradesh
c) Gujarat
d) Rajasthan

Q.42 Vienna talks is associated with which of the following?

a) Iran's nuclear programme
b) Climate change issues of Vienna
c) Disaster management of Austria
d) Russia-Ukraine hostile relations

Q.43 Which of the following is/are true regarding Line of Credit?

1. It is a credit facility extended by a bank or any other financial institution to a government, business or an individual customer, that enables the customer to draw the maximum loan amount.
2. The borrower can access funds from the line of credit at any time as long as they do not exceed the credit limit set in the agreement

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.44 Global Cybersecurity Outlook 2022 is released by which of the following?

a) International Monetary Fund
b) World Bank
c) World Economic Forum
d) World Trade Organisation

Q.45 Which of the following is/are the primary factors for Sea Levels Rise?

a) Thermal Expansion
b) Melting Glaciers
c) Loss of Greenland and Antarctica's ice sheets
d) All of the above

Q.46 Which of the following is/are true regarding Guru Ravidas?

1. He was one of the most noted disciples of Bhagat Ramanand.
2. He has mentioned 'Sahaj', a mystical state where there is a union of the truths of the many and the one.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.47 National Commission for Safai Karamcharis works under which of the following Ministry?

a) Ministry of Urban Affairs
b) Ministry of Social justice and Empowerment
c) Ministry of Rural development
d) Ministry of commerce

Q.48 What is the IUCN status of Eastern swamp deer?

a) Vulnerable
b) Extinct
c) Critically endangered
d) Least concern

Q.49 Which of the following is/are true regarding Somnath Temple?

1. Hindus believe it to be the first among the twelve Jyotirlinga shrines of Shiva.
2. The present Somnath temple is reconstructed in the Māru-Gurjara style of Hindu temple architecture.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.50 Sustainable Agrarian Mission on Use of Biomass in coal-based thermal Power Plants falls under which of the following Ministry?

a) Ministry of Agriculture
b) Ministry of Power
c) Ministry of Environment

d) Ministry of Commerce

Q.51 In which of following cases, the Supreme Court upheld 27% reservation for OBCs, subject to exclusion of the creamy layer?

a) Kesavananda Bharati Case
b) Minerva Mills case
c) Indira Sawhney case
d) S.R. Bommai. Case

Q.52 Which of the following is/are true regarding Privilege Committee of Lok Sabha?

1. This Committee consists of 10 members nominated by the Speaker .
2. Its function is to examine every question involving breach of privilege of the House or of the members of any Committee thereof referred to it by the House or by the Speaker.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.53 Living roots of bridges is popular in which of the following state of India?

a) Karnataka
b) Assam
c) Meghalaya
d) Gujarat

Q.54 'Banking on Electric Vehicles in India' was recently released by which of following?

a) Tata Motors
b) NITI Aayog, Rocky Mountain Institute (RMI), and RMI India
c) Ministry of Roadways
d) All of the above

Q.55 Which of the following is/are true regarding Indian SARS-CoV-2 Genomics Consortium (INSACOG)?

1. It is Coordinated by Department of Biotechnology (DBT) only
2. The consortium ascertains the status of a new variant of SARS-CoV-2 in the country.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.56 Coconut stem rot is caused by which of the following type of microorganism?

a) Bacteria
b) Virus
c) Fungi
d) Protozoa

Q.57 The first-of-its-kind State-level bird atlas in India was recently released by which of following state of India?

a) Assam
b) Rajasthan
c) Himachal Pradesh
d) Kerala

Q.58 Which of the following is/are true regarding Indian Renewable Energy Development Agency Limited (IREDA)?

1. IREDA is a Public Limited Government Company established as a Non-Banking Financial Institution in 1987
2. IREDA has been awarded "Mini Ratna" status in 2015 by the Ministry of New and Renewable Energy (MNRE).

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.59 Non-Fungible Tokens are associated with which of the following?

a) Fungi resistant to multiple drugs
b) Cryptoworld
c) Renewable energy
d) Defence weapons procurement

Q.60 Bandipur National Park, a part of the Nilgiri Biosphere Reserve, is located in which of the following state of India?

a) Tamil Nadu
b) Karnataka
c) Kerala
d) All of the above

Q.61 Which of the following is/are true regarding categorizing the developmental projects under Environment Impact Assessment?

1. Category A projects – They require mandatory environmental clearance and thus they do not undergo the screening process.
2. Category B Projects– They undergo screening process

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.62 Which of the following is incorrect?

a) Election Commission of India (ECI) is a Constitutional Body
b) ECI was created under Article 324 of the Constitution of India.
c) 25th January is celebrated as National Voters' Day to mark the foundation day of the Election Commission of India.
d) The first-ever National Voters' Day was celebrated on January 25, 2020

Q.63 Hajong and Chakma communities, recently seen in news, are originally the inhabitants of which of following country?

a) Vietnam
b) Bhutan
c) Bangladesh
d) Myanmar

Q.64 Which of the following is/are true regarding the National Green Tribunal (NGT)?

1. It is a Constitutional body established in 2010, as per the National Green Tribunal Act.
2. The chairperson of the NGT is always an expert in the Ecology and Environment related field.

Select the correct answer:

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.65 Antidumping duties are used to ?

a) offset the margin of dumping
b) punish domestic consumers for buying high-priced imported goods
c) discourage foreign governments from subsidizing their exporters
d) reduce the tariff revenue of the domestic government

Q.66 Najafgarh jheel wetland is located in which of the following state/Union territory of India?

a) Delhi
b) Haryana
c) Punjab
d) Both (a) and (b)

Q.67 Which of the following is /are correct regarding 5G:

1. 5G is the fifth generation cellular technology that increases the downloading and uploading speeds (speed of 1 Gbps) over the mobile network.
2. It also increases energy efficiency and offers more stable network connections.

Select the correct answer:

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.68 Consider the following statements regarding new bad bank, NARCL-IDRCL:

1. NARCL will acquire and aggregate the identified NPA accounts from the banks, while IDRCL, under the exclusive arrangement, will handle the debt resolution process.
2. The final approval and ownership for the resolution shall lie with NARCL as the principal.

Select the correct answer:

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.69 Which of the following is the world's fastest anti-ship cruise missile currently in operation?

a) Zarb
b) BrahMos
c) Barak 8
d) F-98 Falcon

Q.70 India Enterprise Architecture 2.0 (IndEA 2.0) is a framework under which of the following Ministry

a) Ministry of Electronics and IT
b) Ministry of Urban Affairs
c) Ministry of New and Renewable Energy
d) Ministry of Commerce

Q.71 Leprosy is caused by which of the following?

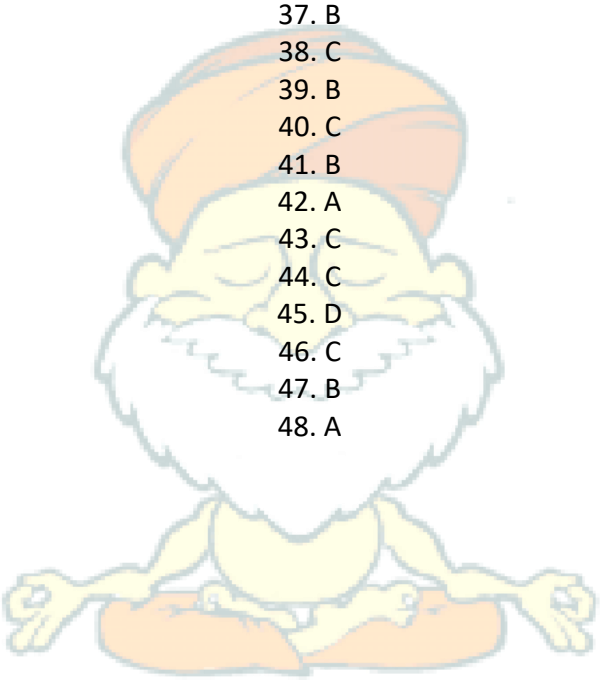
a) Fungi
b) Bacteria
c) Virus
d) Bacteriophage

Q.72 Oman's relative location is:

a) West of Africa
b) Southern tip of the Arabian Peninsula
c) North of Syria
d) East of Iraq

MCQs ANSWER

1. A
2. A
3. D
4. C
5. A
6. A
7. B
8. A
9. D
10. C
11. C
12. D
13. B
14. A
15. C
16. A
17. A
18. D
19. A
20. C
21. D
22. D
23. C
24. B
25. A
26. C
27. A
28. A
29. C
30. B
31. B
32. C
33. C
34. A
35. B
36. C
37. B
38. C
39. B
40. C
41. B
42. A
43. C
44. C
45. D
46. C
47. B
48. A
49. C
50. B
51. C
52. B
53. C
54. B
55. B
56. C
57. D
58. C
59. B
60. B
61. C
62. D
63. C
64. D
65. A
66. D
67. C
68. C
69. B
70. A
71. B
72. B



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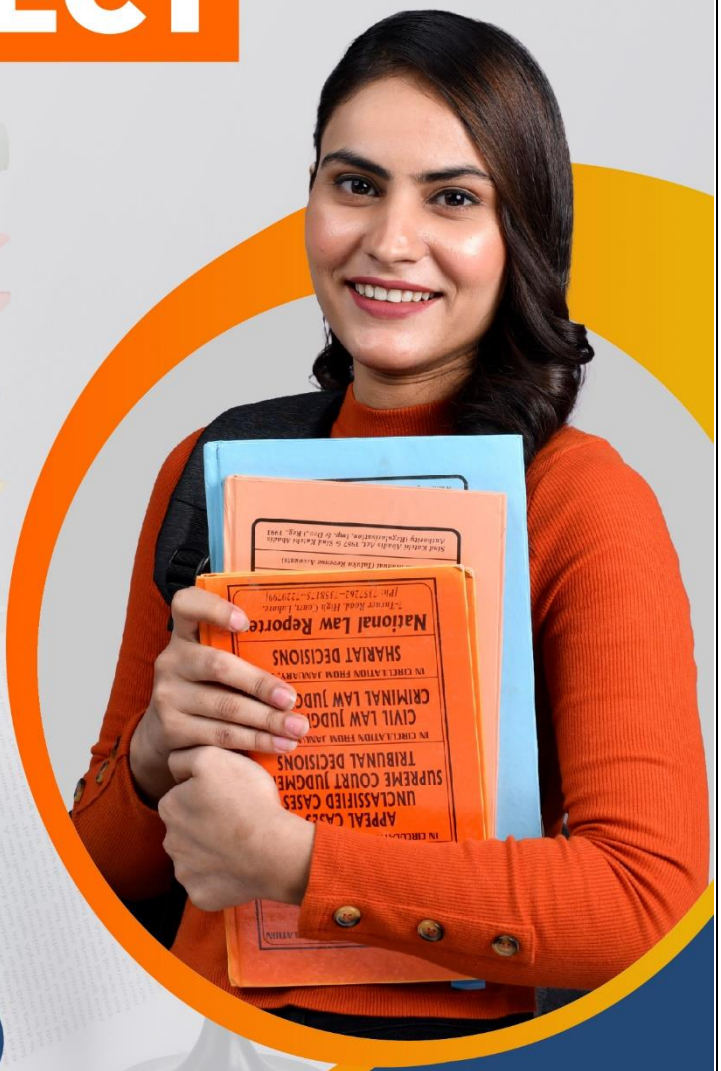

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