IAS BABA

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Baba's Monthly
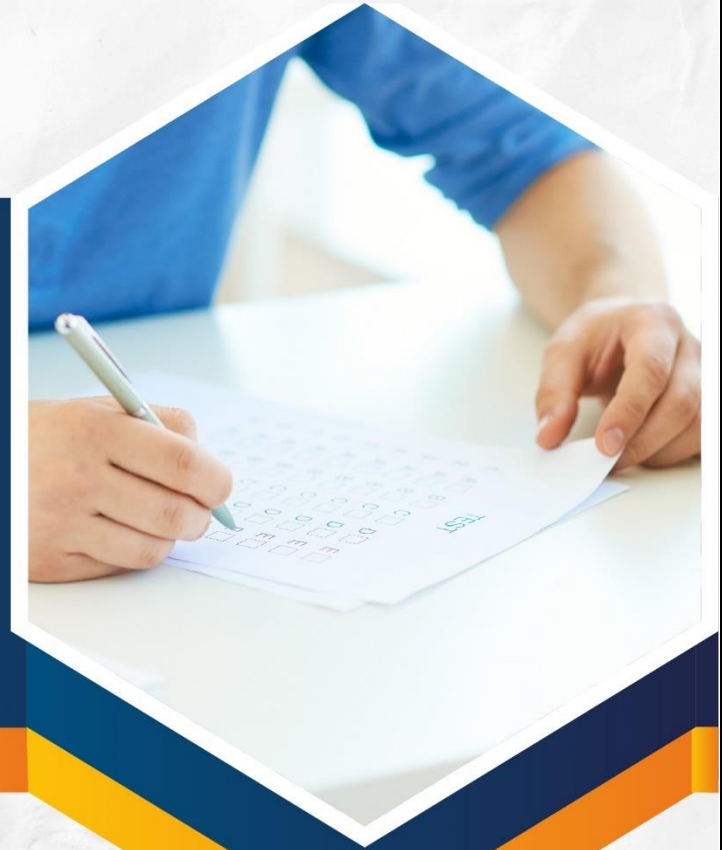## CURRENT AFFAIRS
MAGAZINE

IN NEW AVATAR

Revamped With Revolutionary Aspects

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POLITY AND GOVERNANCE

National Commission for Women (NCW)	Context: 30th Foundation Day of National Commission for Women (NCW) was recently observed.
	 • In light of evolving needs of women in the country, it was emphasised that NCW's scope must be broadened.
	 About National Commission for Women (NCW)
	 • Under the National Commission for Women Act, 1990, the NCW was set up as a statutory body in January 1992.
	 • The commission consists of a chairperson, a member secretary and five other members. The chairperson of the NCW is nominated by the Central Government.
	 • Its mission is to strive towards enabling women to achieve equality and equal participation in all spheres of life by securing her due rights and entitlements through suitable policy formulation, legislative measures, etc.
	 • **Its functions are to:**
	    o Review the constitutional and legal safeguards for women.
	    o Recommend remedial legislative measures.
	    o Facilitate redressal of grievances.
	    o Advise the Government on all policy matters affecting women.

Electoral bonds	**Context:** According to a Right to Information reply Electoral bonds worth Rs. 1,213 crore were sold by the State Bank of India (SBI) in January, with most of them (Rs. 784.84 crore) being encashed in the New Delhi branch, pointing towards national parties. • The amount of bonds sold this time had been the highest before any Assembly poll since the scheme began in 2018. **About Electoral Bonds Scheme** • Electoral Bond is a financial instrument for making donations to political parties. • The bonds are issued in multiples of Rs. 1,000, Rs. 10,000, Rs. 1 lakh, Rs. 10 lakh and Rs. 1 crore without any maximum limit. • State Bank of India is authorised to issue and encash these bonds, which are valid for fifteen days from the date of issuance. • These bonds are redeemable in the designated account of a registered political party. • The bonds are available for purchase by any person (who is a citizen of India or incorporated or established in India) for a period of ten days each in the months of January, April, July and October as may be specified by the Central Government. • A person being an individual can buy bonds, either singly or jointly with other individuals. Donor's name is not mentioned on the bond.
J&K Delimitation Commission	**Context**: The J&K Delimitation Commission has changed the complexion of most of the 90 **Assembly seats.** ● It also reconfigured and renamed 28 new Assembly constituencies and deleted 19 Assembly segments in its interim report. ● Besides, it has proposed to redraw all the five Lok Sabha seats. **What is Delimitation?** Delimitation is the act of redrawing boundaries of Lok Sabha and state Assembly seats. **Objective of delimitation:** • To provide equal representation to equal segments of a population; • Fair division of geographical areas so that one political party doesn't have an advantage over others in an election. • **Constitutional provisions:** Under Article 82, the Parliament enacts a Delimitation Act after every Census.

	- Delimitation is carried out by an **independent** Delimitation Commission **appointed by the President of India** and works in collaboration with the Election Commission of India.
	- Delimitation Commissions have been set up four times — 1952, 1963, 1973 and 2002
	- There was no delimitation after the 1981 and 1991 Censuses.
	- **Composition of the Commission:** According to the Delimitation Commission Act, 2002, the Delimitation Commission will have three members:
	    ○ A serving or retired judge of the Supreme Court as the chairperson,
	    ○ Chief Election Commissioner or Election Commissioner nominated by the CEC
	    ○ State Election Commissioner as ex-officio members.
	Delimitation Commission for Jammu and Kashmir
	- The Delimitation Commission for Jammu and Kashmir was constituted by the Centre on 6th March 2021 to redraw Lok Sabha and assembly constituencies of the union territory in accordance with the provisions of the Jammu and Kashmir Reorganisation Act, 2019 and Delimitation Act, 2002, passed by the Centre in August 2019 along with other J&K-specific Bills.

Launch of Operation AAHT	Context: The Railway Protection Force(RPF) has launched a nationwide operation to curb human trafficking. **Key takeaways** - As part of **"Operation AAHT",** special teams will be deployed on all long-distance trains/routes with focus on rescuing victims, particularly women and children, from the clutches of traffickers. - The Railways is the most reliable mode of transportation for the traffickers who often move their victims on long-distance trains. - As part of "**Operation AAHT**", the infrastructure and intelligence network of the force could be utilised to collect, collate and analyse clues on victims, source, route, etc and shared with other law-enforcing agencies. - The RPF would act as a bridge cutting across States to assist the local police in the mission to curb the menace. **About Railway Protection Force** - Protection Force is a security force, established by the **Railway Protection Force Act, 1957,** for "the better protection and security of railway property and passenger area". - It has the power to search, arrest, investigate, and prosecute offenses committed under Railway Property (Unlawful Possession) Act 1966 - The force is under the authority of the **Indian Ministry of Railways.**

Pradhan Mantri Matru Vandana Yojana(PMMVY)	Context: The government's recent announcement that the maternity benefit programme which provides ₹5,000 for first child will be extended to cover the second child only if it is a girl has met with sharp criticism from activists who have demanded that it be universalised.
	About the maternity benefit programme
	- The Pradhan Mantri Matru Vandana Yojana (PMMVY) was announced on December 31, 2016 which gives a benefit of ₹6,000 to pregnant and lactating mothers for the birth of the first child.
	- ₹5,000 would be disbursed in three installments upon meeting several conditionalities:
	    ○ registration of pregnancy
	    ○ at least one ante-natal check-up
	    ○ registration of child birth and vaccinations.
	- The remaining cash incentive of up to ₹1,000 is to be given under a separate scheme called the Janani Suraksha Yojana so that on an "average" women get a total sum of ₹6,000.
	- The objective is to compensate women for wage loss due to child birth.

	• Some of the reasons which has led to exclusion of many beneficiaries under PMMVY
	   ◦ Only for the first born
	   ◦ **Proof of address of marital home** – which proves challenging for a newlywed expecting a child and often residing in her natal home during pregnancy. She is then forced to go from pillar to post to claim benefits.
	   ◦ **Minimum age of 19 years** – leaves out younger brides, who hesitate in getting their marriages registered as the legal age of marriage is 18 years.
	   ◦ **Husband's Aadhar Card** – Affects single women which include unwed mothers, deserted wives and widows
	   ◦ **Tedious documentation:** Total 6 application forms to be filled, with total of 30 of 32 pages to be filled by the beneficiary
	   ◦ **As many as 9 IDs to be produced** – Aadhaar card, voter ID card; ration card copy of bank passbook and maternal and child protection (MCP) card etc.

National Single Window System (NSWS)	**Context:** Jammu & Kashmir became the first Union Territory to be onboarded the National Single Window System (NSWS). This marks a major leap in Ease of Doing Business (EoDB) in the Union Territory. • NSWS is linked with India Industrial Land Bank (IILB) which hosts 45 industrial parks of J&K. This will help Investors to discover available land parcels in J&K. **About NSWS** • The NSWS, a 2020 budgetary announcement of the Government of India, is a digital platform that serves as a **guide for investors** to identify and to apply for approvals as per their business requirements. The platform was soft launched in September 2021. • NSWS will **eliminate the need for investors to visit multiple platforms/offices** to gather information and obtain clearances from different stakeholders. • **Twenty Ministries / Departments have been integrated on NSWS** including Ministry of Corporate Affairs, Ministry of Environment, Forest & Climate Change, Ministry of Commerce & Industry, Ministry of Health & Family Welfare amongst others. Currently 142 central approvals can be applied through the NSWS portal. • 14 States/UTs have onboarded on NSWS. • The Know Your Approval (KYA) module on NSWS guides investors to identify approvals required for their business based on a dynamic intuitive questionnaire. Currently, the module hosts more than 3,000 approvals across Centre & States.
IDEA Database	**Context:** Ministry of Agriculture & Farmers Welfare has commenced the work for creating various agricultural services built around a core layer of Farmers' Database (Agristack) in the country. • In order to create Agristack, Union Government is in the process of finalising the "India Digital Ecosystem of Agriculture (IDEA)" which lays down a framework for building Agristacks. • This Ecosystem shall help the Government in effective planning towards increasing the income of farmers in particular and improving the efficiency of the Agriculture sector, as a whole. • As a first step, in this direction, the Government has already initiated building federated farmers' database that would serve as the core of the envisaged Agristack. • The federated farmers' database is being built by taking the publicly available data as existing in the Department and in various data silos in Government and linking them with the digitised land records. • The issue of data protection / data privacy etc. in the Agristack are being deliberated and hence, as of now, no decision has been taken regarding the mandatory enrolment of farmers in the Database. • At present, proposed farmers' database will include the farmers registered under the PM-Kisan Scheme.

E-PANCHAYAT FACILITY	**Context:** Under Digital India Programme, Ministry of Panchayati Raj is implementing e-Panchayat Mission Mode Project (MMP) with the aim to transform the functioning of Panchayati Raj Institutions (PRIs). • Under e-Panchayat MMP, Ministry of Panchayati Raj launched eGramSwaraj, a simplified work-based accounting application to addresses various aspects of Panchayat functioning viz. planning, budgeting, accounting and online payments. • As on 2 February 2022, 2.55 lakh Gram Panchayat (GP), 5390 Block Panchayat and 481 ZillaPanchayats have prepared and uploaded their Development Plans for 2021-22on eGramSwaraj application. • Further, 2.19 lakh GPs have taken necessary steps for carrying out payments through Public Finance Management System (PFMS). **About BharatNet** • BharatNet project is being implemented in a phased manner by Department of Telecommunications to provide broadband connectivity to all the Gram Panchayats and equivalent in the country. • As on 17.01.2022, total 1,70,136 GPs have been made Service Ready under the BharatNet project in the country. • The scope of BharatNet on 30.06.2021 has been extended to all inhabited villages beyond GPs in the country.
Habeas corpus	Context: The Supreme Court recently decided to examine a habeas corpus plea made by the children of a Pakistan national who they believe has been unlawfully detained for seven years. **Important value additions** • The Indian Constitution empowers the Supreme Court to issue writs for enforcement of any of the fundamental rights conferred by **Part III** of Indian Constitution under **Article 32.** • Thus the power to issue writs is primarily a provision made to make available the Right to Constitutional Remedies to every citizen. • **There are five types of Writs:** Habeas Corpus, Mandamus, Prohibition, Certiorari and Quo warranto. • **Habeas Corpus:** It literally means "you may have the body." The writ is issued to produce a person who has been detained, whether in prison or in private custody, before a court and to release him if such detention is found illegal. • **Mandamus:** A judicial writ issued as a command to an inferior court or ordering a person to perform a public or statutory duty. • **Prohibition:** A writ of prohibition is a writ directing a subordinate to stop doing something the law prohibits. This writ is often issued by a superior court to the lower court directing it not to proceed with a case which does not fall under its jurisdiction. • **Certiorari:** In law, certiorari is a court process to seek judicial review of a decision of a lower court or government agency. • **Quo warranto:** Quo warranto is a prerogative writ requiring the person to whom it is directed to show what authority they have for exercising some right, power, or franchise they claim to hold.
Scheme for Economic Empowerment of DNTs (SEED)	**By:** The Minister of Social Justice and Empowerment **For:** Welfare of De-notified, Nomadic and Semi Nomadic Communities National Commission for De-Notified, Nomadic and Semi Nomadic Tribes in 2014: under the Chairmanship of Shri Bhiku Ramji Idate

	Background
	The De-notified, Nomadic and Semi-Nomadic Tribes are the most neglected, marginalized and economically and socially deprived communities. Most of them have been living a life of destitution for generations and still continue to do so with an uncertain and gloomy future.
	• Escaped the attention of our developmental framework and thus are deprived of the support unlike Scheduled Castes and Scheduled Tribes.
	• Historically, these communities never had access to private land or home ownership.
	• These tribes used forests and grazing lands for their livelihood and residential use and had "strong ecological connections.
	• Many of them are dependent upon various types of natural resources and carve out intricate ecological niches for their survival.
	• The changes in ecology and environment seriously affect their livelihood options.
	Four components of the Scheme
	a) To provide coaching of good quality for DNT/NT/SNT candidates to enable them to appear in competitive examinations.
	b) To provide health insurance to DNT/NT/SNT Communities.
	c) To facilitate livelihoods initiative at community level to build and strengthen small clusters of DNT/NT/SNT Communities institutions.
	d) To provide financial assistance for construction of houses to members of the DNT/NT/SNT Communities.
One Rank One Pension (OROP)	**Context:** The Supreme Court recently pointed out that the Centre's exaggeration on the One Rank One Pension (OROP) policy presented a much better condition than what is actually given to the pensioners of the armed forces.
	What is One Rank One Pension (OROP) policy?
	• OROP means the payment of the same pension to military officers for the same rank for the same length of service, irrespective of the date of retirement.
	• Before OROP, ex-servicemen used to get pensions as per the Pay Commission's recommendations of the time when they had retired.
	• Uttar Pradesh and Punjab have the highest number of OROP beneficiaries.
	• Armed Forces Personnel who had retired till 30th june 2014 are covered under it.
	• The implementation of the scheme was based on recommendation of the Koshiyari committee, a 10 member all-party parliamentary panel formed under the chairmanship of Bhagat Singh Koshiyari.
Government approves ' New India Literacy Programme	**In News:** Government approved a new scheme "New India Literacy Programme for the period FYs 2022-2027 to cover all the aspects of Adult Education to align with National Education Policy 2020 and Budget Announcements 2021-22.
	• The National Education Policy 2020 has recommendations for Adult Education and Lifelong Learning.
	• Term "Adult Education" to be replaced with "Education For All"
	Objectives of the scheme is to impart not only foundational literacy and numeracy but also to cover other components which are necessary for a citizen of 21st century such as
	• Critical life skills (including financial literacy, digital literacy, commercial skills, health care and awareness, child care and education, and family welfare)
	• Vocational skills development (with a view towards obtaining local employment)
	• Basic education (including preparatory, middle, and secondary stage equivalency)
	• Continuing education (including engaging holistic adult education courses in arts, sciences, technology, culture, sports, and recreation, as well as other topics of interest or use to local learners, such as more advanced material on critical life skills).

Pradhan Mantri Fasal Bima Yojana (PMFBY)	**Context:** The Pradhan Mantri Fasal Bima Yojana (PMFBY) has successfully entered its 7th year of implementation. **What is it:** It is an insurance service scheme for farmers for their yields which aims to reduce the premium burden on farmers and ensure early settlement of crop assurance claim for the full insured sum. PMFBY provides financial support to farmers suffering crop loss/damage arising out of natural calamities. - Over 36 crore farmer applications have been insured under PMFBY - Over Rs. 1,07,059 crores of claims have already been paid under the scheme 'Meri Policy Mere Hath' - a doorstep distribution drive to be launched to deliver crop insurance policies to farmers - Around 85% of the farmers enrolled with the scheme are small and marginal farmers. - The recent announcement by Finance Minister of India Smt. Nirmala Sitharaman during her 2022-23 budget speech on the use of drones for crop insurance will further strengthen the integration of technology for smooth implementation of the scheme on the ground.
Rashtriya Uchchatar Shiksha Abhiyan (RUSA) Scheme	**In News:** The Government has approved the scheme of Rashtriya Uchchatar Shiksha Abhiyan (RUSA) for continuation till 2026. - RUSA is an overarching scheme, operating in mission mode for funding the state government universities and colleges to achieve the aims of equity, access and excellence. - New phase of RUSA targets to reach out the unserved, underserved areas; remote/ rural areas; difficult geographies; Left Wing Extremism (LWE) areas; North Eastern Region (NER); aspirational districts, tier-2 cities, areas with low Gross enrolment ratio (GER) etc., and to benefit the most disadvantaged areas and SEDGs. - Designed to implement some of the recommendations and aims of the New Education Policy, which suggests some key changes to the current higher education system to revamp and re-energize it and thereby deliver quality higher education, with equity and inclusion. **Under the new phase of the scheme,** - State Governments will be supported for Gender inclusion, Equity Initiatives, ICT, Enhancing employability through vocationalisation & skill upgradation. - States will also be supported for creation of new Model Degree Colleges. State Universities will be supported for Multi-Disciplinary Education and Research. - Grants will be provided for strengthening both accredited and non-accredited Universities and Colleges for undertaking various activities including teaching-learning in Indian languages.
Fundamental Duties	**Context:** The Supreme Court asked the Union and the State governments to respond to a petition to enforce the fundamental duties of citizens, including patriotism and unity of the nation, through "comprehensive, well-defined laws". **Important Value addition** **Background:** The Fundamental Duties were incorporated in Part IV-A of the Constitution by the Constitution 42nd Amendment Act, 1976, during Emergency under Indira Gandhi's government. - The amendment came at a time when elections stood suspended and civil liberties curbed. - Today, there are 11 Fundamental Duties described under Article 51-A, of which 10 were introduced by the 42nd Amendment and the 11th was added by the 86th Amendment in 2002, during Atal Bihari Vajpayee's government. **Status:** These are statutory duties, not enforceable by law, but a court may take them into account while adjudicating on a matter. **Objective:** The idea behind their incorporation was to emphasise the obligation of the citizen in exchange for the Fundamental Rights that he or she enjoys.

	- The concept of Fundamental Duties is taken from the Constitution of Russia. **Some of the duties are?** - To abide by the constitution and respect its ideals and institutions, the National Flag and the National AnthemTo cherish and follow the noble ideals which inspired our national struggle for freedom - To uphold and protect the sovereignty, unity and integrity of India — it is one of the preeminent national obligations of all the citizens of India. - To defend the country and render national service when called upon to do so
Angadias	**Context:** An FIR has been registered against three Mumbai Police officials for allegedly threatening Angadias. **What is Angadia system?** - The Angadia system is a century-old parallel banking system in the country where traders send cash generally from one state to another through a person called Angadia that stands for courier. - It is by and large used in the jewellery business with Mumbai – Surat being the most popular route as they are two ends of the diamond trade. - The cash involved is huge and it is the responsibility of the Angadia to transfer cash from one state to another for which they charge a nominal fee. - Generally, it is the Gujarati, Marwari and Malbari community that are involved in the business. - The Angadia system works completely on trust. **Is the system legal?** - While the Angadia system per se is legal, there hangs a cloud over the activity as it is suspected that a lot of times it is used to transfer unaccounted money. - There have been suspicions that it is also used for transfer of black money like the hawala transaction which is generally used across countries.
Bhakra Beas Management Board (BBMB)	**Context:** The Central government's decision of adopting a new criterion for selecting members of the Bhakra Beas Management Board (BBMB), has evoked sharp criticism from political circles in Punjab and Haryana. **Key takeaways** - According to the Bhakra Beas Management Board Rules, 1974, the member (power) in BBMB was from Punjab and the member (irrigation) was from Haryana. - But in the amended rules of 2022, this requirement has been done away with. - Opposition parties are arguing that the abolition of the permanent membership of Punjab and Haryana in the BBMB was an attack on the rights of Haryana. **Background** - As per the Indus Waters Treaty of 1960, the waters of Ravi, Beas and Sutlej are allocated to India and are available to be utilised for irrigation purposes within the country. - On the Beas and Sutlej, Bhakra Dehar and Beas power projects were constructed. - The BBMB controls these projects, and the expenditure is shared by partner states in the ratio of their shares. - Under the Punjab Reorganisation Act 1966, the share from BBMB was divided between Punjab and Haryana in the ration of 58:42, with some share to Rajasthan and Himachal Pradesh subsequently added. - Primarily, Punjab and Haryana are the two major beneficiaries, and Punjab has the larger share.
Ethnocentrism	- Ethnocentrism broadly refers to ethnic self-centredness and self-importance. - This attitude could lead an individual to believe that their own culture or way of life is the **correct way of living.** - It could also result in **hostility** towards other cultures.

- Ethnocentrism is therefore the tendency to view one's own group, the 'in-group', as the ideal and all other groups as the 'out-groups'.
- The in-group's boundaries are defined by one or more observable characteristics such as language, accent, physical features or religion, indicating common descent.

Definitions
- **Charles Darwin** argued that competition with other groups makes people more cooperative with members of their own group, which further influences group prosperity.
- **Herbert Spencer** argued that societies in general are characterised by **internal amity** (towards members of one's group) and **external enmity** (towards everyone else). Neither of them used the term ethnocentrism, however.
- Developing their ideas, it was the **anthropologist William Sumner** who is first said to have coined the term in 1906 in his book Folkways and also used the concepts 'in-group' and 'out-group'.
- For the geologist and anthropologist William John McGee, ethnocentrism was a particular way of thinking similar to **egocentrism**, but characteristic of ethnic groups.

Why ethnocentrism was considered bad?
- **Curtails Individual Capabilities**: Early anthropologists argued that this feeling of superiority about the in-group curtailed an individual's ability to understand the practices and values of other groups and to trust them.
- **Social Tension:** This feeling could lead to prejudice, dislike, dominance, ethnic conflict, and even war.
- **Political Choices:** Ethnocentrism can also affect consumer choices, voting and may lead to instability of democratic institutions.

Ethnocentrism, attitude & behaviour
- Later theorists argued that ethnocentrism might **simply be preference** for in-groups over out-groups. They said that the segregation of in-groups and out-groups should not necessarily be **attributed to bias.**
- In other words, they argued that you can be indifferent towards out-groups or even like them, but less than one like their in-group.
- One may dislike an out-group, but that attitude might not necessarily translate into some sort of discriminatory behaviour in a given situation.
- Example: Ravi in India prefers to eat food with his hands. Ravi invites his American friend, Robert, to attend his sister's wedding in India. When Robert arrives at the wedding, he is horrified to see everyone eating with their hands instead of using cutlery, as they do mostly in the U.S..Robert's attitude may be conscious or unconscious but his inability to accept this way of eating food as another culture's practice and his tendency to view it as primitive while seeing his own culture as superior or advanced is ethnocentric.

Ethnocentrism & Nationalism
- Ethnocentrism is also quite similar to nationalism.
- All the expressions of ethnocentrism, such as feelings of superiority and even hostility towards out-groups, could be easily attributed to nationalism.
- But while ethnocentrism is at the level of an ethnic group, nationalism is at the level of a national group.
- Nevertheless, it is also important to note that nationalism also assumes certain factors that are not necessary for ethnocentrism.
- National groups are defined by the belongingness to a group that inhabits a national state or aspires to form a national state whereas ethnic groups do not require national

	states to be called ethnic groups, and they may lack a shared public culture or even territory. ● Ethnocentric feelings and attitudes such as preference for a familiar culture and group superiority have been exploited by nationalism. **Connecting the dots** ● Nationalism vs Patriotism ● Hitler's genocide on Jews based on Aryan race superiority
Local job laws that raise constitutional questions	**Context:** The Supreme Court of India will soon hear a petition to remove the stay (imposed by Punjab & Haryana High Court) on the implementation of Haryana State Employment of Local Candidates Act, 2021. ● The act reserves 75% of jobs in the private sector in the State for local residents. ● The Act applies to jobs that pay up to ₹30,000 per month, and employers have to register all such employees on a designated portal. ● The Government may also exempt certain industries by notification, and has so far exempted new start-ups and new IT companies, as well as short-term employment, farm labour, domestic work, and promotions and transfers within the State. **What are the constitutional challenges to this act?** There are at least three important constitutional questions that arise from this Act. **1. Right to Freedom** ● First, Article 19(1)(g) of the Constitution guarantees freedom to carry out any occupation, trade or business. There may be reasonable restrictions "in the interests of the general public". ● This Act, by requiring private businesses to reserve 75% of lower end jobs for locals, encroaches upon their right to carry out any occupation. **2. Article 16** ● Second, the provision of reservation by virtue of domicile or residence may be unconstitutional. Article 16 of the Constitution specifically provides for equality of opportunity for all citizens in public employment. ● Article 16 prohibits discrimination on several grounds including place of birth and residence. However, it permits Parliament to make law that requires residence within a State for appointment to a public office. ● This enabling provision is for public employment and **not for private sector jobs**. And the law needs to be made by Parliament, and not by a State legislature. **3. Quantum of Reservation** ● The third question is whether 75% reservation is permitted. ● In the **Indra Sawhney case in 1992**, the Supreme Court capped reservations in public services at 50%. ● It however said that there may be extraordinary situations which may need a relaxation in this rule. It also specified that "in doing so, extreme caution is to be exercised and a special case made out". ● Therefore, the onus is on the State to make a special case of exceptional circumstances, for the 50% upper limit on reservations to be relaxed. ● The Maharashra Act, which provided reservations for Marathas was struck down by the Supreme Court in May 2021 on grounds of breaching the 50% limit. ● One may contend that any reservation requirement imposed on the private sector should not be higher than the limits on the public sector. **What are the other criticisms of the Haryana Job Reservation Act?**

- **Affects Equality:** The Haryana Act does not further "caste rule" as it is for all residents of the State irrespective of caste but it breaches the notion of equality of all citizens of India.
- **Widen Inequality across States:** Other than potentially increasing costs for companies, there may also be an increase in income inequality across States as citizens of poorer States with fewer job opportunities are trapped within their States.
- **Idea of Nation**: Over the last three years, three States have enacted laws that limit employment for citizens from outside the State. These laws raise questions on the conception of India as a nation.
    - The Constitution conceptualises India as one nation with all citizens having equal rights to live, travel and work anywhere in the country. These State laws go against this vision by restricting the right of out-of-State citizens to find employment in the State.

Conclusion

The courts, while looking at the narrow questions of whether these laws violate fundamental rights, should also examine whether they breach the basic structure of the Constitution that views India as one nation which is a union of States, and not as a conglomeration of independent States.

Connecting the dots
- Andhra Pradesh Locals First Policy
- Madhya Pradesh domicile based quota
- Reservation is not a fundamental right

ECONOMY

Reverse repo normalization	**Context:** In a recent report, State Bank of India has stated that the stage is set for a reverse repo normalization. **What is monetary policy normalization in India?** • The Reserve Bank of India, keeps tweaking the total amount of money in the economy to ensure smooth functioning. • As such, when the RBI wants to boost economic activity it adopts a so-called "loose monetary policy". • There are two parts to such a policy i.e., injecting more money (liquidity) into the economy and RBI also lowers the interest rate it charges banks when it lends money to them; this rate is called the repo rate. • The reverse of a loose monetary policy is a "tight monetary policy" and it involves the RBI raising interest rates and sucking liquidity out of the economy by selling bonds (and taking money out of the system). • When any central bank finds that a loose monetary policy has started becoming counterproductive (for example, when it leads to a higher inflation rate), the central bank "normalizes the policy" by tightening the monetary policy stance. • Under normal circumstances, that is when the economy is growing at a healthy pace, the repo rate becomes the benchmark interest rate in the economy. • However, the reverse repo had become the benchmark rate in India since the start of the Covid pandemic. **What is reverse repo normalization?** • Reverse repo normalization means the reverse repo rates will go up. • Over the past few months, in the face of rising inflation, several central banks across the world have either increased interest rates or signaled that they would do so soon. • In India, too, it is expected that the RBI will raise the repo rate. But before that, it is expected that the RBI will raise the reverse repo rate and reduce the gap between the two rates. • This process of normalization, which is aimed at curbing inflation, will not only reduce excess liquidity but also result in higher interest rates across the board in the Indian economy — thus reducing the demand for money among consumers (since it would make more sense to just keep the money in the bank) and making it costlier for businesses to borrow fresh loans. **Repo vs Reverse repo rate** • Repo rate is the rate at which the Central Bank grants loans to the commercial banks against government securities. • Reverse repo rate is the interest offered by RBI to banks who deposit funds with them.
Prime Minister's Development Initiative for North-East, PM-DevINE	**In News:** A news scheme has been launched in the Union Budget 2022 - Prime Minister's **Development Initiative for North-East, PM-DevINE.** • Will be implemented through the North-Eastern Council • An initial allocation of Rs. 1,500 crore will be made for the new scheme. **Objective:** • It will fund infrastructure, in the spirit of PM GatiShakti, and social development projects based on felt needs of the North-East. • Enable livelihood activities for youth and women, filling the gaps in various sectors. **PM GatiShakti** A Rs. 100 lakh-crore project for developing 'holistic infrastructure' - Will encompass the seven engines for multi-modal connectivity for the states with speedier implementation of development projects through technology to facilitate faster movement of people and goods through Rs 20,000 crore financed by the government to speed up this project

	• To reduce the logistics cost - a transformative approach, driven by roads, railways, ports, airports, mass transport, waterways and logistics infrastructure. All seven engines will pull the economy forward in unison • Unshackle bureaucratic entanglements and end inter-ministerial silos that delay infrastructure projects and drive up costs • Sets sectoral targets to be completed by 2024-25 in areas such as expanding national highways and increasing cargo capacity by the railway and shipping ministries **Significance:** Currently, the logistics cost in India is about 13% of the GDP whereas in other developed countries it is to the extent of 8%. Government is committed to reduce the cost of logistics to ensure • Competitiveness of our manufacturing sector, • Better realisation of prices to farmers • Availability of goods at cheaper prices to consumers
India's maiden project of blending hydrogen	**In news:** Gas Authority of India Limited (GAIL) has commenced India's first-of-its-kind project of mixing hydrogen into natural gas system at Indore, Madhya Pradesh. • This project is to establish the techno-commercial feasibility of blending hydrogen in the CGD network • Marks the stepping stone of India's journey towards a hydrogen-based and carbon-neutral future. • This grey hydrogen would subsequently be replaced by green hydrogen. • Help in creation of a robust standard and regulatory framework in India to cover the aspects of injecting hydrogen into natural gas • This is in line with the growth of a gas-based economy in India and with India's vision of a greener and cleaner environment. As our country is moving forward with ambitious goal of achieving a carbon-neutral and self-reliant future, this project is a significant step in that direction. **Note:** Zero-emission hydrogen is gaining momentum around the world and depending on the source, the hydrogen can be classified into green, blue and grey. **Green hydrogen** • The hydrogen that is obtained by splitting water by electrolysis using electricity from renewable energy sources like solar and wind. • The process helps in the production of only oxygen and hydrogen. • The hydrogen is used and oxygen is vented into the atmosphere with no negative impact. **Blue hydrogen** • Produced from natural gas with a process of steam methane reforming, where natural gas is mixed with very hot steam and a catalyst. • A chemical reaction occurs creating hydrogen and carbon monoxide. • Water is added to that mixture, turning the carbon monoxide into carbon dioxide and more hydrogen. • If the carbon dioxide emissions are then captured and stored underground, the process is considered carbon-neutral, and the resulting hydrogen is called blue hydrogen. **Grey hydrogen** • Made from natural gas reforming like blue hydrogen, but without any efforts to capture carbon dioxide by-products. **What is Hydrogen Blending?** • Hydrogen energy is a viable solution for reducing society's dependence on fossil fuels and decarbonizing a number of energy sectors.

	• One of the measure to phase hydrogen into the energy sector is though natural gas/hydrogen (NG/H2) blending. • As the name would suggest, NG/H2 blending integrates concentrations of hydrogen into existing natural gas pipelines in order to reduce the carbon intensity of the methane. • This blending carries the hydrogen and natural gas mix to the intended location. • The blending of natural gas and hydrogen is currently in its early stages of development.
Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)	**Context:** Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) workers are still waiting for almost Rs. 3,360 crore in pending wage payments. • The largest pending payments are in West Bengal, Uttar Pradesh and Rajasthan. **Key takeaways** • The Centre reduced its budget allocation for the rural jobs scheme by 25%. • If these pending wage and material payment liabilities are carried forward into the next financial year, it will further reduce the amount of money available to pay workers next year. **What is Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)?** • Mahatma Gandhi National Rural Employment Guarantee Act (NREGA) was notified in 2005. • Goal – To improve the livelihood security of people in rural areas. • It is a universal scheme guaranteeing 100 days of wage employment in a year to every rural household that expresses a demand. • It aims to guarantee the 'Right to Work'. • Every registered household receives a Job Card (JC) to track their work completed. • The scheme is implemented by the gram panchayat. • The failure of provision for employment within 15 days of the receipt of a job application will result in the payment of unemployment allowance to the job seekers. • Employment is to be provided within 5 km of an applicant's residence • Employment under MGNREGA is a legal entitlement
Lakadong Turmeric	**Context:** West Jaintia Hills, Meghalaya, witnessed the first-of-its-kind Fly-Off Event to demonstrate the use of novel and innovative Drone technology for payload delivery. • It could serve as a model of solving the 1st mile connectivity issues for Lakadong Turmeric farmers from the hinterland. **Lakadong Turmeric** • Lakadong Turmeric has been identified under The One District, One Product (ODOP) Initiative, as a product with excellent potential for growth and export for West Jaintia Hills. • ODOP also partnered with AGNIi Mission, • AGNIi Mission is one of the nine technology missions under the Prime Minister's Science, Technology and Innovation Advisory Council to identify Indian innovative technologies that can play a transformative role in the end-to-end processing. • Lakadong Turmeric of West Jaintia Hills is one of the world's finest turmeric varieties with the highest curcumin content of 7-9%. • Meghalaya has applied for a Geographical Indication tag for Lakadong turmeric. • India produces 78% of the world's turmeric. **About One District One Product Scheme** • The scheme comes under the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry. • It is aimed at promoting a competitive and staple product from a specific area to push sales and improve the standard of living of the local population. • It is basically a Japanese business development concept. • In India, Uttar Pradesh was the first state to launch the concept in 2018.

Integration of E-MANDIS into E-NAM Platform	**Context:** Since 31st March 2018, 415 new mandis have been integrated on National Agriculture Market (e-NAM) platform.
	• As per the Union Budget Announcement 2020-21, additional 1000 mandis to be integrated with e-NAM platform
	About National Agriculture Market (e-NAM) platform
	• e-NAM was launched in 2016 as a pan-India electronic agricultural marketing/trade portal linking APMCs across the States.
	• It is managed by **Small Farmers' Agribusiness Consortium (SFAC).**
	• **Controlling Ministry:** Ministry of Agriculture and Farmers' Welfare
	• e-NAM provides for contactless remote bidding and mobile-based any time payment for which traders do not need to either visit mandis or banks for the same.
	• Objective of integrating the existing Mandis to "One Nation One Market" for agricultural commodities in India.
	• It networks the existing APMC mandis to create a unified national market for agricultural commodities and has a **vision:**
	    ○ To promote uniformity in agriculture marketing by streamlining procedures across the integrated markets.
	    ○ Removing information asymmetry between buyers and sellers and promoting real time price discovery based on actual demand and supply.

Parvatmala	**Context:** Union Finance Minister while presenting Union Budget for 2022-23 announced National Ropeways Development Programme – "Parvatmala". **Key takeaways** • It will be taken up on PPP mode. • Ropeways will be a preferred ecologically sustainable alternative in place of conventional roads in difficult hilly areas. • The idea is to improve connectivity and convenience for commuters, besides promoting tourism. • This may also cover congested urban areas, where conventional mass transit system is not feasible. • The Finance Minister announced that contracts for 8 ropeway projects for a length of 60 km would be awarded in 2022-23. • **States being covered:** The scheme is being presently started in regions like Uttarakhand, Himachal Pradesh, Manipur, Jammu & Kashmir and the other North Eastern states. **Major Factors Driving Ropeway Infrastructure** • **Economical mode of transportation:** Given that ropeway projects are built in a straight line over a hilly terrain, it also results in lower land acquisition costs. Hence, despite having a higher cost of construction per km than roadways, ropeway projects' construction cost may happen to be economical than roadways. • **Faster mode of transportation:** Owing to the aerial mode of transportation, ropeways have an advantage over roadway projects where ropeways can be built in a straight line, over a hilly terrain. • **Environmentally friendly:** Low dust emissions. Material containers can be designed so as to rule out any soiling of the environment. • **Last mile connectivity:** Ropeway projects adopting 3S (a kind of cable car system) or equivalent technologies can transport 6000-8000 passengers per hour.
Monetary Policy Committee	**Context:** The Reserve Bank of India maintained status quo in policy rates as the Monetary Policy Committee (MPC) voted unanimously to keep the policy repo rate at 4% to keep the stance accommodative. **Key takeaways** • Marginal Standing Facility (MSF) rate and bank rate will remain unchanged at 4.25%. • Reverse repo rate will also remain unchanged at 3.35%.

- GDP Projection: Real GDP growth for 2022-23 was projected at 7.8%.
- Accommodative Stance: It decided to continue with an accommodative stance as long as necessary to revive and sustain growth and continue to mitigate the impact of Covid-19 on the economy, while ensuring that inflation remains within the target going forward.
    - An accommodative stance means a central bank will cut rates to inject money into the financial system whenever needed

Key Terms
- **Repo rate** is the rate at which the central bank of a country (RBI in case of India) lends money to commercial banks in the event of any shortfall of funds. Here, the central bank purchases the security.
- **Reverse repo rate** is the rate at which the RBI borrows money from commercial banks within the country.
- **Bank Rate:** It is the rate charged by the RBI for lending funds to commercial banks.
- **Marginal Standing Facility (MSF):** MSF is a window for scheduled banks to borrow overnight from the RBI in an emergency situation when interbank liquidity dries up completely.

What is Monetary Policy Committee?
- **Urjit Patel committee** in 2014 recommended the establishment of the Monetary Policy Committee.
- It is a statutory and institutionalized framework under the Reserve Bank of India Act, 1934, for maintaining price stability, while keeping in mind the objective of growth.
- **Composition:** Six members (including the Chairman) – three officials of the RBI and three external members nominated by the Government of India.
    - The Governor of RBI is ex-officio Chairman of the committee
- **Functions:** The MPC determines the policy interest rate (repo rate) required to achieve the inflation target (presently 4%). Decisions are taken by majority with the RBI Governor having the casting vote in case of a tie.

SMILE: Support for Marginalised Individuals for Livelihood and Enterprise	**In News:** SMILE is being launched for the Welfare of Transgender community and the Beggars **By:** The Department of Social Justice & Empowerment - Designed to provide welfare measures to the Transgender community and the people engaged in the act of begging. **Under this includes two sub-schemes –** - Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons - Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging - The scheme strengthens and expands the reach of the Rights that give the targeted group the necessary legal protection and a promise to a secured life. - It keeps in mind the social security that is needed through multiple dimensions of identity, medical care, education, occupational opportunities and shelter. - The Ministry has allocated Rs. 365 Crore for the scheme from 2021-22 to 2025-26. - Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons - **Scholarships for Transgender Students:** Scholarships for students studying in IX and till post-graduation to enable them to complete their education. - **Skill Development and Livelihood:** Skill Development and Livelihood under PM-DAKSH scheme of the Department - **Composite Medical Health:** A comprehensive package in convergence with PM-JAY supporting Gender-Reaffirmation surgeries through selected hospitals

	Housing in the form of 'GarimaGreh': Shelter Homes 'Garima Greh' where food, clothing, recreational facilities, skill development opportunities, recreational activities, medical support etc. will be provided **Provision of Transgender Protection Cell:** Setting up of Transgender Protection in each state to monitor cases of offences and to ensure timely registration, investigation and prosecution of offences. - E-Services (National Portal & Helpline and Advertisement) and other Welfare Measures - Comprehensive Rehabilitation of persons engaged in the act of Begging **Survey and identification:** Survey and Identification of beneficiaries shall be carried out by the Implementing Agencies. **Mobilisation:** Outreach work will be done to mobilise the persons engaged in begging to avail the services available in the Shelter Homes. **Rescue/ Shelter Home:** The shelter homes will facilitate education for children engaged in the act of Begging and children of persons engaged in the act of Begging. **Comprehensive resettlement.** - Skill development/vocational training will be provided to attain capacity, capability and desirability so that they can sustain and live a life of dignity by engaging in self-employment. - Pilot projects initiated on Comprehensive Rehabilitation in ten cities namely Delhi, Bangalore, Chennai, Hyderabad, Indore, Lucknow, Mumbai, Nagpur, Patna and Ahmedabad.
Draft Red Herring Prospectus (DRHP)	**Context:** The Union government has filed a draft red herring prospectus with the SEBI for selling 5% of its shares in the Life Insurance Corporation (LIC) of India. **Key takeaways** - A Draft Red Herring Prospectus (DRHP) is a document that is prepared to introduce a new business or product to a potential investor. - This is not a final document for an investor. - It is a way of demonstrating value and providing investors with enough information for them to decide whether they want to invest in the company or not. - SEBI is required to assess the facts stated in the DRHP and recommend changes if required, before giving the share sale a green signal. **The Securities and Exchange Board of India (SEBI)** - It is the regulator of the securities and commodity market in India owned by the Government of India. - It was established in 1988 and given statutory status through the SEBI Act, 1992. - SEBI is responsible to the needs of three groups: - Issuers of securities - Investors - Market intermediaries **Functions:** - Quasi-legislative – drafts regulations - Quasi-judicial – passes rulings and orders - Quasi-executive – conducts investigation and enforcement action **Powers:** - To approve by–laws of Securities exchanges. - To require the Securities exchange to amend their by–laws. - Inspect the books of accounts and call for periodical returns from recognised Securities exchanges. - Inspect the books of accounts of financial intermediaries. - Compel certain companies to list their shares in one or more Securities exchanges.

	o Registration of Brokers and sub-brokers

Initial Public Offering (IPO)	**Context:** In order to replenish the public money box that has been drained out by the Covid-19 pandemic, India is planning one of the biggest initial public offering (IPO) listings ever.
	• On 13 February, the state-run Life Insurance Corporation of India (LIC) filed its draft red herring prospectus with capital markets regulator SEBI.
	• According to the filing, the government, which owns 100 percent stake in the company, is offering 31.62 crore equity shares or a 5 percent stake in the IPO.
	About IPO
	• An initial public offering or stock launch is a public offering in which shares of a company are sold to institutional investors and usually also retail investors.
	• An IPO is typically underwritten by one or more investment banks, who also arrange for the shares to be listed on one or more stock exchanges
	Which companies can come out with an IPO?
	• In order to protect investors, Sebi has laid down rules that require companies to meet certain criteria before they can go to the public to raise funds.
	• Among other conditions, the company must have
	    o net tangible assets of at least Rs 3 crore,
	    o net worth of Rs 1 crore in each of the preceding three full years,
	    o must have a minimum average pre-tax profit of Rs 15 crore in at least three of the immediately preceding five years.
	What are the advantages of listing a company?
	• It may help a company raise capital, diversify and broaden its shareholder base.
	• Listing provides an exit to existing investors of the company.
	• A listed company can raise share capital for growth and expansion in the future through a follow-on public offering or FPO.

4th India – Australia Energy Dialogue	**Discussion Points:**
	• The ongoing Energy Transition activities in their respective countries with focus on renewables, energy efficiency, storage, EVs, critical minerals, mining etc.
	• Need of Climate Finance was also highlighted by India for meeting the Energy Transition goals of developing countries.
	A Letter of Intent between India and Australia on New and Renewable Energy Technology was signed during the Dialogue.
	• Pave the way for working towards reducing the cost of new and renewable energy technologies
	• Scaling up deployment in order to accelerate global emissions reduction.
	• Focus of this LoI: Scaling up manufacture and deployment of ultra-low-cost solar and clean hydrogen.
	Other areas of cooperation:
	• There is an urgent need to focus on advancing technology and clean energy transition. Energy efficiency technologies
	    o Grid management
	    o R&D collaboration on flue gas desulphurisation, biomass or hydrogen co-firing
	    o Water cycle optimization
	    o enewables integration
	    o Batteries
	    o Electric mobility
	• Apart from the power sector, there are many desirable areas of cooperation agreed under
	    o Reducing costs of Green Hydrogen
	    o Cooperation in sphere of coal-based energy security and resource deployment
	    o Investment opportunities in the minerals sector
	    o Exploring potential for an LNG Partnership

India's first water taxi service inaugurated in Maharashtra	**Context:** India's first water taxi service was inaugurated in Maharashtra which connects the Navi Mumbai area to mainland Mumbai. **Key takeaways** • Maharashtra's Chief Minister inaugurated the Belapur jetty while Union Minister for Ports, Shipping and Waterways. • The Rs. 8.37-crore project will presently operate on three routes and the State and the Centre have shared the expenditure. • The three routes include Belapur to Ferry Wharf – the domestic cruise terminal, Belapur to Elephanta Caves and Belapur to JNPT. • In the initial stage, seven speedboats will run on these routes. • The ease of transport is a key factor for investors to set up businesses in the region. **Do you know?** • India's first train ran between Mumbai and Thane and it expanded throughout the country gradually.
Draft 'India Data Accessibility and Use Policy '	**Context:** The IT ministry has come out with a draft policy that proposes a framework for government-to-government data sharing. • It also plans that all data for every government department or organisation shall be open and shareable by default, with riders. • The draft 'India Data Accessibility and Use Policy' circulated for public consultation will be applicable to all data and information created, generated and collected by the government directly or through ministries, departments and authorised agencies. • The policy aims to 'radically transform' India's ability to harness public sector data.

Security Printing and Minting Corporation of India Ltd. (SPMCIL)	**Context:** The Delhi headquarters of the Security Printing and Minting Corporation of India Ltd. (SPMCIL) has been declared a "prohibited place" under the Section 2 of the Official Secrets Act, 1923 by the Union Home Ministry "to prevent the entry of unauthorised persons".
	Key takeaways
	• The Security Printing & Minting Corporation of India Ltd. (SPMCIL) is a government printing and minting agency.
	• It is under the jurisdiction of Ministry of Finance.
	• It was incorporated in 2006 with its registered office at New Delhi.
	• **Role:** It is engaged in the manufacture and production of:
	    o currency and bank notes
	    o security paper
	    o non-judicial stamp papers, postal stamps
	    o stationery
	• passport and visa stickers, security inks, circulation, commemorative coins and others.
	    o **The nine production units of the SPMCIL**, where banknotes and other government papers are manufactured, are already prohibited places.
	• The nine production units are: four India Government Mints, two Currency Note Presses, two Security Printing Presses and one Security Paper Mill located in Mumbai, Kolkata, Hyderabad, Noida, Nashik, Dewas and Narmadapuram.

Budget: Critical Analysis of Fiscal Consolidation	**Context**: The Union Budget for FY23 has projected a fiscal deficit of 6.4% of nominal GDP, a narrowing from the 6.9% assumed in the revised estimates of FY22. • Finance Minister said the move was consistent with the broad path of fiscal consolidation announced in 2021 in order to reach a **fiscal deficit level below 4.5% by 2025-26.** **What was the economic context to this year's Budget formulation?** • **Sharper reduction in Labour Incomes:** Though every economic crisis involves sharp reduction in output growth rate, the uniqueness of the present crisis in India lies in the sharper reduction in labour income as compared to profits.

- **Low Consumption:** The consequent reduction in income share of labour was associated with fall in consumption-GDP ratio as well as absolute value of consumption expenditure during the pandemic.
  - While the GDP in 2021-22 is estimated to attain the pre-pandemic level, real consumption expenditure remains to be lower as compared to 2019-20.
- **Pre-Pandemic Slowdown:** The slowdown during the pandemic was itself preceded by what turned out to be the longest episode of growth slowdown in the Indian economy since the liberalisation period.

What were the broad challenges with the budget 2022?
- The first challenge is specific to the pandemic and pertained to the need of undertaking policies that boosts labour income and consumption expenditure.
- The second challenge pertained to addressing the structural constraints of the Indian economy that restricted growth even during the pre-pandemic period.

Some Budget figures at a glance

1 SHARE OF EXPENDITURE, RECEIPTS AND DEFICIT TARGETS IN GDP (%)

Legend: 2020-21, 2021-22 RE, 2022-23 BE

	2020-21	2021-22 RE	2022-23 BE
Total expenditures	17.8	16.2	15.3
Capital expenditure	2.2	2.6	2.9
Revenue expenditure	15.6	13.6	12.4
Revenue and non-debt receipts	8.6	9.4	8.9
Fiscal deficit	9.2	6.9	6.4

2 ALLOCATION IN ₹ CRORE

Legend: 2021-22 RE, 2022-23 BE

	2021-22 RE	2022-23 BE
Social services	2,32,328	2,26,537
Medical and public health	74,820	46,549
Rural development	1,00,866	77,023
Agriculture and allied	4,83,777	3,74,632
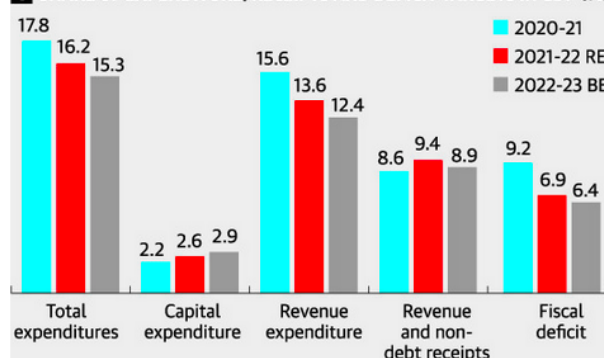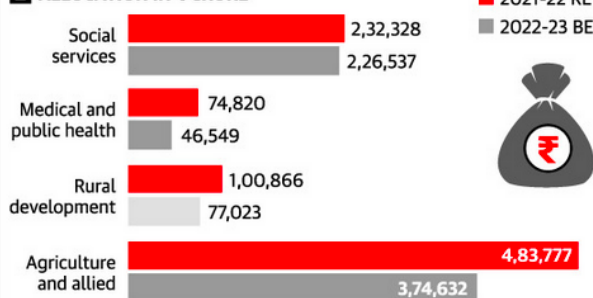
SOURCE: ANNUAL FINANCIAL STATEMENTS

3 SHARE OF CORPORATE TAX CONCESSION AND CORPORATION TAX IN GDP (%)

Legend: Corporate tax, Corporate tax concession

Corporate tax values: 3.5 (2013-14), 3.4, 3.3, 3.2, 3.3, 3.5, 2.7, 2.3, 2.7 (2021-22 RE), 2.8 (2022-23 BE)

SOURCE: RECEIPT BUDGET OF VARIOUS YEAR

4 SHARE OF CENTRE DEVELOPMENT EXPENDITURE IN GDP (%)

Years: 2008-09, 2011-12, 2014-15, 2017-18, 2020-21, 2022-23
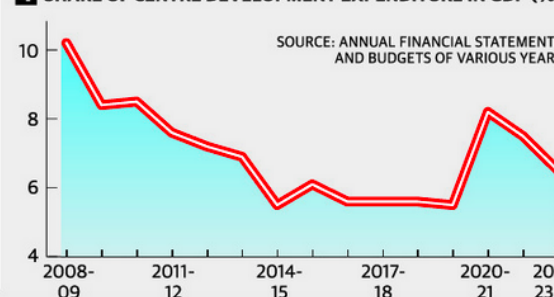
SOURCE: ANNUAL FINANCIAL STATEMENT AND BUDGETS OF VARIOUS YEAR

How has the Budget fared in this backdrop and what are the key shortcomings?
Continuing with the objective of **fiscal consolidation,** the Budget falls short of addressing both the above said challenges. There are three distinct features of this fiscal consolidation process.

1. Revenue Expenditure Cut Down as path for Fiscal Consolidation
- Firstly, while share of revenue and non-debt receipts in GDP has remained more or less unchanged, the objective of fiscal consolidation has been sought to be achieved primarily by reducing the expenditure-GDP ratio (see figure 1).
- The brunt of this expenditure compression fell on revenue expenditure.
- The allocation of capital expenditure as a share of GDP has been marginally increased in 2022-23 as compared to 2021-22. Additional capital expenditure could be financed either by postponing fiscal consolidation process or by increasing revenue.
- However, the budget has sought to increase capital expenditure and achieve fiscal consolidation by reducing the allocation for revenue expenditure-GDP ratio.

2. Labour Income not given boost
- Secondly, since the bulk of the revenue expenditure comprises of expenses in social and economic services like subsidies, reduction in the allocation for revenue expenditure has adversely affected the income and livelihood of labour (see figure 2).
- For example, allocation for both agriculture and allied activities and rural development registered a sharp decline in nominal absolute terms in 2022-23 as compared to 2021-22.

3. Increased Tax Concessions
- Thirdly, despite sharp increase in profits during the pandemic, the corporate tax-GDP ratio has continued to remain below the 2018-19 level due to tax concessions.
- The last decade registered a sharp rise in the share of corporate tax concessions in GDP, which reached its peak at 3.9% by 2020-21 (see figure 3).
- As a result, corporate tax-GDP ratio registered a decline particularly since 2018-19 when corporate tax-ratio declined sharply from 3.5% to 2.7%.
- Despite the objective of fiscal consolidation, the **corporate tax ratio continues to remain low** and **restrict revenue receipts.**

What are the implications for development spending?
- The objective of **fiscal consolidation** along with the **inability to increase revenue receipts** has posed a constraint on development expenditure.
- With non-development expenditure comprising of interest payments, administrative expenditure and various other components, the brunt of expenditure compression has fallen on development expenditure.
- Figure 4 shows the trend in **share of centre's development expenditure** (development expenditure is calculated as the sum of expenditures on social services and economic services) in GDP since 2008-09.
- While the decade of 2010s was characterised by different governments meeting fiscal targets by adjusting their expenditure, it registered a sharp **decline in the development expenditure ratio** till the advent of the pandemic in 2019-20.
- The **fiscal stimulus** implemented in the first year of the pandemic brought about a brief recovery in 2020-21.
- The fiscal consolidation strategy carried out in the last years has once again led the development expenditure ratio to slide downward.
- The reduction in the allocation for development expenditure ratio for 2022-23 reflects reduction in the allocation for food subsidies, national rural employment guarantee program, expenditure in agriculture, rural development and social sector.
- The reduction in the allocation for development expenditure would have **adverse impact on labour income and consumption expenditure.**
- The positive impact of higher capital expenditure on the recovery process would be largely curtailed by the adverse impact of more than proportionate fall in revenue expenditure.

What are the prospects of export-led growth?
- Given the fiscal consolidation strategy of the Government, the prospect and extent of economic revival at the present remains heavily dependent on external demand.
- Despite the limited recovery in exports in the last few quarters, the possibility of sustained economic recovery relying exclusively on the export channel appears to be bleak at the present as different countries have already started pursuing fiscal consolidation.

Conclusion

	● What the Indian economy lacks at the moment is an effective policy instrument that can boost labour income and aggregate demand.
	Can you attempt this? Analyse the relevance of FRBM Act for a developing economy like India. Also elaborate on the recommendations of the N K Singh panel in this regard
Union Budget 2022-23: Agriculture sees little cause for cheer	**Context:** Union Budget 2022-23 released February 1, saw limited focus on the agriculture sector and related policies. **What did the Budget say?** ● The overall allocation increased by a meagre 4.4 per cent for the year, even as important schemes for crop insurance and minimum support price (MSP) saw a drastic slashing of funds. ● The Budget speech saw no mention of the Union government's ambitious plan to double farm incomes, which reaches its deadline this year (2022). ● The overall allocation for the sector increased marginally to Rs 132,513.62 crore in 2022-23, from the 2021-22 revised estimates (RE) of Rs 126,807.86 crore. ● However, the Market Intervention Scheme and Price Support Scheme (MIS-PSS) was allocated Rs 1,500 crore, 62 per cent less than Rs 3,959.61 crore in revised estimates (RE) of FY 2021-22. ● The **Pradhan Mantri-Annadata Aya Sanrakshan Abhiyan (PM-AASHA)** saw an even deeper cut. It was allocated just Rs 1 crore for the year as against an expenditure of Rs 400 crore in 2021-22. Both schemes ensure MSP-based procurement operations in the country, especially for pulses and oilseeds. **Cut in the Pradhan Mantri-Annadata Aya Sanrakshan Abhiyan (PM-AASHA)** ● The reductions come at a time when an **assured MSP** continues to be **one of the key demands** of farm unions that ended their year-long protest against the Union government's three agricultural laws related to marketing reforms and stocking of essential commodities. The protest ended on the Centre's assurance that a committee on MSP would be established. ● Either the government is anticipating that prices of pulses and oilseeds will remain expensive (due to the ongoing food inflation) in 2022-23 and will not be sold at MSP ● The other reason could be that it is looking to wind up the scheme — an indication that is not faring well. But the low allocation is questionable on the grounds that the government has been saying that it will procure under MSP and talking about nutrition security. **Cut in the food and nutritionál security** ● The Budget document mentions an aim to provide special emphasis on pulses and nutri cereals, beyond 2021-22, to achieve self-sufficiency in these crops along with nutritional security. ● However, even allocation under food and nutritionál security has come down to Rs 1,395 crore from Rs 1,540 crore in RE 2021-22. ● The 'Distribution of Pulses to state / Union territories for Welfare Schemes' that aims to dispose pulses procured for utilisation under midday meals, public distribution system, among others, saw an allocation of just Rs 9 crore. ● The 2021-22 budget estimate for the same was Rs 300 crore but actual expenditure was Rs 50 crore. This shows that the government is not anticipating procurement and distribution of pulses at MSP. ● 16.3 million farmers benefited from 120.8 million tonnes of paddy and wheat procurement at MSP in 2021-22. This is a reduction from the 19.7 million farmers that benefited from procurement of 128.6 million tonnes in 2021.

- The Rs 2.37 lakh made in direct payments for the procurement is also less than the Rs 2.48 lakh crore made in 2020-21.

Other Cuts
- Allocation for Pradhan Mantri Fasal Bima Yojana (PMFBY) or crop insurance scheme was also reduced marginally to Rs 15,500 crore for this year from Rs 15,989 crore in 2021-22. This is significant in the backdrop of a gradual fall in the number of farmers under the scheme as they do not find it useful.
- Allocation to the Agriculture Infrastructure Fund (AIF) increased to Rs 500 crore in 2022-23 from Rs 200 crore in RE for 2021-22. It was, however, Rs 900 crore in last year's budget estimate.
    - The Rs 1 lakh crore AIF was announced in May 2020 as part of the Atmanirbhar Bharat Abhiyan and was meant for spending over the subsequent six years. However, experts said its dismal expenditure indicated poor implementation.

Bright Spot: Rashtriya Krishi Vikas Yojana (RKVY) & PM-KISAN
- The programme has been restructured to include schemes like:
    - Pradhan Mantri Krishi Sinchai Yojna-Per Drop More Crop
    - Paramparagat Krishi Vikas Yojna
    - National Project on Soil and Health Fertility
    - Rainfed Area Development and Climate Change
    - Sub-Mission on Agriculture Mechanization including Management of Crop Residue
- These schemes were earlier a part of the Green Revolution programme. This scheme has been running since 2007-08 and allocations had reduced over the years. But the government has **resurrected** it in this budget, which is a welcome step. The scheme will give more autonomy to states and they can prioritise their spending under this.
- **Allocation under PM-KISAN**, which provides income support by way of cash benefit to all land holding farmers, has also increased marginally to Rs 68,000 crore from Rs 67,500 crore last year.

Can you answer the following questions?
1. Does agriculture see little cause for cheer in this year's budget? Discuss

Fly Ash Management and Utilization Mission	**Context:** The National Green Tribunal (NGT) has directed the constitution of a 'Fly Ash Management and Utilization Mission' in its recent order.
	 About the mission
	 • Its goal will be to coordinate and monitor issues relating to the handling and disposal of fly ash.
	 • The Mission is to be jointly headed by the secretaries of the Union Ministry of Environment, Forest & Climate Change (MoEF&CC), Union Ministry of Coal and Power and the chief secretaries of Uttar Pradesh and Madhya Pradesh.
	 • The secretary of MoEF&CC will be the nodal agency for coordination and compliance.
	 • The Mission may also monitor scientific management and utilization of fly ash by power projects outside Singrauli and Sonbhadra, in coordination with chief secretaries of concerned states.
	 • The Mission also extends the responsibility of fly ash management to the chief secretaries of the states.
	 What is Fly Ash?
	 • Fly Ash is a byproduct from burning of coal in the thermal power generation.
	 • It is called fly ash because it is transported from the combustion chamber by exhaust gases.
	 • Composition: silicon dioxide (SiO_2), aluminium oxide (Al_2O_3), ferric oxide (Fe_2O_3) and calcium oxide (CaO).
	 • Uses: In concrete and cement products, road base, metal recovery, and mineral filler among others.
	 • Harmful Effects:
	    o Toxic air pollutants which can trigger heart disease, cancer, respiratory diseases and stroke.
	    o When combined with water they cause leaching of heavy metals in ground water.
	    o Affects the root development system of trees.
	 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.

New genus of parasitic flowering plant	**Context:** A new genus of a parasitic flowering plant has recently been discovered from the Nicobar group of islands. **About new genus of the plant** • The genus Septemeranthus grows on the plant species Horsfieldia glabra (Blume) Warb. • The genus belongs to the family Loranthaceae, a hemi-parasite under the sandalwood order Santalales and is of widespread importance. • The parasitic flowering plants have a modified root structure spread on the stem of the tree and are anchored inside the bark of the host tree. • It derives nutrients from its hosts has green leaves capable of photosynthesis. • The new genus is endemic only to the Nicobar group of islands.

India's Stand at COP-26	**In news:** The Government of India has articulated and put across the concerns of developing countries at the 26th session of the Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Glasgow, United Kingdom. Further, India presented the following five nectar elements (Panchamrit) of India's climate action: 1. Reach 500GWNon-fossil energy capacity by 2030. 2. 50 per cent of its energy requirements from renewable energy by 2030. 3. Reduction of total projected carbon emissions by one billion tonnes from now to 2030. 4. Reduction of the carbon intensity of the economy by 45 per cent by 2030, over 2005 levels. 5. Achieving the target of net zero emissions by 2070. **Key Points:** • The transfer of climate finance and low-cost climate technologies have become more important for implementation of climate actions by the developing countries. • The ambitions on climate finance by developed countries cannot remain the same as they were at the time of Paris Agreement in 2015. • Just as the UNFCCC tracks the progress made in climate mitigation, it should also track climate finance. • India understands the suffering of all other developing countries, shares them, and hence raises the voice of developing countries. • The mantra of LIFE- Lifestyle for Environment to combat climate change was shared: Lifestyle for Environment has to be taken forward as a campaign to make it a mass movement of Environment Conscious Lifestyles. The message conveyed by India was that the world needs mindful and deliberate utilization, instead of mindless and destructive consumption. • As a part of its overall approach, India emphasized the foundational principles of equity, and common but differentiated responsibilities and respective capabilities. • All countries should have equitable access to the global carbon budget, a finite global resource, for keeping temperature increase within the limits set by the Paris Agreement and all countries must stay within their fair share of this global carbon budget, while using it responsibly. • India also called on the developed countries for climate justice, and for undertaking rapid reductions in emissions during the current decade so as to reach net zero much earlier than their announced dates, as they have used more than their fair share of the depleting global carbon budget. • Many nations in the World have applauded the five nectar elements (Panchamrit) of India's climate action.
Introduction of Cheetah in India	**Context:** Government of India is in the process of holding consultation meeting with African countries for bringing Cheetah. • Rs. 38.70 crore under the ongoing Centrally Sponsored Scheme of Project Tiger has been allocated to the cheetah introduction project for the years 2021-22 to 2025-26. • About 12-14 wild cheetahs (8-10 males and 4-6 females) that are ideal for establishing a new cheetah population would be imported as required from South Africa/Namibia/Other African Countries, as a founder stock for five years initially and then as may be required by the action plan. **About Cheetahs** • The cheetah is one of the oldest of the big cat species, with ancestors that can be traced back more than five million years to the Miocene era. • The cheetah is also the world's fastest land mammal that lives in Africa and Asia. • Cheetah is the only large carnivore to **have become extinct in Independent India.** • Cheetah has been an integral part of Indian ecosystems, a major evolutionary force, and an important cultural heritage.

	- Their restoration will likely result in better conservation of open forest, grassland, and scrub ecosystems for which they will serve as a flagship species. **IUCN status:** - African Cheetah: Vulnerable - Asiatic Cheetah: Critically Endangered.
Conserving Marine Resources	Government of India has undertaken several initiatives focusing on the conservation of coastal and marine resources through implementation of law and continuous monitoring. - The Wild Life Protection Act of India (1972) provides legal protection to many marine animals. There are total of 31 major Marine Protected Areas in India covering coastal areas that have been notified under Wildlife Protection Act, 1972. - The **National Committee on mangroves, wetlands and coral reefs** constituted in 1993 advice the Government on relevant policies and programmes regarding marine species. - The **Coastal Regulation Zone (CRZ)** notification (1991 and later versions) prohibit developmental activities and disposal of wastes in the fragile coastal ecosystems. - The **Biological Diversity Act of India, 2002** and the Biological Diversity Rules 2004, and the guidelines thereof advise the Government on matters related to the protection and conservation of biodiversity, sustainable use and equitable sharing of its components, Intellectual Property Rights, etc. **Pradhan Mantri Matsya Sampada Yojana (PMMSY):** for sustainable and responsible development of fisheries sector in India. Two of the key objectives of the scheme are (a) harnessing of fisheries potential in a sustainable, responsible, inclusive and equitable manner and (b) Robust fisheries management and regulatory framework. - The **Centre for Marine Living Resources and Ecology (CMLRE),** an attached office of Ministry of Earth Sciences (MoES) is mandated with the management strategies development for marine living resources through ecosystem monitoring and modelling activities. **Involvement of local communities** is often seen as an integral part of preserving the marine resources. CMLRE is implementing a national R&D programme on Marine Living Resources (MLR) with an inbuilt component on Societal Services to support the fisher folks of Lakshadweep Islands. The societal services initiative intends to enhance the ornamental and baitfish stocks in the wild. Under the program, CMLRE has organised a series of hands on trainings on "Marine ornamental fish breeding and rearing at Lakshadweep Islands". - Under the **Pradhan Mantri Matsya Sampada Yojana (PMMSY)** scheme of Department of Fisheries, there are provisions for encouraging sustainable marine fisheries activities, development of fisheries management plans, development of Integrated Modern Coastal Fishing Villages, promotion of Sagar Mitra, installation of bio-toilets in fishing vessels, communication and tracking devices, livelihood support during fish ban period to fisher families etc. for conservation of fisheries resources. **Note: Marine Protected Areas (MPAs)** *An MPA is a marine protected area that provides protection for all or part of its natural resources.* *Certain activities within an MPA are limited or prohibited to meet specific conservation, habitat protection, ecosystem monitoring, or fisheries management objectives.*
One Ocean Summit	**Context:** Indian Prime Minister will address the high-level segment of One Ocean Summit. **Key takeaways** - The Summit will also be addressed by several Heads of States and Governments including Germany, United Kingdom, South Korea, Japan and Canada among others. - One Ocean Summit is being organised by France from 9th to 11th February in Brest, in cooperation with the **United Nations** and the **World Bank.**

	- **Objective:** To mobilise the international community to take tangible action towards preserving and supporting healthy and sustainable ocean ecosystems
	- The goal of the One Ocean Summit is to raise the collective level of ambition of the international community on marine issues and to translate our shared responsibility to the ocean into tangible commitments
	    ○ **Commitments** will be made towards combating illegal fishing, decarbonising shipping and reducing plastic pollution
	    ○ Will also focus on efforts to improve governance of the high seas and coordinating international scientific research.

Warming in high altitude Himalayas	**In News:** A recent study has shown that water vapour exhibits a positive radiative effect at the top of the atmosphere (TOA), suggesting an increase in overall warming in the High Altitude Himalayas due to it. - The precipitable water vapor (PWV) is one of the most rapidly varying components in the atmosphere and is mainly accumulated in the lower troposphere. - Due to the large variability in space and time, mixing processes and contribution to a series of heterogeneous chemical reactions, as well as sparse measurement networks, especially in the Himalayan region, it is difficult to accurately quantify the climatic impact of PWV over space and time. - Moreover, aerosol-cloud-precipitation interactions over this region, which are one of the most climatic-sensitive regions, are poorly understood, apparently due to a lack of proper observational data. The researchers assessed the combination of aerosols and water vapour radiative effects over the Himalayan range that is specifically important for regional climate and highlighted the importance of water vapour as a key greenhouse gas and climate forcing agent over the Himalayan region.

Riverbed sand mining	**Context:** Environment clearance issued to as many as 60 mining areas has paved the way for legal mining of bajri (riverbed sand) in Rajasthan.
	- The Supreme Court had banned the sand mining activities four years ago in riverbeds until a scientific replenishment study was completed.
	- The apex court later appointed a Central Empowered Committee (CEC) to look into the issue of illegal sand mining.
	Recommendations:
	issue environmental clearance to all valid holders of letters of intent, as suggested by the Expert Appraisal Committee, within three months and
	do not insist on submission of the scientific replenishment report as a precondition.
	The replenishment study could be undertaken during the course of mining.
	The Supreme Court accepted the CEC's recommendations permitting riverbed sand mining to be conducted after obtaining all statutory clearances and payment of applicable taxes.
	What is riverbed sand mining?
	- Sand mining is the extraction of sand, mainly through an open pit but sometimes mined from beaches and inland dunes or dredged from ocean and river beds.
	- **Uses:**
	    ○ Sand is often used in manufacturing as an abrasive or in concrete.
	    ○ Sand mining helps in extracting rutile, ilmenite, and zircon, which contain the industrially useful elements titanium and zirconium.
	- **Ill-effects:**
	    ○ Sand mining is a direct cause of erosion, and impacts the local wildlife.
	    ○ Various animals depend on sandy beaches for nesting clutches, and mining has led to the near extinction of gharials in India.
	    ○ Disturbance of underwater and coastal sand causes turbidity in the water, which is harmful for organisms like coral that need sunlight.
	    ○ It can also destroy fisheries, financially harming their operators.

Koalas	**Context:** Recently, Australia has classified Koalas as 'endangered' after widespread bushfires, drought and land clearing destroyed much of their eucalyptus-rich habitat.
	
	About Koalas
	• A koala or koala bear is an arboreal herbivorous marsupial native to Australia.
	    o Being marsupials, koalas give birth to underdeveloped young that crawl into their mothers' pouches, where they stay for the first six to seven months of their lives.
	• It is easily recognisable by its stout, tailless body.
	• According to fossil records, Koala species have inhabited parts of Australia for at least 25 million years.
	    o But today, only one species remains i.e., the Phascolarctos cinereus.
	• They were classified as "vulnerable" only in 2012.
	• They inhabit open Eucalyptus woodland, the leaves of these trees make up most of their diet.
	• Another major threat to Koala population is the spread of chlamydia, a sexually transmitted disease known to cause blindness and cysts in the koalas reproductive tract.

Solar waste handling policy	**Context:** The International Renewable Energy Agency (IRENA) has estimated that the global photovoltaic waste will touch 78 million tonnes by 2050. • India is expected to be one of the top five generators of such waste. **Key takeaways** • While India is increasing its solar power capacity, it does not yet have a firm policy on managing waste that results from used solar panels or from the manufacturing process. • India currently considers solar waste a part of electronic waste and does not account for it separately. • Also, There is no commercial raw material recovery facility for solar e-waste operational in India. • But a pilot facility for solar panel recycling and material recovery had been set up by a private company in Gummidipoondi in Tamil Nadu. **Solar Energy in India** • India has set a target of producing 100 GW of solar energy by 2022. • India's Intended Nationally Determined Contributions (INDC's) commitment includes 100 GW of solar power out of 175 GW of renewable energy by 2022. • **Ministry of New and Renewable Energy** is the nodal agency to tackle India's renewable energy issues. • **National Solar Mission** aims to establish India as a global leader in solar energy by creating the policy conditions for its deployment across the country. • **Rooftop Solar Scheme:** To generate solar power by installing solar panels on the roof of the houses • **Production-linked Incentive (PLI)** scheme to promote manufacturing of high efficiency solar PV modules in India. • International Solar Alliance (ISA): Launched by the Indian Prime Minister and the French President in 2015 with a vision to enable One World, One Sun, One Grid (OSOWOG). o One Sun, One World, One Grid (OSOWOG): A framework for facilitating global cooperation, building a global ecosystem of interconnected renewable energy resources (mainly solar energy) that can be smoothly shared. **Do you know?** • The cumulative capacity of grid-connected solar photovoltaic (PV) installations is around 40 GW.

	- The capacity of about 35.6 GW is generated from ground-mounted plants and 4.4 GW from rooftop solar. - A gigawatt is a 1,000 megawatt. **Solar Photovoltaic:** Solar photovoltaic (SPV) cells convert solar radiation (sunlight) into electricity. A solar cell is a semi-conducting device made of silicon and/or other materials, which, when exposed to sunlight, generates electricity.
LIFE - LIfestyle for Environment	- LIFE is about making lifestyle choices to improve our planet. - LIFE will be a coalition of like-minded people across the world who will promote sustainable lifestyles – 3Ps - Pro Planet People. - This global movement of Pro Planet People (3-Ps) is the Coalition for LIFE. These three global coalitions will form the trinity of our environment efforts for improving the global commons.
Asia's biggest Bio-CNG plant	**Context:** Indian Prime Minister will virtually inaugurate Asia's largest Bio-CNG plant at Indore in Madhya Pradesh. **Key takeaways** - This Bio CNG plant will be operated from 100% wet waste. - This plant is built on PPP mode, from which Indore Municipal Corporation will get revenue of 2.5 crores per annum. - About 400 buses of Indore can be run daily with the gas generated from the Bio-CNG plant. - Mission directors of Swachch Bharat Mission from about 20 states of the country will also participate in the programme. **Important value addition** - Coal, crude oil and natural gas are all fossil fuels and are used to produce diesel, gasoline, and kerosene. - Fossils fuels formed millions of years ago from the remains of organic matter from dead animals and plants. - As fossil fuel resources are finite and are among the biggest contributors to climate change, it is critical that we meet our energy needs from renewable resources. - India's renewable energy resource potential is significant, with solar, wind, biomass, and small hydropower representing the technologies having the largest potential. - Among all, biomass warrants special attention. - All the living matter present on earth derived from growing plants including algae, trees, and crops or from animal manure is called biomass. **Anaerobic digestion of biomass** is the process in which organic matter, in the absence of oxygen, is mainly transformed into a mixture of methane and carbon dioxide which is usually referred to as biogas. - Biomethane can also be compressed and bottled into cylinders and it is called Bio-Compressed Natural Gas (Bio-CNG) or simply Compressed Bio-Gas (CBG)
Crytodactylus Exercitus	**Context:** A team of herpetologists (someone who specializes in the study of reptiles and amphibians) have recorded a new species of bent-toed gecko from a wooded part of the **Umroi Military Station in Meghalaya.** **Key takeaways** - Its scientific name is Crytodactylus exercitus and English name is Indian Army's bent-toed gecko. - The finding of the study was published in the latest issue of the European Journal of Taxonomy. - The paper recorded another new bent-toed gecko, the Cyrtodactylus siahaensis named after Mizoram's Siaha district where it was found. - India is now home to 40 species of the bent-toed gecko with the northeast accounting for 16 of them. **Do you know?**

	• Cyrtodactylus is a diverse genus of Asian geckos, commonly known as bent-toed geckos, bow-fingered geckos, and forest geckos. • The genus has at least 300 described species as of 2020, which makes it the largest of all gecko genera.

Extended Producers Responsibility on Plastic Packaging	**Context:** Ministry of Environment has notified the Guidelines on Extended Producers Responsibility on plastic packaging under Plastic Waste Management Rules, 2016.
	• These guidelines will come in effect from 1st July 2022.
	Key takeaways
	• The Guidelines provide a framework to:
	    o strengthen the circular economy of plastic packaging waste,
	    o promote development of new alternatives to plastics
	    o provide further next steps for moving towards sustainable plastic packaging by businesses.
	• Reuse of rigid plastic packaging material has been mandated in the guidelines to reduce the use of fresh plastic material for packaging.
	• The enforceable prescription of minimum level of recycling of plastic packaging waste collected under EPR along with use of recycled plastic content will further reduce plastic consumption and support recycling of plastic packaging waste.
	• The EPR guidelines will give a boost for formalization and further development of the plastic waste management sector.
	• For the first time, the guidelines allow for sale and purchase of surplus extended producer responsibility certificates, thus setting up a market mechanism for plastic waste management.
	• The implementation of EPR will be done through a customized online platform which will act as digital backbone of the system.
	• The online platform will allow tracking and monitoring of EPR obligation.
	• The Guidelines prescribe a framework for levy of environmental compensation based upon polluter pays principle, with respect to non-fulfilment of extended producer responsibility targets by producers, importers & brand owners.
	• The funds collected shall be utilized for collection, recycling and end of life disposal of uncollected plastic waste in an environmentally sound manner.
	• These guidelines coupled with prohibition of identified single use plastic items, which have low utility and high littering potential are important steps for reducing pollution caused due to littered plastic waste in the country.
	Do you know?
	• Extended Producer Responsibility (EPR) is a policy approach under which producers are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products.

Night pollinators	**Context:** Recently, a new study has revealed that moths (especially nocturnal pollinators) are vital to pollination in the Himalayan ecosystem of northeast India. **Key Highlights of the study** • The study establishes 91 species of moths as potential pollinators of 21 plant families in Sikkim and Arunachal Pradesh in the northeastern Himalayas. • The results assume significance as a majority of the pollination-related studies are based on diurnal pollinators (bees and butterflies) and the role of nocturnal pollinators have so far received less scientific attention. • Teliphasa sp. (Crambidae) and Cuculia sp. (Noctuidae) are found to carry the highest quantity of pollen. **About Moths** • Moths are a paraphyletic group of insects that includes all members of the order Lepidoptera that are not butterflies, with moths making up the vast majority of the order.

	- Generally moths are considered mysterious denizens of nights, and for a long time they were better known as pest species. - There are about 12,000 moth species in India and about 160,000 moth species in the world, and the study can go a long way in understanding the role of the nocturnal insect pollinators. - Compared with butterflies, moths have stouter bodies and duller colouring. - Moths also have distinctive feathery or thick antennae. - The moth life cycle has four stages: egg, larva (caterpillar), pupa (chrysalis), and adult (imago). - The larvae and adults of most moth species are plant eaters.

Bomb Cyclone	**Context:** Recently, 'Bomb cyclone' hit eastern US, which triggered transport chaos and power outages.
	What is a Bomb Cyclone?
	• A bomb cyclone is a large, intense midaltitude storm that has low pressure at its center, weather fronts and an array of associated weather, from blizzards to severe thunderstorms to heavy precipitation.
	• Bomb cyclones put forecasters on high alert, because they can produce significant harmful impacts.
	• **Reasons for the Formation:**
	    ○ This can happen when a cold air mass collides with a warm air mass, such as air over warm ocean waters. The formation of this rapidly strengthening weather system is a process called bombogenesis.
	    ○ It occurs when a midlatitude cyclone rapidly intensifies, dropping at least 24 millibars over 24 hours.
	• **Difference between Bomb Cyclone and a Hurricane**
	    ○ Hurricanes tend to form in tropical areas and are powered by warm seas. For this reason, they're most common in summer or early fall, when seawater is warmest.
	    ○ Bomb cyclones generally occur during colder months.
	    ○ Hurricanes form in tropical waters, while bomb cyclones form over the northwestern Atlantic, northwestern Pacific and sometimes in the Mediterranean Sea.

Tectonic evolution of Greater Maldive Ridge	• The Maldive Ridge is an aseismic ridge that is not associated with earthquake activities. • This ridge, located in the western Indian Ocean, southwest of India, is not well investigated. It is of paramount importance to gain knowledge on the structure and geodynamics of aseismic ridges as it provides valuable inputs towards understanding the evolution of ocean basins. • A study has chalked the possible geological cross-sections along the GMR for the first time with the help of satellite-derived high-resolution gravity data. • The researchers postulated that the GMR may be underlain by an oceanic crust. • The results from their study can provide additional constraints in understanding the plate-tectonic evolution of the Indian Ocean, better. • The research suggests that Maldive Ridge might have formed in the close vicinity of the Mid-Oceanic Ridge (where creation of a new ocean floor occurs due to divergent motion of lithospheric plates or spreading centre).

HISTORY AND CULTURE

Hoysala temples	**Context:** The Sacred Ensembles of the Hoysala — the Hoysala temples of Belur, Halebid and Somananthpura in Karnataka — has been finalised as India's nomination for consideration as UNESCO's World Heritage for 2022-23.
	About UNESCO's World Heritage
	• A World Heritage Site is a landmark or area with legal protection by an international convention administered by the United Nations Educational, Scientific and Cultural Organization (UNESCO).
	• World Heritage Sites are designated by UNESCO for having cultural, historical, scientific or other form of significance
	About Hoysala Architecture
	• Hoysala architecture is the building style developed under the rule of the Hoysala Empire between the 11th and 14th centuries, mostly concentrated in southern Karnataka.
	• Hoysala temples are sometimes called hybrid or vesara as their unique style seems between Dravida and Nagara styles.
	• The Hoysala temples contain multiple shrines grouped around a central pillared hall and laid out in the shape of an intricately-designed star.
	• They are made out of soapstone which is a relatively soft stone.
	• They are easily distinguishable from other medieval temples by their highly original star-like ground-plans and a profusion of decorative carvings.
	• Some of the famous temples are:
	    ○ Hoysaleshvara temple at Halebid, Karnataka that was built in dark schist stone by the Hoysala king in 1150
	    ○ Chennakeshava temple in Somnathpura, Karnataka built around AD 1268 under Narasimha III
	    ○ Kesava temple at Belur, Karnataka built by Vishnuvardhana.

Punaura Dham	**Context:** As per the request received from the State Government of Bihar, Ministry of Tourism has included Punaura Dham in the Ramayana circuit of Swadesh Darshan Scheme.
	• The destination of Punaura Dham has been recently included under PRASHAD Scheme of the Ministry of Tourism.
	• Punaura Dham, considered to be the birthplace of Hindu Goddess Sita.
	• The shrine compound has a Ram Janki temple, a pond called Sita Kund and a hall.
	PRASHAD Scheme
	• The 'National Mission on Pilgrimage Rejuvenation and Spiritual Augmentation Drive' (PRASAD).
	• Launched by: Ministry of Tourism (2014-15).
	• It was changed from PRASAD to "National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive (PRASHAD)" in October 2017.
	Objective:
	• Holistic development of identified pilgrimage destinations;
	• Rejuvenation and spiritual augmentation of important pilgrimage and heritage sites;
	• Follow community-based development and create awareness among the local communities;
	• Strengthen the mechanism for bridging the infrastructural gaps.
	Swadesh Darshan Scheme
	• It is a Central Sector Scheme launched in 2014 -15.
	• **Objective:**
	    ○ Integrated development of theme based tourist circuits in the country;
	    ○ To position the tourism sector as a major engine for job creation

	o The Ministry of Tourism provides Central Financial Assistance (CFA) for infrastructure development of circuits.
Statue Of Equality	**Context:** Indian Prime Minister will inaugurate the Statue of Equality, a gigantic statue of Ramanujacharya on the outskirts of Hyderabad. **Who was Ramanujacharya?** • Born in 1017 in Sriperumbudur in Tamil Nadu, Ramanujacharya is revered as a Vedic philosopher and social reformer. • He travelled across India, advocating equality and social justice. • Ramanuja revived the Bhakti movement, and his preachings inspired other Bhakti schools of thought. • He is considered to be the inspiration for poets like Annamacharya, Bhakt Ramdas, Thyagaraja, Kabir, and Meerabai. • He went on to write nine scriptures known as the navaratnas, and composed numerous commentaries on Vedic scriptures. **Why is it called the Statue of Equality?** • Ramanuja was an advocate of social equality among all sections of people centuries ago. • He encouraged temples to open their doors to everyone irrespective of caste or position in society at a time when people of many castes were forbidden from entering them. • He took education to those who were deprived of it. • His greatest contribution is the propagation of the concept of "vasudhaiva kutumbakam", which translates as "all the universe is one family".
Chintamani Padya Natakam	**Context:** Earlier this year, the Andhra Pradesh government banned a 100-year-old play named 'Chintamani Padya Natakam'. **What is Chintamani Natakam?** • 'Chintamani Padya Natakam' was written in 1920 by playwright Kallakuri Narayana Rao, who was also a social reformer. • The play is about Chintamani, a courtesan and a devotee of Lord Krishna, who finds salvation by singing bhajans. • She is courted by Subbi Shetty, a businessman from the Arya Vysya community, who loses his wealth and family due to his attraction to Chintamani. **Objection** • The original play had a social message, but over the years, it has been modified purely for entertainment. • Much of the play sees central character Subbi Shetty made fun of, especially for losing all his wealth to his vices. • The Arya Vysya community has been petitioning governments for several years to ban the play.
National Natural Resources Management System (NNRMS)	**Objective:** Utilization of Remote Sensing Technology for Inventorization, Assessment and Monitoring of the country's natural resources. • Development of knowledge based decision tool to simulate mechanism of vegetation change due to climatic change in Western Himalayan Ecoregion • Monitoring of Snow and Glaciers of Himalayan Region • Desertification Status Mapping of India • Soil and Water quality appraisal in the Salt Affected Land Forms of Nagapattinam District, Tamil Nadu using Remote Sensing (RS) and Geographic Information System (GIS) techniques

	- Application of Remote Sensing for Integrated Land use, Water and Energy Management in Rural Areas: Exploring Energy Plantation Opportunities, Public Systems Group - Land use dynamics and its impact on microelements, structure, composition and diversity of Achanakumar - Amarkantak Biosphere Reserve using satellite remote sensing and GIS techniques - Natural Resources Assessment of selected Eco-Tourism sites of Gujarat and its associated environments using remote sensing and GIS
'Statue of Equality' in Hyderabad	- A 216-feet tall statue of the 11th century Bhakti saint Sri Ramanujacharya - Promoted the idea of equality before God and engendered many social reforms in his time. - His philosophy of Vishistadwaita argued that there is no room for discriminating against people on the basis of caste and community. - With his great wisdom, sagacity and foresight, he synthesised seemingly opposite thoughts of Jnana and Bhakti, Dvaita and Advaita.
Maharaja Surajmal	- A Hindu Jat ruler of Bharatpur in Rajasthan, India - A contemporary historian had described him as "the Plato of the Jat tribe" and by a modern writer as the "Jat Odysseus", because of his "political sagacity, steady intellect and clear vision". - The Jats, under Suraj Mal, overran the Mughal garrison at Agra. Suraj Mal was killed in an ambush by the Rohilla troops on the night of 25 December 1763 near Hindon River, Shahadra, Delhi.
Medaram Jathara: Second-largest fair of India, after the Kumbh Mela	- Celebrated by the second-largest Tribal Community of Telangana- the Koya tribe for four days. - Declared a State Festival in 1996. - Conducted in honour of the Goddesses Sammakka and Saralamma - Celebrated once in two years in the month of "Magha" (February) on the full moon day.
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.
9,000-year-old shrine found in Jordan	**Context:** A team of Jordanian and French archaeologists have found a roughly 9,000-year-old shrine at a remote Neolithic site in Jordan's eastern desert. **Key takeaways** - The ritual complex was found in a Neolithic campsite near large structures known as "desert kites," or mass traps that are believed to have been used to confine wild gazelles for slaughter. - Such traps consist of two or more long stone walls converging toward an enclosure and are found scattered across the deserts of the West Asia.

	• The site is unique because of its preservation state.
	• Within the shrine were two carved standing stones bearing anthropomorphic (having human characteristics) figures.
	Neolithic Age
	• The Neolithic Age, which means New Stone Age, was the last and third part of the Stone Age.
	• In India, it spanned from around 7,000 B.C. to 1,000 B.C.
	• The Neolithic Age is mainly characterized by the development of settled agriculture and the use of tools and weapons made of polished stones.
	• The major crops grown during this period were ragi, horse gram, cotton, rice, wheat, and barley.
	• Pottery first appeared in this age.
Indian temple architecture 'Devayatanam'	Temple has always been an integral part of the Indian life and its ecosystem in its own ways. Temple construction was practiced as a pious act not only in the subcontinent but the idea also travelled to the nearest neighborhood such as south-east and East Asia; therefore, it becomes an interesting study as to how the art and technique of temple architecture spread from India to other regions and how this art was modified. The architectural principles of temples in India are described in **Shilpa Shastra** – ● **Nagara style**: The style of temple architecture that became popular in northern India is known as Nagara. Nagara style was developed regionally each region manifesting its own particular qualities. ● **Dravida Style**: Dravida style of temple architecture became popular in South India. Dravida style of temples was developed dynastically, however the major features of these temples remained common across the dynasties. ● **Vesara Style**: In the mid-seventh century, a distinct style of temple architecture grew in Karnataka region under the patronage of Chalukya rulers. The temples in this region

follow a hybridised style which combines the features of both Nagara and Dravida styles.

Similarities and differences of three styles:

Nagara	Dravida	Vesara
Northern region	Southern region	Deccan region(Between the Vindhyas and Krishna river)
Developed regionally each region manifesting its own particular qualities	Developed dynastically	Mixture of two styles Hybrid style. It was developed both regionally and dynastically.
Ground Plan: Mostly Square shaped	Ground Plan: Mostly Square shaped	Ground Plan: increasingly complex, including start like plan
Curvilinear tower (Shikhara built over garbhagriha) gradually curving inward	Pyramidical Tower (Vimana) with several stories in receding dimension	The shape of tower was Pyramidical but height was reduced (Miniature Vimanas)
Multiple Shikharas	Subsidiary shrines are either incorporated within the main temple tower, or located as distinct, separate small shrines beside the main temple.	Multiple shrines are present side by side
Squared hall	Squared hall	Squared hall
Sanctum Garbhagriha	Sanctum Garbhagriha	Sanctum Garbhagriha
Gopurams are absent	Gopurams are present	Gopurams may or may not be present
A water tank may or may not be present	A water tank is present at the front of temple from where water is drawn for sacred purposes	A water tank may or may not be present
Compound walls are absent	enclosed within a compound wall	Compound walls may or may not be present
Examples – Dashavatara temple (Deogarh), Vishwanatha temple(Khajuraho), Lakshman Temple (Khajuraho), Jagannath temple (Puri)	Examples – Shore temple (Mahabalipuram), Brihadiswara temple (Thanjavur), Meenakshi Temple (Madurai)	Examples – Badami temple, Durga Temple (Aihole), Virupaksh Temple (Pattadkal), Keshava Temple (Somnathpur

Kalvari-Class Submarine INS Vagir	**In news:** The fifth submarine of Project 75, INS Vagir, Indian Navy's Kalvari class commenced her sea trials on 01 Feb 22. **Key takeaways** • Indian Naval Ship (INS) Vagir is the fifth among the six Kalvari-class submarines. • The other vessels in the class are INS Kalvari, INS Khanderi, INS Karanj, INS Vela and INS Vagsheer. **Technical details** • The design of Kalvari class of submarines is based on Scorpene class of submarines which have Diesel Electric transmission systems. • These are primarily attack submarines or 'hunter-killer' type which means they are designed to target and sink adversary naval vessels. • It can reach the highest speeds of 11 knots when surfaced and 20 knots when submerged. • These submarines have the Air Independent Propulsion (AIP) which enables non-nuclear submarines to operate for a long time without access to surface oxygen. **Do you know?** • Like Kalvari (which means Tiger Shark), Vagir has been named after a Sand Fish, a predatory marine species. • Khanderi has been named after an Island Fort built by Chhatrapati Shivaji. • Karanj has also been named after an Island located South of Mumbai.

Supercomputer Param Pravega	**Context:** The Indian Institute of Science (IISc.) has installed and commissioned Param Pravega.
	Key takeaways
	• It is one of the most powerful supercomputers in India, and the largest in an Indian academic institution, under the National Supercomputing Mission (NSM).
	• The system is expected to power diverse research and educational pursuits. It has a supercomputing capacity of 3.3 petaflops (1015 operations per second).
	• It has been designed by the Centre for Development of Advanced Computing (C-DAC).
	• A majority of the components used to build this system have been manufactured and assembled within India.
	What is the National Supercomputing Mission (NSM)?
	• The mission was announced in 2015.
	• NSM envisaged setting up a network of 70 high-performance computing facilities with an aim to connect national academic and R&D institutions across India over a seven-year period at an estimated cost of Rs 4500 Crores.
	• Parent Body: Ministry of Electronics and IT (MeitY) and Department of Science and Technology (DST).
	• Nodal Agencies of NSM– Centre for Development of Advanced Computing (C-DAC), Pune, and the Indian Institute of Science (IISc), Bengaluru.
	• Under NSM, the long-term plan is to build a strong base of 20,000 skilled persons over the next five years who will be equipped to handle the complexities of supercomputers.
	• In 2020, a RTI reply revealed that India has produced just three supercomputers since 2015 under NSM
	    o PARAM Shivay installed in IIT-BHU, Varanasi with 837 TeraFlop capacity
	    o Second one at IIT-Kharagpur with 1.66 PetaFlop capacity
	    o PARAM Brahma at ISER-Pune, has a capacity of 797 TeraFlop

Chandrayaan-3	**In News:** Chandrayaan-3 is scheduled for launch in August 2022. • Same configuration like Chandrayaan-2 but it will not have an orbiter. The orbiter launched during Chandrayaan-2 will be used for Chandrayaan-3.

	• Chandrayaan-3 is critical for ISRO as it will demonstrate India's capabilities to make landings for further interplanetary missions. • The Chandrayaan-3 takes cues from the first Chandrayaan mission launched in October 2008 that made major discoveries including finding evidence of water on the lunar surface. **What happened to Chandrayaan-2?** • Chandrayaan-2, India's second mission to the Moon, had failed to make a soft-landing on the lunar surface. • The lander and rover malfunctioned in the final moments and crash-landed, getting destroyed in the process **Key information gathered till now** • Presence of water molecules on moon which is the most precise information about water till date. • Presence of Minor elements: Chromium, manganese and Sodium have been detected for the first time through remote sensing. • Information about solar flares: A large number of microflares outside the active region have been observed for the first time. It shall help in understanding the mechanism behind heating of the solar corona.
Sputnik Light vaccine	**Context:** The drug regulator DCGI (Drugs Controller General of India) has granted emergency use authorisation (EUA) to Single-dose Sputnik Light COVID-19 vaccine in India. **About the vaccine** • Sputnik Light is based on recombinant human adenovirus serotype number 26 (the first component of Sputnik V). • It is the world's first registered combination vector vaccine for the prevention of COVID-19 • As per the vaccine developer Russian Direct Investment Fund (RDIF), a one-shot vaccination regimen of Sputnik Light provides for ease of administration and helps to increase the efficacy and duration of other vaccines when used as a booster shot. **Emergency Use Authorization (EUA)** • It is a regulatory mechanism to allow the use of vaccines and medicines to prevent and/or reduce the impact of life- threatening diseases or conditions as caused by COVID-19. **About Drugs Controller General of India** • S/he is the head of department of the Central Drugs Standard Control Organization (CDSO) of the Government of India. • Central Drugs Standard Control Organisation works in close collaboration with the state control administration and assist them in securing uniform enforcement of the Drug Act. • Responsible for approval of licences of specified categories of drugs such as blood and blood products, IV fluids, vaccines, and sera in India. • DCGI also sets standards for manufacturing, sales, import, and distribution of drugs in India. • Comes under the Ministry of Health & Family Welfare.
CoWIN portal	**Context:** The government has confirmed in the Supreme Court that Aadhaar is not mandatory for registration on the CoWIN portal for COVID-19 vaccination. • Ministry of Health and Family Welfare informed that one of the nine identity documents, including passport, driving licence, PAN card, voter ID card, ration card, can be produced for vaccination. **What is CoWIN?** • CoWIN (Covid Vaccine Intelligence Work) is the Indian government's web portal to register for COVID-19 vaccination. It displays slots of COVID-19 vaccine available in the nearby areas and can be booked on the website.

	- It is a secure and trustworthy proof where people establish when, where and by whom they had been vaccinated. - In totality, CoWIN is a cloud-based IT solution for planning, implementation, monitoring, and evaluation of Covid-19 vaccination in India. - This allows the system to monitor the utilisation, wastage, coverage of Covid-19 vaccination at national, state, district and sub-district level. - CoWIN system tracks on a real time basis the vaccination drive in India. - The portal also provides vaccination certificates in digital format - CoWIN is essentially an extension of eVIN (Electronic Vaccine Intelligence Network).
Nuclear fusion energy	**Context:** A team at the Joint European Torus (JET) facility near Oxford in central England generated 59 megajoules of sustained energy during an experiment in December, more than doubling a 1997 record. **Key takeaways** - This is a new milestone in producing nuclear fusion energy, or imitating the way energy is produced in the Sun. - The energy was produced in a machine called a tokamak, a doughnut-shaped apparatus. - Besides, the JET site is the largest operational one of its kind in the world. - The record and scientific data from these crucial experiments are a major boost for ITER. **About nuclear fusion** - Nuclear fusion is a reaction in which two or more atomic nuclei are combined to form one or more different atomic nuclei and subatomic particles. - The difference in mass between the reactants and products is manifested as either the release or the absorption of energy - Energy by nuclear fusion is one of mankind's long standing quests as it promises to be low carbon, safer than how nuclear energy is now produced and, with an efficiency that can technically exceed a 100%. - A kg of fusion fuel contains about 10 million times as much energy as a kg of coal, oil or gas. **Working:** Deuterium and tritium, which are isotopes of hydrogen, are heated to temperatures 10 times hotter than the centre of the sun to create plasma. - This is held in place using superconductor electromagnets as it spins around, fuses and releases tremendous energy as heat. **Do you know?** - ITER is a fusion research mega-project supported by seven members – China, the European Union, India, Japan, South Korea, Russia and the U.S. – based in the south of France, to further demonstrate the scientific and technological feasibility of fusion energy.
India bans drone import	**Context:** The Directorate General of Foreign Trade of the Ministry of Commerce and Industry notified the Indian Trade Classification (Harmonised System), 2022 which brought the prohibition of drones for import into effect. **Key takeaways** - The move aims to promote made-in-India drones. - The Ministry of Civil Aviation said that while exceptions were provided for R&D, defence and security, importing drones for these purposes will require "due clearances". - However, import of drone components will not need any approvals. - Last year, the Ministry notified liberalised drone rules with the aim to encourage R&D and to make India a drone hub.

	• The government also approved a production-linked incentive (PLI) scheme for drones and their components with an allocation of Rs. 120 crore for three financial years.
	About Drones
	• It is a layman terminology for Unmanned Aircraft (UA).
	• Originally developed for the military and aerospace industries, drones have found their way into the mainstream because of the enhanced levels of safety and efficiency they bring.
	• A drone's autonomy level can range from remotely piloted (a human controls its movements) to advanced autonomy, which means that it relies on a system of sensors and LIDAR detectors to calculate its movement.
	Application of Drone Technology
	• Defence: Drone system can be used as a symmetric weapon against terrorist attacks.
	• Healthcare Delivery Purposes
	• Agriculture: Micronutrients can be spread with the help of drones
	• Monitoring: The drone technology in the SVAMITVA scheme has helped about half a million village residents to get their property cards by mapping out the abadi areas.
	• Law Enforcement
Solar Storms	**Context:** Elon Musk's Starlink has lost dozens of satellites that were caught in a geomagnetic storm a day after they were launched on February 3. Up to 40 of the 49 satellites were impacted, Starlink said, causing them to fall from orbit before they could be commissioned.
	About Solar storms
	• Solar storms are magnetic plasma ejected at great speed from the solar surface.
	• They occur during the release of magnetic energy associated with sunspots ('dark' regions on the Sun that are cooler than the surrounding photosphere), and can last for a few minutes or hours.
	• The solar storm that deorbited the satellites occurred on February 1 and 2, and its powerful trails were observed on February 3.
	Effect on Earth
	• Not all solar flares reach Earth, but solar flares/storms, that come close can impact space weather in near-Earth space and the upper atmosphere.
	• Solar storms can hit operations of space-dependent services like global positioning systems (GPS), radio, and satellite communications.
	• Geomagnetic storms interfere with high-frequency radio communications and GPS navigation systems.
	• Aircraft flights, power grids, and space exploration programmes are vulnerable.
Milan exercise	**Context:** The Navy is set to hold the 12th President's Fleet Review (PFR) at Visakhapatnam and few days from that it will host the largest multilateral exercise in this region, Milan 2022.
	Key takeaways
	• Milan 2022 will see participation of all major Navies including Quad countries, Russia and from West Asia. 46 countries have been invited for the exercise.
	• It has several themes such as ant-submarine warfare among others along with deliberations, including by subject matter experts.
	• During the exercise, the Navy will also be showcasing its Deep Submergence Rescue Vessel (DSRV) capabilities meant to rescue submarines in distress.
	• India is one of the few countries in the region which possesses this capability.
	• Milanbegan in 1995 and is held biennially.

Indian scientists develop a next-generation probiotic	**In News:** A team of Indian Scientists has recently identified the next-generation probiotic bacterium **Lactobacillus Plantarum JBC5** from a **dairy product** that showed great promise in promoting healthy aging. • Scientists searched for healthy bacteria to promote healthy living in fermented dairy products following proposal of **Nobel laureate Dr. Elie Metchnikoff** • It is a model organism called Caenorhabditis Elegans --- a free-living, transparent nematode living temperate soil environments. • Lactobacillus Plantarum JBC5 **improves longevity and healthy aging** by modulating antioxidative, innate immunity and serotonin-signaling pathways in Caenorhabditis elegans • The bacterium demonstrated a 27.81% increase in the life span of the model organism Caenorhabditis elegans accompanied by the hallmarks of healthy aging by providing improved immunity against pathogenic infections increased learning ability and memory, gut integrity, and oxidative stress tolerance. In contrast, it significantly reduced the accumulation of body fat and inflammation. • Yogurt developed using the probiotic bacterium can promote **healthy aging in elderly population & improve longevity** **Ageing** • The United Nations forecasts that one in every eleven people will be older than 65 by 2050. • However, aging is generally associated with a higher risk of age-related health issues, such as obesity, neurodegenerative diseases (Parkinson's, Alzheimer's), cardiovascular diseases, diabetes, cancers, autoimmune diseases, and inflammatory bowel disease. • Therefore, it raises concerns in highly populated countries like India and flags the need for scientific ways to promote healthy aging.
Doxxing	**Context:** Meta's oversight board has suggested Facebook and Instagram to make strict doxxing rules. • Meta was asked to consider doxxing as an offence which should prompt temporary account suspension. **What is doxxing?** • Doxxing is publishing and analysing others' personal information on the internet with a malicious intent that can reveal the person's real identity making them victims of harassments and cyber-attacks. • The firm highlighted how doxxing is used to shame or punish people who would rather stay anonymous, because of their controversial beliefs or other types of non-mainstream activity. • Doxxing can result in emotional distress, loss of employment and even physical harm or death.

PSLV-C52 Mission	**Context:** The Indian Space Research Organisation, ISRO has successfully launched the Polar Satellite Launch Vehicle PSLV-C52 from the first launch pad of Satish Dhawan Space Centre in Sriharikota.
	 Key takeaways
	 • The PSLV-C52 mission has also injected three satellites into the orbits.
	 • It has placed an EOS-04 radar imaging satellite weighing 1710 kgs into orbit.
	     o EOS-04 is designed to provide high-quality images under all weather conditions for applications such as agriculture, forestry and plantations, soil moisture and hydrology and flood mapping.
	     o This satellite will be positioned into a Sun synchronous polar orbit gradually.

	- As a co-passenger INS-2TD technology demonstrator satellite and INSPIRE sat 1 student satellite were also placed into orbit. - INS-2TD is a precursor to India-Bhutan Joint Satellite INS-2B. - INS-2TD carries a thermal imaging camera to assess land and water surface temperature and thermal inertia at day and at night. o INSPIRE sat-1 is a small satellite from the Indian Institute of Space Science and Technology in association with the Laboratory of Atmospheric and Space Physics at University of Colorado. **Polar Satellite Launch Vehicle** - Polar Satellite Launch Vehicle (PSLV) is the third generation launch vehicle of India. - It is a four-staged launch vehicle with first and third stages using solid rocket motors and second and fourth stages using liquid rocket engines. - It is the first Indian launch vehicle to be equipped with liquid stages.
ModifiedElephant	**Context:** American cybersecurity firm SentinelOne has released a report on ModifiedElephant. It is a hacking group that allegedly planted incriminating evidence on the personal devices of Indian journalists, human rights activists, human rights defenders, academics and lawyers. **Key takeaways from the report** - According to the report, ModifiedElephant maliciously targeted specific groups and individuals, including the activists arrested in the Bhima Koregaon case of 2018. - It called the incident 'one of the most serious cases of evidence tampering' that the firm had ever encountered. - ModifiedElephant operators have been infecting their targets using spear phishing emails with malicious file attachments over the last decade, with their techniques getting more sophisticated over time. o Spear phishing refers to the practice of sending emails to targets that look like they are coming from a trusted source to either reveal important information or install different kinds of malware on their computer systems.
Lassa Fever	**Context:** One of the three persons diagnosed with Lassa fever in the UK has died on February 11. The cases have been linked to travel to west African countries. **Key takeaways** - The Lassa fever-causing virus is found in West Africa and was first discovered in 1969 in Lassa, Nigeria. - The fever is spread by rats. - It is primarily found in countries in West Africa including Sierra Leone, Liberia, Guinea, and Nigeria where it is endemic. - A person can become infected if they come in contact with household items of food that is contaminated with the urine or feces of an infected rat. - Person-to-person transmission is more common in healthcare settings. - Symptoms typically appear 1-3 weeks after exposure. - **Mild symptoms include** slight fever, fatigue, weakness and headache. o More serious symptoms include bleeding, difficulty breathing, vomiting, facial swelling, pain in the chest, back, and abdomen and shock. - Death can occur from two weeks of the onset of symptoms, usually as a result of multi-organ failure. - **How to prevent the epidemic:** Maintaining hygiene to prevent rats from entering the house, keeping food in rat-proof containers and laying down rat traps.
National Health Authority (NHA)	**Context:** The Union Health Ministry has said that the National Health Authority (NHA) is working to integrate the database of Socio-Economic Caste Census (SECC) 2011 beneficiaries with the National Food Security Act (NFSA) portal so that beneficiaries can seek information regarding their entitlements under the AB PM-JAY using their ration card number. **What is NHA?**

- The NHA is mandated with the implementation of the Ayushman Bharat Pradhan Mantri–Jan Arogya Yojana (AB PM-JAY).
    - AB PM-JAY provides health assurance of up to Rs. 5 lakh for a family a year, for secondary and tertiary care-related hospital- isations.
- The NHA is also working on a proposal to use fair price shops or ration shops for providing information related to the scheme and entitlement under the scheme to eligible beneficiaries.

What is NFSA?
- The NFSA provides a legal right to persons belonging to eligible households to receive foodgrains at subsidised price– rice at Rs 3/kg, wheat at Rs 2/kg and coarse grain at Rs 1/kg — under the Targeted Public Distribution System (TPDS).
- **Beneficiaries:** Eligible households comprise two categories — priority households, and families covered by the Antyodaya Anna Yojana (AAY).
- **Benefits:** Priority households are entitled to receive 5 kg of foodgrains per person per month, whereas AAY households are entitled to 35 kg per month at the same prices.
- **Coverage:** 75% of the rural population and up to 50% of the urban population.

What is the Socio-Economic Caste Census (SECC)?
- Socio-Economic Caste Census (SECC), which collected the first figures on caste since 1931, is the largest exercise of the enumeration of caste.
- SECC supplies data to differentiate the socio-economic status of households based on housing, educational status, landholding, differently abled, occupation, possession of assets, SC/ST households, incomes etc.
- The Census thus provides a portrait of the Indian population, while the

| **Pulwama Attack** | **In News:** The Prime Minister paid homage to all those martyred in Pulwama on this day in 2019 and recalled their outstanding service to our nation. |

- Forty CRPF jawans travelling in convoy were killed by a vehicle-borne suicide attack on February 14, 2019 in Pulwana City of Jammu & Kashmir.
- The terrorist organisation Jaish-e-Mohammad claimed responsibility for the suicide bombing.
- The Balakot airstrikes were seen as a direct response to the Pulwama bombing.

Operation Bandar
- The IAF's mission to bomb the terrorist hideout in Balakot, Pakistan, was given the codename 'Operation Bandar'. It was a rare operation in which the IAF crossed the Line of Control (LoC) in Jammu and Kashmir and dropped bombs on targets in Pakistani territory. Balakot is a small town located in Pakistan's Khyber-Pakhtunkhwa province.
- On February 26, 2019, Indian Air Force's Mirage-2000 fighter jets took off from airbases across India. The Indian Air Force jets crossed the LoC in J&K and bombed Jaish terror camps in Balakot with precision-guided missiles.
- Pakistan retaliated a day after. The Pakistan Air Force attempted an airstrike on Indian soil. The Indian Air Force launched its fighter jets in response, leading to a rare dogfight between the Indian and Pakistani jets. In the skirmish, an IAF MiG-21 Bison fighter jet shot down a Pakistani F-16 during the conflict. Indian Mig-21, which was being flown by Wing Commander Abhinandan Varthaman, was also shot down and he was captured by the Pakistani forces. After much deliberation, Wing Commander Abhinandan was released two days later from Pakistan's hold. This development calmed the tensions between the two nations after two weeks of heightened conflict.

Prelims Value Addition

	• NIA was created after the 2008 Mumbai terror attacks with the enactment of the National Investigation Agency Act 2008.
	• NIA is the **Central Counter Terrorism Law Enforcement Agency of India** and it works under overall guidance of **Ministry of Home Affairs**
Satellite Broadband Services	**Context:** Digital services company Jio Platforms has formed a joint-venture with Luxembourg-based satellite-linked content connectivity solutions provider SES to deliver satellite broadband services across India.
	Key takeaways
	• The joint venture will use multi-orbit space networks that is a combination of GEO (geostationary equatorial orbit) and MEO (medium earth orbit) satellite constellations
	• The joint venture will be the vehicle for providing SES's satellite data and connectivity services in India, except for certain international aeronautical and maritime customers who may be served by SES.
	• It will have availability of up to 100 Gbps capacity from SES.
	How is Jio's proposed satellite broadband service different from Starlink or OneWeb services?
	• SES primarily has satellites in the GEO and the MEO, while those of Elon Musk-led Starlink and Bharti Group's OneWeb are in low earth orbit (LEO).
	• The altitude of the satellite is directly proportional to the area of earth that it covers.
	• Therefore, the higher a satellite is positioned, the larger an area it covers.
	What are the advantages and disadvantages of GEO, MEO and LEO?
	• GEO and LEO satellites are considered to be the two extremes in satellite communications.
	• While GEO satellites provide a larger coverage and therefore only three satellites can cover the whole earth, hundreds of LEO satellites are needed to provide coverage to a larger area.
	• LEO satellites are smaller and are cheaper to launch than GEOs or MEOs.
	• For MEO satellites, while a simple equatorial orbit covers 96% of the global population, it shares some disadvantages of GEO satellites such as the need for a high inclined antenna for locations away from the equator.
Report on depression	**Context:** A Lancet and World Psychiatric Association Commission on depression has stated that the world is failing to tackle the persisting and increasingly serious global crisis of depression it is facing.
	Key takeaways
	• It has estimated that 5% of adults worldwide suffer from depression each year, and yet it remains a neglected global health crisis.
	• Poor understanding of this condition and lack of psychosocial and financial resources are already impacting on prevention, diagnosis, treatment, and the economic prosperity of nations.
	• There is abundant evidence that much can be done to prevent depression and aid recovery even in resource-limited settings. Yet, many people continue to suffer.
	• While in high-income countries, about half of people suffering from depression come under this category, this rises to 80-90% in low- and middle-income countries.
	• The COVID-19 pandemic has created additional challenges,
	• **Recommendation:** Investing in reducing the burden of depression will give millions of people the chance to become healthier, happier and more productive members of society, help to strengthen national economies, and advance the UN's Sustainable Development Goals for 2030.
Corbevax	**Context:** The Drugs Controller General of India (DCGI) has given emergency use authorisation (EUA) to vaccine maker Biological E's COVID-19 vaccine "Corbevax" for the 12- 18 age group.
	Key takeaways

- It is the first indigenously developed Receptor Binding Domain Protein sub-unit vaccine against COVID-19.
- It means it is made up of a specific part of SARS-CoV-2 - the spike protein on the virus's surface.
- The spike protein allows the virus to enter the cells in the body so that it can replicate and cause disease. However, when this protein alone is given to the body, it is not expected to be harmful as the rest of the virus is absent.
- The body is expected to develop an immune response against the injected spike protein. Therefore, when the real virus attempts to infect the body, it will already have an immune response ready that will make it unlikely for the person to fall severely ill.
- The vaccine is administered through an intramuscular route with two doses scheduled 28 days apart and is stored at 2 to 8 degrees Celsius.

Emergency Use Authorization (EUA)
- It is a regulatory mechanism to allow the use of vaccines and medicines to prevent and/or reduce the impact of life- threatening diseases or conditions as caused by COVID-19.

About Drugs Controller General of India
- S/he is the head of department of the Central Drugs Standard Control Organization (CDSO) of the Government of India.
- Central Drugs Standard Control Organisation works in close collaboration with the state control administration and assist them in securing uniform enforcement of the Drug Act.
- Responsible for approval of licences of specified categories of drugs such as blood and blood products, IV fluids, vaccines, and sera in India.
- DCGI also sets standards for manufacturing, sales, import, and distribution of drugs in India.
- Comes under the Ministry of Health & Family Welfare.

Undersea cable voyage	**Context:** Bharti Airtel has announced it had joined the SEA-ME-WE-6 undersea cable consortium to scale up the high-speed network for India's emerging digital economy, as a major investor. **Key takeaways** - The 19,200 Rkm (route kilometres) SEA-ME-WE-6 will connect Singapore and France. - It will be among the largest undersea cable system globally. - The 12 other consortium members of SEA-ME-WE-6 include Bangladesh Submarine Cable Company, **Dhiraagu (Maldives)**, Djibouti Telecom, Mobily (**Saudi Arabia**), Orange (**France**), Singtel (**Singapore**), Sri Lanka Telecom, Telecom **Egypt,** Telekom **Malaysia**, and Telin (**Indonesia**). - Bharti will co-build four fiber pairs between Singapore – Chennai – Mumbai. **Reliance** - Reliance Jio said it would land its India-Asia-Xpress (IAX) undersea cable system in Maldives. - The high-capacity and high-speed IAX system will connect Hulhumale directly with World's major internet hubs in India and Singapore. - IAX system is expected to be ready for service by the end of 2023. - The service provider claims that these high capacity and high-speed systems will provide more than 200Tb/s of capacity at speeds of 100Gb/s, over 16,000 kilometers
12th P-8I aircraft from Boeing	**Context:** Aircraft manufacturer Boeing has delivered the 12th P-8I long-range maritime patrol aircraft to the Indian Navy. This completes the follow-on clause for four additional P-8I aircraft contracted in 2016. - In May 2021, the U.S. State Department approved the possible sale of six additional P-8I aircraft and related equipment, a deal estimated to cost $2.42 billion.

	- the six P-8Is will come installed with encrypted communication systems since India has now signed the foundational agreement **Communications Compatibility and Security Agreement (COMCASA) with the U.S.** **About P-8I** - The P-8s (Poseidon-Eight) Indian variant is referred to as P-8I. - The aircraft plays a crucial role in being the eyes of the Indian Navy and carrying out critical maritime operations. - It gives India's maritime warriors a significant edge in the strategically important Indian Ocean region. - The P-8I is responsible for: - coastal patrolling - search-and-rescue, - anti-piracy, - supporting operations of other arms of the military.
Bloatware Apps	**Context:** Bloatware apps are being criticized for taking up the storage of the device unnecessarily and affecting the system's battery life and overall performance. **Key takeaways** - Potentially Unwanted Programs (PUP), more popularly known as bloatware apps are needless programs that take a toll on your device's performance. - Device manufacturers introduced these bloatware apps to provide users with additional programs that they might want to use, while making money on the way. - Gradually, these apps, rather than being helpful, end up being a headache for users. - Generally, these apps that run in the background are hidden and locating them becomes a tough job for the users. - It could be any software on your computer, phone or tablet that consumes a lot of resources like — memory, storage and battery life. **Different types of bloatwares found on devices** - There are three most common types of bloatwares that can be found on any device. **Utilities:** These types of bloatwares come from manufacturers and third-party developers and are usually pre-loaded on your device. - These offer added functionality to your device. - Trialware: Users can experience the app as most of them offer free trial modes in new devices. - However, these programs keep on consuming your device's resources, even after the trial period is over. **Adware:** These types of bloatware typically gets downloaded while downloading softwares from the internet.
International Space Station (ISS)	**Context:** Recently Russia has threatened the world by saying that Russia could respond to the US sanctions by letting the ISS fall from space. - Russian space agency chief said that the ISS could drop over US or Europe, or over India and China. - Its orbital flight path usually does not take it over most of the Russian territory. **About International Space Station** - The International Space Station is the only operational space laboratory as of now, orbiting the earth in a trajectory that is about 400 km above the land surface. - It is operated by more than 15 partner countries. **Some of the partners of the ISS are:** Russia, United States, Canada, Japan and several members of the European Space Agency. - The football-field-sized ISS travels at a speed of about 28,000 km per hour.

- It completes one journey around the earth in about one and a half hours. In one day, therefore, it makes about 16 trips around the world.
- The ISS is not the first space station to be built and operated.
  - Several smaller space stations have been used earlier, the most famous of which have been the Russian Mir space station that operated in the 1980s, and the American Skylab.
- The ISS has been in operation since 1998 and is expected to continue at least till 2028.
  - Russia, however, has indicated that it might pull out of the collaboration earlier, possibly by 2024.

Burkina Faso suspended from African Union	**Context:** The African Union recently suspended Burkina Faso a week after the volatile country suffered its latest coup.
	About African Union ● It is a continental union consisting of 55 countries of Africa. ● In 2017, the AU admitted Morocco as a member state. ● The AU was announced in the Sirte Declaration in Sirte, Libya in 1999. ● It was founded in 2001 in Addis Ababa, Ethiopia. ● It was launched in 2002 in Durban, South Africa. ● The AU's secretariat, the African Union Commission, is based in Addis Ababa

Sri Lanka's Unitary Digital Identity framework	**Context:** India shall provide a grant to Sri Lanka to implement a 'Unitary Digital Identity framework.
	● The framework is apparently modelled on the Aadhaar card.
	Key takeaways
	● Under the proposed Unitary Digital Identity Framework, the following features shall be introduced.
	    ○ personal identity verification device based on biometric data
	    ○ a digital tool that can represent the identities of individuals in cyberspace
	    ○ the identification of individual identities that can be accurately verified in digital and physical environments by combining the two devices.
	What is Aadhar number?

	- Aadhaar number is a 12-digit random number issued by the Unique Identification Authority of India (UIDAI) to the residents of India after satisfying the verification process laid down by the Authority. - Any individual, irrespective of age and gender, who is a resident of India, may voluntarily enrol to obtain an Aadhaar number. - Person willing to enrol has to provide minimal demographic and biometric information during the enrolment process which is totally free of cost. - **An individual needs to enrol for Aadhaar only once.** - Legal Framework: The Parliament has passed the A**adhaar and Other Laws (Amendment) Act, 2019** which allows voluntary use of Aadhaar as proof of identity
EU Chips Act	**Context:** The European Union has planned to unveil the EU Chips Act that will mobilise more than €43 billion ($49.1 billion) of public and private investments and enable the EU to reach its ambition to double its current market share of semiconductors to 20% in 2030. **Key takeaways** - Getting to 20% of the global market share of chips production would mean basically quadrupling the industry's efforts. - The plan also hopes to limit the bloc's dependence on Asia for semiconductor which is a key component used in electric cars and smartphones. - **Significance:** The production of chips has become a strategic priority in Europe as well as the United States, after the shock of the pandemic choked off supply, bringing factories to a standstill and emptying stores of products. - The manufacturing of semiconductors overwhelmingly takes place in Taiwan, China and South Korea. **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
United Nations World Food Program.	**Context:** According to the United Nations World Food Program (WFP), Drought conditions have left an estimated 13 million people facing severe hunger in the Horn of Africa. - The Horn of Africa consists of the internationally recognized countries of Djibouti, Eritrea, Ethiopia, and Somalia, as well as the de facto country of Somaliland **Key takeaways** - People in a region including Somalia, Ethiopia and Kenya face the driest conditions recorded since 1981. - Drought conditions are affecting pastoral and farming communities. Malnutrition rates are high in the region. - WFP said it needs $327 million to look after the urgent needs of 4.5 million people over the next six months. **United Nations World Food Program (WFP)** - The World Food Programme is the food-assistance branch of the United Nations. - It is the world's largest humanitarian organization focused on hunger and food security, and the largest provider of school meals. - Founded in 1961. - It is headquartered in Rome
Sustainable Access to Markets and Resources for	**Context:** The Atal Innovation Mission (AIM), NITI Aayog, and the U.S. Agency for International Development (USAID) announced a new partnership under the Sustainable Access to Markets and Resources for Innovative Delivery of Healthcare (SAMRIDH) initiative. **Aim:**

Innovative Delivery of Healthcare (SAMRIDH)	- To improve access to affordable and quality healthcare for vulnerable populations in tier-2 and tier-3 cities, and rural and tribal regions. - to combine public and philanthropic funds with commercial capital to create and rapidly scale market-based health solutions. - SAMRIDH's efforts will help reach vulnerable populations, leveraging AIM's expertise in innovation and entrepreneurship. - The collaboration would focus on innovations across the healthcare landscape with the common goal to mount an effective response to the ongoing third wave of COVID-19 and build health system preparedness for future infectious disease outbreaks and health emergencies.
Quad	**Context:** Meeting of the Foreign Ministers of the Quad (India, Australia, United States, Japan), is expected to discuss cooperation on vaccines, technology and regional security issues including related to China. - The Ministers will review ongoing Quad cooperation and build on the positive and constructive agenda announced by the Leaders at the two Summits in 2021. - The Quad Foreign Ministers meet is expected to lay the groundwork for the second Quad leaders summit likely to take place this summer. **QUAD** **Full form:** Quadrilateral Security Dialogue **Countries:** USA, Japan, Australia and India **Aims:** The main aim is to enable a regional security architecture for the maintenance of a rules- based order. - It seeks to contain a 'rising China' and work against its predatory trade and economic policies.
Fourth Quad Ministerial meeting	**Context:** Fourth Quad Ministerial meeting was held recently in Melbourne, Australia. **Key takeaways from the meeting** - The Foreign Ministers of Australia, India, Japan and the U.S. said the Quad was already cooperating on sharing intelligence on threats in the Indo-Pacific region. - They called for justice for the 26/11 terror attacks in Mumbai (2008) and the Pathankot airbase attack (2016) for the first time since the group was formed. - They resolved to speed up delivery of more than a billion COVID-19 vaccines to be manufactured in India. - Efforts to ensure maritime security in the region will be enhanced. - They also reaffirmed a commitment to a free and open Indo-Pacific **QUAD** **Full form:** Quadrilateral Security Dialogue **Countries:** USA, Japan, Australia and India **Aims:** The main aim is to enable a regional security architecture for the maintenance of a rules- based order. - It seeks to contain a **'rising China'** and work against its predatory trade and economic policies.
India-Maldives Defence Relation	**Context:** India's Defence Secretary recently visited the Maldives, for discussions with the Maldives National Defence Force as part of the second Defence Cooperation Dialogue. **About Defence Cooperation Dialogue** - The Defence Cooperation Dialogue is one of India's policy-level frameworks. - It aims to strengthen long-standing and mutually beneficial bilateral defence ties. - The first Defence Cooperation Dialogue was held in July 2016 during the presidency of Abdulla Yameen Abdul Gayoom and the second DCD was held in January 2019. - The location of the Maldives, at the intersection of commercial sea-lanes running through the Indian Ocean, makes it strategically important for India, particularly in the light of China's growing aggression in the region. **India-Maldives defence relations**

	• Since 1988, defence and security have been major areas of cooperation between India and Maldives. • This cooperation extends to assisting the Maldives with defence training and equipment requirements. • India provides the largest number of training opportunities for Maldivian National Defence Force (MNDF), meeting around 70% of their defence training requirements. • In 2016, the two countries also signed a comprehensive action plan to consolidate defence partnership.
India and UAE sign the historic CEPA	**In News:** India and UAE signed the historic Comprehensive Economic Partnership Agreement (CEPA) aimed at boosting the merchandise trade between the two countries to US$ 100 billion over next five years. • India- UAE CEPA sees many firsts including automatic authorization for Indian pharma products, strict rules of origin and safeguard mechanism against surge in imports • CEPA to generate 10 lakh jobs across labour-intensive sectors such as Textiles, Gems & Jewellery, Leather, Footwear, Pharma, Agriculture products, Medical Devices, Plastics, Sports Goods and Automobiles Both nations believe in rules based fair trade, in engaging with each other in a spirit of reciprocity and were determined that people and businesses of both countries must mutually benefit from the deepening engagement.

Lugansk and Donetsk territories to be recognised as independent	**Context:** Russian President Vladimir Putin will recognise the independence of eastern Ukraine's separatist republics, Donetsk and Lugansk territories.
	 Key takeaways
	 • Earlier, the rebel leaders of eastern Ukraine's separatist Donetsk and Lugansk territories had appealed to Mr. Putin to recognise them as independent.
	   ○ The conflict in the separatist regions began in 2014, when rebels loyal to Russia seized government buildings in Donetsk and Luhansk, beginning a long trench war with Ukrainian forces.
	 • More than 13,000 people have died in fighting in the region since.
	   ○ **Implication:** Russia's recognition of the two regions could allow separatist leaders to request military help from Russia, further easing a path for a military offensive into Ukraine.
	 • Ukraine would likely interpret that as Russian troops entering Ukrainian territory.
	 • The decision also means that Minsk peace process will come to an end.
	 • The Minsk 1 and II accords, reached in 2014 and 2015, had brought a ceasefire between the Russian-backed rebels in Donetsk and Luhansk Oblasts, and put forward a formula for resolving the conflict.

Nord Stream 2 gas pipeline	**Context:** Germany has taken steps to halt the process of certifying the Nord Stream 2 gas pipeline from Russia after Russia announced that it will recognise the independence of eastern Ukraine's separatist republics, Donetsk and Lugansk territories. **What is the Nord Stream 2 pipeline?** - In 2015, the Russian energy major Gazprom and five other European firms decided to build Nord Stream 2, valued at around $11 billion. - The 1,200-km pipeline will run from Russia to Germany through the Baltic Sea, and will carry 55 billion cubic metres of gas per year. - The under-construction pipeline will run along with the already completed Nord Stream 1 system, and the two together will supply an aggregate of 110 billion cubic metres of gas to Germany per year. - Nord Stream 2 pipeline falls in the territory of EU members Germany and Denmark, and is about 98% complete
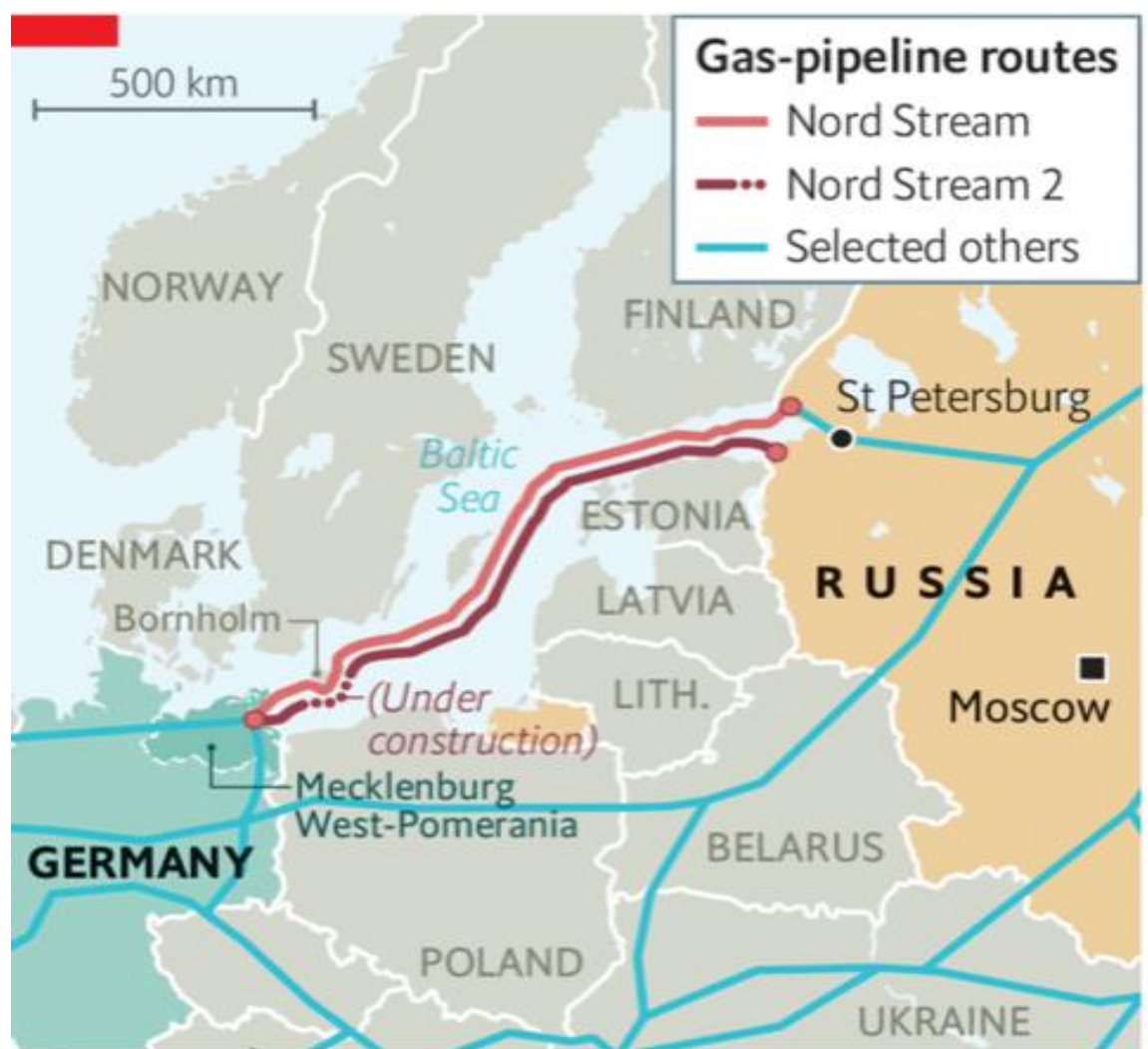
The Economist

Council of Europe	**Context:** The Council of Europe has suspended Russia from the Europe's human rights organization because of its invasion of Ukraine.
	• It also said Russia remained a member and continued to be bound by relevant human rights conventions.
	• On the other hand, in Ukraine, thousands crossed into neighbouring countries to the west in search of safety.
	• Authorities in Poland, Slovakia, Hungary, Romania and Moldova mobilised to receive them, providing shelter, food and legal help.
	The Council of Europe
	• It is an international organization founded in the wake of World War II to uphold human rights, democracy and the rule of law in Europe.
	• It was founded in 1949 and has 46 member states (including all 27 EU members).
	• No country has ever joined the EU without first belonging to the Council of Europe.
	• The Council of Europe is an official United Nations Observer
	• It cannot make binding laws, but it does have the power to enforce select international agreements
	• The **headquarters** are in Strasbourg, France.
Place in news: Chernobyl	**Context:** Ukrainian authorities have said that radiation levels had increased in the Chernobyl exclusion zone and warned the seizure of the nuclear plant by invading Russian troops could have terrible consequences.
	Key takeaways

- Ukrainian authorities also said that they had informed the International Atomic Energy Agency that they had lost control of highly radioactive fuel rods from the power plant.
- Ukrainian Environment Ministry also pointed out that this significant amount of plutonium-239 can become a nuclear bomb that will turn thousands of hectares into a dead, lifeless desert.

About Chernobyl

- After a brief but fierce battle, Russian troops were able to capture the Chernobyl nuclear plant in northern Ukraine, the site of one of the worst nuclear disasters in human history.
- Located around 16 km away from the city of Chernobyl and a little over 100 km away from Ukraine's capital city of Kyiv, the power plant witnessed the world's worst nuclear disaster in 1986.
- The disaster occurred between April 25-26, when a group of technicians in what was then Soviet-controlled Ukraine carried out a botched safety test that led to a series of explosions at Chernobyl's reactor No. 4 and a partial meltdown of its core.
- The explosions exposed the core and released clouds of radioactive material into the atmosphere.
- It is said to have released 400 times more radiation than the atomic bomb that was dropped on Hiroshima in Japan.
- In fact, the catastrophe is considered one of the key factors that led to the collapse of the Soviet Union a few years later.

Why did Russia capture Chernobyl?

- Seizing Chernobyl was a strategic decision that gave Russian troops quick and easy access to Kyiv from Belarus, which is an ally of Moscow.
- By capturing Chernobyl, Russia has secured a route into Ukraine for its ground forces.

Nuclear power plants in Ukraine

MISCELLANEOUS

Minority Communities of India:	Christians, Sikhs, Muslims, Buddhists, Jains and Parsis
Krishi Udan Scheme 2.0	**Aim:** To ensure seamless, cost-effective, time-bound air transportation and associated logistics for all Agri-produce originating especially from North East (including Assam), hilly and tribal regions of the country. **Objective:** To increase the share of air carriage in the modal mix for transportation of Agri-produce, which includes horticulture, fishery, livestock and processed products. Enhancing the existing provisions, mainly focusing on transporting perishable food products from the hilly areas, North-Eastern States and tribal areas.
Asia's Largest Tribal Festival commences: Medharam Jathara	- To honour the Hindu Tribal goddesses - Celebrated in the state of Telangana at Medaram village of Mulugu district - This Jatara is known for witnessing one of the largest people gatherings in the world. - According to a tribal story, in the 13th century some tribal leaders who went for hunting found a new born girl (Sammakka) emitting enormous light and playing amidst tigers. She was taken to their habitation. The head of the tribe adopted her and later she became the saviour of the tribals of that region. - Devotees offer jaggery equal to their weight as thulabaram (weighing scale) or as thanksgiving in fulfilment of their vows.
The 'Heritage City' of Chandigarh	- Founded in 1953 - Planned by famous Swiss-French architect Le Corbusier - Stands out for its immaculate urban planning and design - Certified as 1-Star Garbage Free - Pledged to achieve 'Lakshya Zero Dumpsites' within the Mission period and has undertaken the challenge of remediating the 7.7 lakh (MT) of legacy waste lying across 8 acres of land as part of the Daddumajra dumpsite.
Nocte tribes:	Arunachal Pradesh
National War Memorial (NWM):	Stands testimony to the sacrifices made by the gallant soldiers since Independence. The monument houses the eternal flame which exemplifies the supreme sacrifice made by a soldier in the line of duty thus making him immortal.
Immigration Visa Foreigners Registration Tracking (IVFRT) Scheme:	**Continuation of the scheme has been approved** **Objective:** Modernization and up-gradation of Immigration and Visa services **Aim:** To provide a secure and integrated service delivery framework that facilitates legitimate travelers while strengthening national security, through this scheme. - After the commencement of IVFRT, the number of Visa and OCI cards issued increased from 44.43 lakh in 2014 to 64.59 lakh in 2019 at a Compounded Annual Growth Rate (CAGR) of 7.7 per cent. - International traffic to and from India grew from 3.71 crore to 7.5 crore during last 10 years at a CAGR of 7.2 per cent.
Won Gold medal at the Moscow Wushu Stars Championship: Sadia Tariq	- Wushu, or Kungfu, is a hard and soft and complete martial art, as well as a full-contact sport. - It has a long history in reference to Chinese martial arts; developed in 1949 in an effort to standardize the practice of traditional Chinese martial arts.
Exercise Eastern Bridge-VI (2022):	Indo-Oman exercise

National Polio Immunization Drive	• Universal Immunization Programme is focusing to protect children from more diseases than ever before and has introduced several new vaccines like Pneumococcal Conjugate Vaccine (PCV), Rotavirus vaccine, and Measles-Rubella vaccine (MR) in the recent past. • Further, to provide additional protection to our children, the Government of India has also introduced the injectable Inactivated Polio Vaccine into its routine immunization program. • India has been free of polio for more than a decade, with the last case of wild poliovirus reported on 13th January 2011. • However, India continues to remain vigilant to prevent re-entry of the poliovirus into the country from neighboring countries of Afghanistan and Pakistan, where wild poliovirus continues to cause the disease.

POLITY AND GOVERNANCE

Governor's role in approving a Bill	**Context:** The Tamil Nadu Assembly has once again adopted a Bill that was earlier returned by Governor R.N. Ravi.
	● The Bill seeks to grant exemption from the mandatory National Entrance-cum-Eligibility Test (NEET) for **seats allotted by the Government** in undergraduate medical and dental courses in Tamil Nadu.
	● Recently, the Governor returned the Bill, contending that it was against the interests of rural and poor students.
	What comes next?
	● Under Article 200, the Governor may
	o (a) grant assent
	o (b) withhold assent
	o (c) return for reconsideration by the Legislature or
	o (d) reserve for the consideration of the President any Bill passed by the State legislature and presented to him for assent.
	● There is **no timeframe fixed** in the Constitution for any of these functions.
	● If the State legislature reconsiders the bill and passes it again, with or without changes, and presented for assent, "the Governor shall not withhold assent therefrom".
	● The Constitution makes it mandatory that the Governor should reserve for the President's consideration if, in his opinion (discretionary power) any Bill that seems to clip the wings of the High Court or undermine its functioning.
	● In the present case, the Bill will have to be sent to the President for his assent, as it is enacted under an **entry in the Concurrent List** on a subject that is covered by a central law. There is no doubt that the Governor will now **have to grant his assent to the Bill.**
	● NEET is mandatory under Section 10D of the Indian Medical Council of India Act, an amendment introduced in 2016. Therefore, the State law can be in force **only if the President grants his assent**. This will cure the 'repugnancy' between the central and State laws.
	What happens when the President considers the Bill?
	● Once again, there is **no timeframe.**
	● **Article 201** says when a Bill is reserved by a Governor for his consideration, "the President shall declare either that he assents to the Bill, or that he withholds assent therefrom". He may also direct the Governor to return the Bill, if it is not a Money Bill, to the Legislature along with a message.
	● State Legislature will have to reconsider the Bill within a period of six months from receiving it. It may pass the Bill again with or without any change.
	● The Bill shall again be presented to the President for his consideration. The article ends with that. This means that the Bill will become law if the assent is given, but nothing can be done if the Bill is denied assent by the President or if he makes no decision.
	Does the Governor have any discretion in this regard?
	● Section 75 of the Government of India Act, 1935, contained the words 'in his discretion' while referring to the Governor's grant of assent to Bills. The phrase was consciously omitted when Article 175 in the draft Constitution (later renumbered as the present Article 200) was enacted.

	- It is generally agreed that the Governor, who normally functions on the aid and advice of the Council of Ministers, is **bound to go by the advice in the matter of granting assent.** - Also, a reading of the Constituent Assembly debates shows that framers of the Constitution intended that Governor should act on ministerial advice even when withholding assent and returning a Bill for reconsideration. Such a situation may arise when a **bill has been hastily adopted or that it requires changes**. ○ In such a situation, the Constitution must provide for the possibility that the Council may want to recall its Bill, and accordingly advise the Governor to return it. - Sarkaria Commission notes that there could be occasions for even withholding assent on the advice of the Ministers. For instance, if after a Bill is passed the **Ministers resign before the Bill gets the Governor's assent**, the new Ministry may not want to go ahead with the Bill and might advise against assent being given. - These examples suggest that **no discretion was ever envisaged** for the Governor in dealing with Bills.

New Central Media Accreditation Guidelines	**Context:** The Government has issued a slew of rules for the media under a new policy on accreditation for journalists.
	- The Central Media Accreditation Guidelines-2022 have outlined the conditions for withdrawal of accreditation if a journalist acts in a manner prejudicial to the country's
	    ○ Security
	    ○ sovereignty and integrity
	    ○ friendly relations with foreign states
	    ○ Public order
	    ○ or is charged with a serious cognisable offence.
	- Most of the provisions are drawn from **Article 19(2)** of the Constitution which prescribes the restrictions to free speech.
	
	How is this different from the past?
	- The previous policy, issued in 2013, had stated, under general terms of accreditation, that accreditation "shall be withdrawn as soon as the conditions on which it was given cease to exist. Accreditation is also liable to be withdrawn/suspended if it is found to have been misused".
	- With the new policy and laying down the conditions for withdrawal of accreditation, they serve more as **censorship rules rather than guidelines**.
	- Previous guidelines were more general in nature and did mention that accreditation would be withdrawn if found to be misused.
	- In the new guidelines, there are 10 provisions under which accreditation to a journalist can be withdrawn.
	
	How are they proposed to be implemented?
	- As per the guidelines, the Government of India shall constitute a committee called the **Central Media Accreditation Committee** chaired by the Principal DG, Press Information Bureau (PIB), and comprising up to 25 members nominated by the Government to interpret the guidelines for withdrawal of accreditation.
	
	Why are these guidelines a matter of concern?
	- In 2020, the Paris-based Reporters Without Borders (RSF) ranked India 142nd among 180 countries on the **World Press Freedom Index 2020.**
	- Though freedom of the press is not explicitly stated in the Constitution, the ambit of freedom of expression under Article 19 of the Constitution has been generally interpreted as having laid down the template for a free press in the country.

- These new guidelines, point out experts, carry the threat of coming in the way of the **functioning of a free media.**
- A common tool used by powerful people trying to intimidate journalists or to block information from coming out is filing of **defamation cases** against journalists and media platforms. Now, defamation has been made one of the provisions that can lead to cancellation of accreditation.
- Besides, they carry the **risk of delegitimising reports,** especially of an investigative nature.
- Any report critical of the Government could now be seen as prejudicial to the interests of the country and it will be left to the interpretation and discretion of the Central Media Accreditation Committee to read the guidelines and decide what is defamatory while denying accreditation to a journalist.

How do journalists get accredited?
- A journalist with a minimum of five years as a full-time working journalist can apply for accreditation to the PIB, a process that is completed after a mandatory security check from the **Ministry of Home Affairs.**
- Any journalist working with a newspaper which has a daily circulation of 10,000; news agencies with at least 100 subscribers and digital news platforms with 10 lakh unique visitors can apply.

How does Accreditation help?
- Accreditation helps in access to government offices and to special events and functions organised by the Government of India. Some Ministries like Home and Defence and Finance allow access only to accredited journalists.
- In accredited journalist does not have to disclose who he or she intends to meet when entering offices of union ministries, as the accreditation card is "valid for entry into buildings under MHA (Ministry of Home Affairs) security zone".
- Accreditation brings certain benefits for the journalist and his or her family, like being included in the Central Government Health Scheme, and some concessions on railway tickets.

Have there been attempts in the past to regulate the media?
- The most infamous move to control the press before the advent of private news channels was by former PM Rajiv Gandhi when he proposed the Defamation Bill in 1988. Under pressure from a unified media and several sections of the public, the Bill was withdrawn.
- Several attempts have been made by successive governments to keep the media in check by proposing guidelines more in the nature of censorship.
- As recently as 2018, the PIB, which functions under the I&B Ministry, had proposed a **Fake News Guidelines** under which accreditation could be cancelled if the journalist was seen as peddling content that was fake.
- This was seen as a move by the Government to counter other independent media outlets who had called out the Government and the political leadership for putting out fake content. The **order was withdrawn under pressure.**
- More recently the Government proposed a series of rules under the IT Act to check digital news content.
- State Governments like Kerala and Rajasthan had come out with their own versions of proposed rules which were withdrawn under pressure and criticism.

Connecting the dots
- Madras High Court Order on Tamil Nadu Press Council
- Social Media Regulation

	• [On regulation of Digital media (Sudarshan TV Case)](#)
Language-domicile protest in Jharkhand	**Context:** Several parts of Jharkhand are seeing massive protests against the inclusion of Bhojpuri and Magahi as "regional languages" in district-level competitive examinations for government jobs. • Hundreds of protesters, including women, have been marching with placards, raising slogans against the government mainly in the east-central districts of Bokaro and Dhanbad, but also in Giridih and Ranchi. **Why are the protests taking place?** • On December 24, the Jharkhand Personnel, Administrative Reforms, and Rajbhasha Department issued a notification to include Magahi, Bhojpuri, and Angika among others as regional languages in the district-level selection process through exams conducted by the Jharkhand Staff Selection Commission (JSSC). • The notification triggered resentment in a section of people especially in Bokaro and Dhanbad, who saw the inclusion of Bhojpuri and Magahi as an **"infringement" on the rights of Adivasis and Moolvasis.** • The protesters argue that the **"low population" of Magahi and Bhojpuri speakers** in these two districts did not "warrant" the inclusion of these languages in the job selection process. • Anecdotal evidence suggests there is a relatively small number of Magahi- and Bhojpuri-speaking people in these districts; however, no precise data are available. **What kind of examinations are these?** • There is no clarity so far. Eligibility requirements are relatively modest, and the exams will be held for appointments to lower-level jobs in the districts. But these jobs are yet to be advertised. • It is not applicable to the selection process at the level of the state. As of now, no vacancies have been advertised against the notification. • This would be the first time that the exams would have Bhojpuri, Angika, and Magahi as language papers, and the government was expected to announce details of the weightage and marks. **Who is protesting against the notification?** • The Jharkhandi Bhasha Sangharsha Samiti, an organisation of Moolvasis and Adivasis which **claims to be apolitical**, has organised more than 50 protest gatherings over the in the month of Jan 2022. • The protests were intended to pressure the government because the population that speaks Magahi and Bhojpuri in Bokaro and Dhanbad is minuscule that will only make jobs scarcer for Jharkhandis • The Samiti in not opposing the inclusion of these languages in Latehar, Garhwa or Palamu, because a substantial population speaks these languages in those areas." **Is this the only issue for the protesters?** • They are also demanding that 1932 be made the cut-off date while taking into account **proof of land records for the state's domicile policy**. • This has long been contentious. Following the creation of Jharkhand in 2000, the first Chief Minister, Babulal Marandi, thought it was necessary to **define a 'Jharkhandi'** in order to provide benefits including government jobs to local people. • In 2016, the government came out with a "**relaxed domicile policy**" that included criteria such as employment for the last 30 years, and essentially made 1985 the cut-off year. • After coming to power in 2019, the new government set up a cabinet sub-committee to re-define domicile.

	Is there any opposition to the protests? ● A group called the Bhojpuri, Magahi, Maithili Angika Manch, has criticised the alleged polarising nature of the protests. It has claimed that more than 1 crore people in Jharkhand speak Bhojpuri, Magahi, and Angika, and recalled the "immense contribution" of Bhojpuri and Magahi speakers to the state. **So, where is this protest headed?** The protest on the language issue is "full of contradictions". ● Some MLAs have been "directly involved in crowd-gathering", "so the claim that this movement is apolitical is not true". ● Placards and banners displayed at the protests say "Languages from outside Jharkhand cannot run here." ● However, the protesters **do not have a problem with Bengali or Odia** being made regional languages, nor do they oppose other districts having Bhojpuri and Magahi as regional languages.
Importance of Caste Data	**Context:** Recently, Supreme Court upheld the 27% quota for Other Backward Classes (OBC) in the All-India Quota seats for the National Eligibility-cum-Entrance Test. **Key Highlights of the judgement regarding merit & reservation** ● It reiterated that reservations for backward classes were **not an exception but an extension of the principle of equality** under Article 15(1) of the Constitution. ● The judgment highlighted how open competitive exams give the illusion of providing equal opportunity ignoring the inequalities and **societal prejudices.** ● The court pointed out the **social effects of inherited cultural capital** (communication skills, books, accent, academic accomplishments, social networks, etc.), which ensures the unconscious training of upper-caste children for high-grade performance. ● The **Constituent Assembly held a similar philosophy** while introducing constitutional provisions which enable the government to make special provisions for the uplift of the "lower castes". **Does caste based reservation perpetuate caste identities?** ● However, despite the underlying good intentions, positive discrimination has been a controversial topic. It is believed that such provisions only perpetuate caste differences and therefore call for a "casteless society". ● As Justice D.Y. Chandrachud pointed out, "castelessness" is a privilege that only the upper caste can afford because their caste privilege has already translated into social, political and economic capital. ● On the other hand, individuals who belong to the lower castes must retain their caste identity in order to claim the benefits of measures such as reservation, which recognise historic harm. **What are the big challenges which our country is facing with regard to reservations?** **1. Increased demand for reservations** ● More and more communities, especially those which are considered as forward castes, are demanding reservation benefits. ● Recently, Supreme Court struck down the reservation for the Maratha community in Maharashtra in excess of 50%, which was the limit set in the *Indra Sawhney* case ● Supreme court observed that "when more people aspire for backwardness instead of forwardness, the country itself stagnates which situation is not in accord with constitutional objectives".

2. Lack of objective data & revision of list
- In the *Indra Sawhney* case, the Supreme Court held that the States must conclude the "backwardness" of a particular class of people **only after proper assessment and objective evaluation.**
- Even though data concerning the Scheduled Castes and Scheduled Tribes have been included in the Census, there is **no similar data on OBCs**
- The Socio-Economic and Caste Census (SECC) conducted in 2011 has been called "faulty" and "unreliable".
- Even the Mandal Commission's recommendations were criticised as being based merely on the "personal knowledge" of the members of the commission and sample surveys.
- The National Commission for Backward Classes Act, 1993, provides under Section 11 that the **Central government may every 10 years revise lists** with a view to exclude those classes which have ceased to be backward and include new backward classes. This exercise has not been done to date.

What is required now?
- Faith of our citizens cannot be restored until credible exercises of data collection are undertaken regarding caste.
- **Caste data** will enable independent research not only into the question of who does and does not need affirmative action but also into the effectiveness of this measure.
- A caste census, which will generate exhaustive data will allow policymakers to **develop better policies, implementation strategies, and will also enable a more rational debate on sensitive issues**.
- The **Justice Rohini committee** was appointed in 2017 to look into the sub-categorisation of the OBC communities; however, in the absence of data, there can be no data-bank or any proper sub-categorisation.
- All commissions have had to rely on data from the last caste census (1931). There has been substantive demographic changes since then and therefore, the data has to be updated.
- India needs to be bold and decisive in tackling caste questions through data and statistics in the way **US does to tackle race issues,** by collecting data around race, class, language, inter-race marriages, among other metrics.
- Impartial data and subsequent research might save the *bona fide* attempts of the uplift of the most backward classes from the shadow of caste and class politics.

Conclusion
It is not reservation that creates the current divide in our society but the misuse or the perceived misuse of reservation.

Connecting the dots
- Tamil Nadu Commission for Case-wise Data
- NPR and Census
- A new framework around caste and the census

A case for a more federal judiciary	**Context:** Nearly 150 years ago, A.V. Dicey, the foremost constitutional lawyer of his day, wrote, "The essential characteristic of federalism is the distribution of limited executive, legislative and judicial authority among bodies which are coordinate with and independent of each other".
	o It is now time to examine the Indian judiciary and the need to strengthen the federal nature of our judiciary.
	About the characteristic of Indian Judiciary

- o Federalism is a midpoint between **unitarism** which has a supreme centre, to which the States are subordinate, and **confederalism** wherein the States are supreme, and are merely coordinated by a weak centre.
- o An integral requirement of a federal state is that there be a robust federal judicial system which interprets this constitution, and therefore adjudicates upon the rights of the federal units and the central unit, and between the citizen and these units.
- o The federal judicial system comprises the Supreme Court and the High Court in the sense that it is only these two courts which can adjudicate the above rights.
- o **Integrated Judiciary:** The Indian Federation though a dual polity has no dual judiciary at all. The High Courts and the Supreme Court form one single integrated judiciary having jurisdiction in all cases arising under the constitutional law, the civil law or the criminal law.
- o **Equality of Judges:** The Indian Constitution envisaged the equality of power of High Court judges and Supreme Court judges, with a High Court judge not being a subordinate of a Supreme Court judge.
- o The Supreme Court has, on many occasions, reiterated the position that the Supreme Court is superior to the High Court only in the appellate sense.

Centralisation of Indian Judiciary
- o The theoretical position has always been that High Court judges and Supreme Court judges are equals. This balance is required in order for the constitutional structure dreamt of by B.R. Ambedkar to work.
- o The need for this balance was underscored during the Emergency, when certain High Courts stood out as beacons of freedom, even as the Supreme Court failed in this duty.
- o This balance existed from Independence onwards, until the 1990s. Since then, however, it has been **tilting in favour of the central court**.
  - o First, the Supreme Court (or rather, a section of its judges, called "the Collegium") has the power to appoint judges and chief justices to the High Courts and the Supreme Court.
  - o Second, successive governments have passed laws that create parallel judicial systems of courts and tribunals which provide for direct appeals to the Supreme Court, bypassing the High Courts.
  - o Third, the Supreme Court has been liberal in entertaining cases pertaining to trifling matters.

What are the impacts of Centralisation of Judiciary?
1. Weakening of Federalism
- o In the United States, empirical research by scholars shows that the U.S. Supreme Court is far more likely to strike down a state law as unconstitutional than a federal law. This research leads to the conclusion that judicial review by a centralised judiciary tends toward unitarism (the opposite of federalism)
- o In Nigeria, a similar federal country, in case of litigations over mineral rights and subsoil rights, the Supreme Court has favoured interpretations which support the rights of the centre over the State
- o Supreme Court of India today, by playing the role of a collegium, effectively wields the power to appoint (or delay the appointment) of a person as a judge to a High Court or to transfer to another High Court.

2. Non-constitutional frivolous matters reaching Supreme Court
- o An aggressively interventionist Supreme Court leads many to approach it directly as a panacea for all ills befalling the nation

- In 2018, Supreme Court promptly entertained the writ petition to curtail Deepavali celebrations. In another example, the Supreme Court spent days deciding the height of the *dahi handi* during Gokulashtami celebrations.
- Frivolous matters are making the institution dysfunctional. These matters waste important time of the court, which could have been spent on serious matters, pan-India matters

3. Creation of parallel hierarchies of courts and tribunals
- Successive governments have passed laws that create parallel judicial systems of courts and tribunals which provide for direct appeals to the Supreme Court, bypassing the High Courts.
- This leads to weakening of the authority of the High Courts or the possibility of a tendency towards subservience or apathy of the judges of the High Courts.

Conclusion

Supreme Court itself must recognises the importance of Judicial Federalism and restores the federal balance by re-empowering the High Courts. This will be in the best interest of the nation.

Connecting the dots
- Indianisation of Judiciary
- Women & Judiciary
- Language in Judiciary
- Judiciary and AI

Sealed Cover Jurisprudence	**Context**: Recently, Kerala High Court's verdict upheld the transmission ban on Malayalam news channel MediaOne, imposed by the Ministry of Information and Broadcasting, after the Ministry of Home Affairs (MHA) denied the channel security clearance. ● The High Court's decision was based entirely on assessment of documents presented by the MHA in a sealed cover, "the contents of which were not shared" with the news channel. **What is sealed cover jurisprudence?** ● It is a practice used by the Supreme Court and sometimes lower courts, of asking for or accepting information from government agencies in **sealed envelopes that can only be accessed by judges.** ● While a specific law does not define the doctrine of sealed cover, the Supreme Court derives its power to use it from Rule 7 of order XIII of the **Supreme Court Rules** and Section 123 of the **Indian Evidence Act of 1872.** ● It is stated under the said rule that if the Chief Justice or court directs certain information to be kept under sealed cover, no party would be allowed access to the contents of such information. ● It also mentions that information can be kept confidential if its publication is not considered to be in the interest of the public. ● As for the Evidence Act, official unpublished documents relating to state affairs are protected and a public officer cannot be compelled to disclose such documents. ● Other instances where information may be sought in secrecy or confidence is when its publication **impedes an ongoing investigation,** such as details which are part of the police's case diary; or breaches the privacy of an individual. **When has it been done in the past?** ● Sealed cover jurisprudence has been frequently employed by courts in the recent past. ● In the case pertaining to the controversial **Rafale fighter jet deal,** a Bench headed by Chief Justice Ranjan Gogoi in 2018, had asked the Centre to submit details related to deal's decision making and pricing in a sealed cover.

	○ This was done as the Centre had contended that such details were subject to the Official Secrets Act and **Secrecy clauses in the deal.**
	● In the matters related to the **National Register of Citizens (NRC) in Assam**, the supreme court mandated coordinator of the NRC, Prateek Hajela, was asked by the apex court to submit period reports in sealed cover, which could neither be accessed by the government nor the petitioners.
	● In the case where CBI's former director Alok Verma and the national agency's former special director Rakesh Asthana had made counter allegations of corruption against one another, the Supreme Court had asked the Central Vigilance Commission (CVC) to submit its preliminary report in a sealed cover.
	● In the 2014 BCCI reforms case, the probe committee of the cricket body had submitted its report to the Supreme Court in a sealed envelope, asking it not to make public the names of **nine cricketers who were suspected of a match and spot fixing scam.**
	● In the **Bhima Koregaon case**, in which activists were arrested under the Unlawful Activities Prevention Act, the Supreme Court had relied on information submitted by the Maharashtra police in a sealed cover. The police had stated that this information could not be disclosed to the accused as it would impede the ongoing investigation.
	● Information submitted by state agencies in a sealed cover was also relied upon in the **2G and coal scam cases,** the Ramjanmabhoomi case, the high-profile case pertaining to the death of judge BH Loya, as well as the 2019 case pertaining to the release of Prime Minister Narendra Modi's biopic around the national elections.
	What is the criticism and what do the courts say?
	● Critics of this practice contend that it is not favorable to the **principles of transparency and accountability** of the Indian justice system, standing in contrast to the idea of an open court, where decisions can be subjected to public scrutiny .
	● It is also said to **enlarge the scope for arbitrariness** in court decisions, as judges are supposed to lay down reasoning for their decisions, but this cannot be done when they are based upon information submitted confidentially.
	● It is considered as the **violation of rights to fair adjudication** whereby the applicant does not get to know the contents of the sealed cover.
	● Basing the verdict on sealed or secret documents went against "the **basic principles of natural justice"**. The said principle mandates that in any process of adjudication, especially one that involves fundamental rights, evidence "must be shared with both parties to the dispute."
	● What is further contested is whether the state should be granted such a privilege to submit information in secrecy, when existing provisions like in-camera hearings already provide sufficient protection to sensitive information.
	● Besides, it is argued that not providing access to such documents to the accused parties **obstructs their passage to a fair trial and adjudication**.
	○ In the 2019 judgment in the case of P Gopalakrishnan V. The State of Kerala, the Supreme Court had said that disclosure of documents to the accused is constitutionally mandated, even if the investigation is ongoing and said documents may lead to breakthrough in the investigation.
	○ In the INX Media case in 2019, while granting bail to Congress leader P. Chidambaram, a Bench of the Supreme Court had criticised the Delhi High Court for basing its decision to deny bail on documents submitted by the Enforcement Directorate (ED) in a sealed cover.
Draft India Data Accessibility & Use Policy, 2022	**Context:** The Ministry of Electronics and Information Technology (MEITY) on February 21, 2022 released a policy proposal titled as, "Draft India Data Accessibility & Use Policy, 2022". ● The generation of citizen data is slated to increase exponentially in the next decade and become a cornerstone of India's $5 trillion-dollar digital economy.

Why has the Draft Data Accessibility Policy been proposed?
- The policy aims to, "radically transform India's ability to harness public sector data".
- National Economic Survey, 2019 had noted that the private sector has the potential to reap massive dividends from Government data and it is only fair to charge them for its use. It aims to harness the **economic value of the generated data.**
- A background note outlines existing bottlenecks in data sharing and use which includes
  - The absence of a body for policy monitoring and enforcement of data sharing efforts
  - Absence of technical tools and standards for data sharing
  - Identification of high value datasets and licensing and valuation frameworks.
- It indicates a way forward to unlock the high value of data across the economy, congruent and robust governance strategy, making **Government data interoperable** and instilling data skills and culture.

How does the Draft Data Accessibility Policy aim to achieve its goals?
- The policy will be applicable to all data and information created, generated, collected and/or archived by the Central Government.
- It would also allow State governments to adopt its provisions.
- Its operationalisation will be achieved through the establishment of a **India Data Office (IDO) under MEITY** for overall management, with each government entity designating a Chief Data Officer.
- In addition to it, a **India Data Council** will be formed as a consultative body for tasks that include finalisation of standards.
  - It is not indicated whether the India Data Council will have non-governmental participation from industry, civil society or technologists.
- The policy strategy is to make Government data open by default and then **maintain a negative list of datasets** which cannot be shared.
  - Definition of more sensitive categories which should have restricted access is left to the independent government ministries.
- In addition to this, existing data sets will be enriched or processed to attain greater value and termed as high-value datasets.
- Government datasets including high-value datasets will be shared freely within government departments and also licensed to the private sector.
- As a measure of privacy protection, there is a recommendation for **anonymisation and privacy preservation.**

What are the privacy issues with the Draft Data Accessibility Policy?
- India does not have a **data protection law** that can provide accountability and remedy for privacy violations such as coercive and excessive data collection or data breaches.
- Here, inter-departmental data sharing poses concerns related to privacy since the open government data portal which contains data from all departments may result in the creation of 360 degree profiles and enable **state-sponsored mass surveillance.**
- Even though the policy considers anonymisation as a desired goal there is a lack of legal accountability and **independent regulatory oversight.**
- There is also a failure to consider scientific analysis and the availability of automated tools for the re-identification of anonymous data.
- This becomes important given the existing financial incentives of licensing to the private sector, where the **Government is acting as a data broker**.
- Here the commercial value of the data increases with greater amounts of personal data.

- The absence of an anchoring legislation further leads to the policy not being able to fulfill the threshold of legality for state intervention into privacy which was put in place by the Supreme Court of India in its landmark right to privacy decision.

Are there any other issues with the policy?
- There are three additional issues with the policy document that merit consideration.
- While adopting the language of open data it strays from its core principle of providing transparency of the Government towards its citizens. There is only **one mention of transparency** and little to no mention of how such data sharing will help ensure demands for accountability and redress.
- The second issue is that the **policy bypasses parliament** as it contemplates large scale data sharing and enrichment that will be borne from public funds.
- Further, the constitution of offices, prescription of standards that may be applicable not only to the Central government, but even State governments and schemes administered by them require legislative deliberation.
- This brings us to the third and final **issue of federalism.** The policy, even though it notes that State governments will be, "free to adopt portions of the policy," does not specify how such freedom will be achieved. It becomes relevant, if specific standards are prescribed by the Central government for data sharing, or as a precondition to financial assistance.
- There is also the absence of any comment on whether data gathered from States may be sold by the Central government and whether the proceeds from it will be shared with the States.

Connecting the dots
- Personal Data Protection Bill

Mother Tongue: Soul of Life

Context: The theme of this year's International Mother Language Day is focused on the **use of Technology for Multilingual Learning**.
- According to the Language Census India is home to 19,500 languages or dialects, of which 121 languages are spoken by 10,000 or more people in our country.
- National Education Policy released in 2020 has strongly advocated imparting early education in regional language or mother tongue.

The History
- On February 21, 1952, Pakistan's police opened fire on students of University of Dhaka (in erstwhile East Pakistan) protesting against the imposition of Urdu.
- The Bengali language movement demanded the inclusion of Bengali as a national language of Pakistan, in addition to Urdu, which was the mother tongue of only 3-4% of the nation, while Bengali was spoken by more than 50% of the population.
- On January 9, 1998, Canada-based Rafiqul Islam wrote to the United Nations, asking them to commemorate the 1952 killings in Dhaka and mark the day to preserve languages from around the world from extinction.
- This led to the declaration of 21st February as International Mother Language Day.

Cause of Concern
Mother tongue has a very powerful impact in the formation of the individual. A child's first comprehension of the world around him, the learning of concepts and skills and his perception of existence, starts with the language that is first taught to him - his Mother Tongue.
- When a person speaks their Mother Tongue, a direct connection establishes between heart, brain and tongue.
- Linguistic diversity is increasingly threatened as more and more languages disappear.
- Globally around 40 per cent of the population does not have access to an education in a language they speak or understand.

- Though the use of mother languages as mediums of instruction in school and higher education has been armoured from pre-Independence times, sadly, the number of those desiring to study in English has been multiplying exponentially.
- This has led to the burgeoning of monolingual educational institutes governed by the English language and is creating a society that is far from sensitive, just and equitable.
- The nature of dominance of English over all other mother languages is allied to power, status and identity of students. Students speaking different mother languages come together to study in an educational institute where they interact with each other without any difficulties at both school and higher education level. Yet they are being taught monolingually through a foreign language that not all students are able to associate with. The whole process has led to the ignorance of mother languages and a feeling of disassociation among students.

Need to teach children in their mother tongue

According to the National University of Education, Planning and Administration, the number of children studying in English medium schools in India increased by an astonishing 273% between 2003 and 2011.

Concerns around the subject

- Their parents think they know exactly what they are doing and why: they believe that knowledge of English is key to job security and upward mobility, and they are convinced that their children's opportunities will increase in direct proportion to their English vocabularies.
- They are right, but they need to understand that knowing English helps a lot in getting a good job, but only if that English is meaningful, accompanied by understanding and fundamental knowledge in all the other things children go to school to learn. The English used in most Indian schools simply does not allow for any real learning to take place.
- The subject is complex and fascinating. Given India's linguistic diversity, the dream of a common language is quiet powerful. And English seems to many the only solution. Yet the results so far are abysmal.

Concerns around the school's performance

- In the 2009 Program for International Student Assessment (PISA), India scored 75th out of 77 countries. This is an overall indicator of how schools are performing and does not specifically implicate English as a culprit. PISA continues to rank countries around the world, but after its 2009 humiliation, India has refused to participate, citing cultural inappropriateness in the testing.
- India's primary education is notorious for its rote learning, poorly trained teachers and lack of funding (India spends only 2.6% of its GDP on education; China spends 4.1 and Brazil is more than double India's at 5.7). English as the language of instruction makes all of it worse – developmentally, it is a disaster.
- Consider school from the child's perspective. Most kids are tiny when they set off from home. For the first time in their lives, they have to cope in a strange environment for many hours with a large number of other children whom they do not know. They must sit still, be quiet and speak only on command. The teacher, who is also a stranger, expects children to master completely new concepts: reading and writing; addition and subtraction; photosynthesis; the difference between a city and state and country.

Other countries do not do this to their children – China, France, Germany, Holland or Spain

- English is commonly mastered as a second language – and primary education happens in the dominant language of the area.
- At the moment, only about 17% of Indian children are in English medium schools. Current trends suggest that this figure will rise exponentially in the coming decade (Bihar saw a rise of 4700% in just five years).

Concerns around the expertise of teachers in the subject

- While the research is clear that children learn best in their own mother tongues, there are other compelling arguments as well, particularly in India.
- Classrooms are only as good as their teachers – in India, in 2012, 91% of the teachers currently serving in both private and government schools were unable to pass a national eligibility test.
- With this level of incompetence, we still expect them to teach in a language they are likely weak in themselves.

The Way Forward
- **Expand the initiative:** We must begin with imparting primary education (at least until Class 5) in the student's mother tongue, gradually scaling it up. For professional courses, while the initiative of the 14 engineering colleges is commendable, we need more such efforts all across the country.
- **Textbooks in Native Languages**: There is lack of high-quality textbooks in native languages at all levels. This creates bottleneck for more students to take up styding in their mother tongue and therefore needs to be addressed urgently.
- **Leveraging Technology in Digital age:** Content in the digital learning ecosystem is greatly skewed towards English which excludes the vast majority of our children, and this has to be corrected.
- **Non-exclusivist approach:** Educational institutions at all levels should not adopt 'Mother tongue versus English', but a 'Mother tongue plus English' approach. In today's increasingly interconnected world, proficiency in different languages opens new vistas to a wider world.

Conclusion
- The language of instruction should simply be a vehicle, an effortless flow of grammar and words which everyone absorbs without having to puzzle it through for meaning and definition.
- Science, maths and literacy are hard enough as it is without adding so many layers of complexity. The country needs its next generation of leaders to master their *fundas* thoroughly so they can go on to practise medicine, build bridges, put in plumbing and design solar lighting systems. And children can learn second, third and fourth languages all in good time.
- But that will happen only if those **youngsters grow up loving language**, not feeling threatened and judged by it.

We need them to write poetry and songs and novels. We need them to feel proud of their mother tongues, not apologetic and ashamed as if their intelligence is based on how much English they know.

Can you answer the following questions?
1. Why should children learn in their mother tongue? Discuss.

ECONOMY

Virtual digital assets and Digital Currency	**Context**: Finance Minister, in her Budget 2022 speech, announced a 30 per cent tax on income from virtual digital assets.
	• She further clarified that no deduction in respect of any expenditure or allowance shall be allowed while computing such income except the cost of acquisition.
	• Additionally, she also proposed a TDS on payment made in relation to the transfer of virtual digital assets at 1 per cent above a monetary threshold.
	• In short, the finance minister has proposed a flat 30 per cent tax on digital asset gains regardless of any long-term or short-term holding by the investor.
	• Additionally, if a virtual digital asset investor incurs losses during the transaction, it can't be set off against any other income.
	• The gifting of virtual digital assets has also been proposed to be taxed in the hands of the recipient.
	What are virtual digital assets and how are they different from digital currency?
	• Reserve Bank will be issuing a **digital currency**, a currency is a currency only when it is issued by the central bank even if it is a crypto.
	• But anything which is outside of that loosely all of us refer it to be cryptocurrency but they are not currencies.
	• Union Government clarified that what the RBI issues in the next fiscal will be the digital currency and everything else apart from that are digital assets being created by individuals and the government will be taxing the profit which are made during transactions of such assets at 30 per cent.
	• Further, a market is emerging where payment for the transfer of a virtual digital asset can be made through another such asset. Accordingly, a new scheme to provide for taxation of such virtual digital assets has been proposed in the Bill.
	What are the Benefits of Central Bank Digital Currency?
	• **Alternative to physical cash**
	• **Instantaneous process**: Transacting with CBDC would be an instantaneous process. The need for inter-bank settlement would disappear as it would be a central bank liability handed over from one person to another.
	• **Reduces cost of currency management:** India's fairly high currency-to-GDP ratio holds out another benefit of CBDC. Large cash usage can be replaced by CBDC. Also, the cost of printing, transporting and storing paper currency can be substantially reduced.
	• **Need of the hour**: If the private currencies gain recognition, national currencies with limited convertibility are likely to come under some kind of threat. CBDCs thus become the need of the hour.
	• **Volatility**: CBDCs, being the legal tender by Central Bank, will not witness any volatility as in the case of cryptocurrencies.
	• **Easy tracking of currency**: With the introduction of CBDC in a nation, its central bank would be able to keep a track of the exact location of every unit of the currency.
	• **Curbing Crime**: Criminal activities can be easily spotted and ended such as terror funding, money laundering, and so forth
	• **Scope in Trade**: Foreign trade transactions could be speeded up between countries adopting a CBDC.
	How does the government define virtual digital assets?
	• In the explanatory memorandum of the Finance Bill, the government stated, "To define the term "virtual digital asset", a new clause (47A) is proposed to be inserted to section 2 of the Act.

	- As per the proposed new clause, a virtual digital asset is proposed to mean any information or code or number or token (not being Indian currency or any foreign currency), generated through cryptographic means or otherwise, providing a digital representation of value which is exchanged with or without consideration, with the promise or representation of having inherent value, or functions as a store of value or a unit of account and includes its use in any financial transaction or investment, but not limited to, investment schemes and can be transferred, stored or traded electronically. - Non fungible token and; any other token of similar nature are included in the definition.
Declining Birth Rate and need for Change	**Context:** The country's fertility rate has already fallen below the replacement level, 2, according to the latest data from the National Family Health Survey. - The ongoing shock and uncertainty caused by the pandemic will likely **drive down birth rates** even further. - Decreased fertility has many rewards, but this demographic achievement might come with a price that has profound implications for India's health, fiscal and gender policies. Source: World Population Prospects,2019) **What are the concerns with low birthrates?** - **Shrinking Youth Population**: With a lower number of births, the youth population will keep shrinking. As the size of the youth population falls, the number of older adults will surpass the young. - **Increasing Dependence Ratio**: Dependency ratio is measured as the number of people aged 65 and up compared to the population aged 15-64. It has moved from 5.4 in 1960 to 9.8 in 2020 and will increase to more than 20.3 in 2050. - **Job Squeeze**: Demand for work within the older adult population will grow and may result in delayed retirement, leading to a "job squeeze" in which the young and old alike compete for a limited number of jobs. - **New Health challenges:** With the increased number of older adults, the number of non-communicable diseases is already outgrowing infectious diseases. This demands a significant policy shift towards preventing and managing morbidities like diabetes, cardiovascular diseases and cancer.
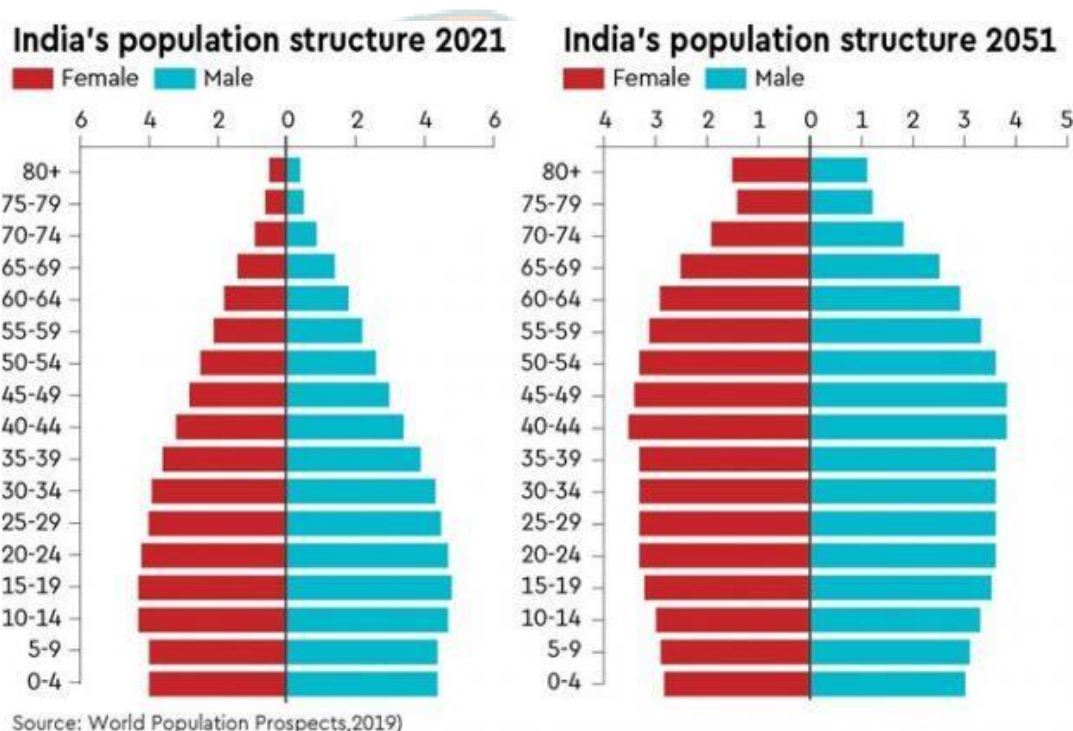
- **Challenges with Health Insurance**: Less than 1% of older adults have health insurance, and ageing-related morbidities are a grey area in terms of coverage. Most older adults depend on families and immediate relatives for healthcare. As family size shrinks due to declining births, such informal safety nets may not be a viable option in the near future.
- **Challenges on Food Security:** Older adults are still at risk of food and nutrition insecurity, as their declining social and economic bargaining power often makes them dependent on social security. 6% of Indians over the age of 45 have experienced insufficient food in the household which is expected to grow in future.
- **Gender Issue:** As the older portion of the population grow, the number of older adult women will be greater than the number of men. By 2050 women will make up 56% of India's population at the age of 80.
    - Due to the difference in life expectancy, more women will live as widows in the later stages of their lives. Historically, widowhood is closely linked to the social and economic insecurity in India.
    - Older women will be less empowered, vulnerable to social insecurity and at greater risk of both chronic and acute health disorders
- **Need for Reassessing Social Security Focus**: India will need to reassess its social-security focus and make investments to provide the growing number of older adults with improved access to healthcare, income-security and social safety-nets.

Way Ahead
- India needs to move simultaneously towards two goals: investing in today's youth to build a healthy and empowered population in long run, and creating a more protected platform to provide immediate benefits for older adults.
- By doing so, India can achieve "**healthy ageing**" and flatten the curve where disease, disability and disempowerment accumulate with age.
- Promoting **healthy investment behaviours** among young workers will help in economic empowerment at a later age.
- Targeted **behaviour-change communication** for healthy life practices will enable the youth to grow healthier.
- Replicating the model of ASHA workers, and creating a cadre of health outreach workers trained in first-line **care of geriatrics** will be helpful.
- The **negative cultural view of old age** must come to an end.
- Government policies should converge around the goal of promoting active aging to keep older adults economically productive. Senior workforce participation can be an added advantage when older adults bring their experience and wisdom to the workplace to optimise youth energy.
- Moving forward, the gendered approach to health care, food security and overall well-being must include a new dimension: old age.
- India must increase its **old age pension share**, which is currently 1% of the GDP.

Time to relook at the Privatisation Policy	**Context:** There is consensus among policymakers for privatisation of public sector undertakings (PSUs), especially in neo-liberal world order, for its ability to grow faster. **What is the reality of Privatisation?** ● **Performance of Privatised Firms not guranteed:** The gap in growth (and service) between PSUs with autonomy and private firms is not significant. 　○ For example: Studies have shown that the famed British privatisation initiative of British Airways, British Gas, and the Railways led to no systemic difference in performance 　○ Evidence on performance after privatisation is even more mixed in developing countries.

- **Performance may be due to other factors**: Growth post-privatisation is often due to multiple factors (for example, better funding under a private promoter versus a starved government budget, a better business cycle). Sometimes, the difference in a PSU's performance is simply government apathy.
- **Low Realisation of Revenues:** Privatisation as a revenue source has also offered paltry return with actual receipts from disinvestment always significantly short of targets. For example, in FY11, ₹22,846 crore was raised against a target of ₹40,000 crore; by FY20, ₹50,304 crore was raised against a target of ₹1 lakh crore.
  - In total, between FY11 and FY21, about ₹5 lakh crore was raised (that is, about 33% of just FY22's projected fiscal deficit of ₹15.06 lakh crore.)
- **Outright Privatisation** has not been yielding results in India. Aside Air India, a recently held auction of about 21 oil and gas blocks had only three firms participating, of which two were PSUs; 18 blocks ended up with just a single bid.
- **Challenge of valuation** – for example, about 65% of about 300 national highway projects have been recording significant toll collection growth (>15%, since they have been in operation); any valuations of such assets will need to ensure they capture potential growth in toll revenue.
- **Social consequences:** PSUs have been significant generators of employment in the past, with multiplier effects – there were about 348 CPSUs in existence in 2018, with a total investment of ₹16.4 trillion and about 10.3 lakh employees in Central PSUs (in 2019). A push for privatisation is a push for mass layoffs, in a period of low job creation.
- **Concentration of public assets in select private hands**: In India, about 70% of all profits generated in the corporate sector in FY20 were with just 20 firms (in comparison, the situation in FY93 was about 15%). Across sectors oligopoly is emerging. Such concentration, mixed with privatisation of public assets, is likely to lead to higher usage fees (already being seeing in telecom) and inflation, coupled with a loss of strategic control.

Are there any alternative models for Privatisation?
1. Maruti Model
- The government had a joint venture with the Suzuki Corporation, but ceded control, despite Suzuki having only 26% shareholding. Exits from Maruti were conducted in **small tranches,** ensuring a better valuation for the government
- Empirical evidence highlights that **stake sales** are considered a preferred route (about 67% of all PSU sales in about 108 countries between 1977 and 2000 were conducted via this route), as it gives time to ensure price discovery, allowing improved performance to raise valuations over time,

2. Corporatisation of PSUs under Holding Company
- In China, for the past few decades, growth has been led by corporatised PSUs, all of them held under a holding company (SASAC), which promotes **better governance**, appoints leadership and executes mergers and acquisitions.
- In Singapore, the Ministry of Finance focuses on policymaking, while Temasek (the holding firm) is focused on corporatising and expanding its PSUs (for example, Singtel, PSA, Singapore Power, Singapore Airlines) towards a global scale.
- A PSU with greater autonomy, with the government retaining control via a holding firm, can also be subject to the right incentives.

Conclusion
The time has come to take a relook at privatisation. Simply pursuing this path, while utilising such proceeds for loan write-offs or populist giveaways in the election cycle will not do. A hunt for immediate revenue should not overshadow the long-term interest of the ordinary Indian.

| An MSP scheme to transform Indian agriculture | **Context:** The massive solidarity (despite deeply divisive social faultlines) seen in the recent farmers' movement is a struggle to transform Indian agriculture. One of the core demands of the movement was regarding Minimum Support Price regime (where farmers demanded legal backing for it)

What purpose does MSP serve?
MSP could serve, in principle, three purposes —
  ● Price stabilisation in the food grains market
  ● Income support to farmers
  ● A mechanism for coping with the indebtedness of farmers.

How has Price stabilization policy evolved over years?
  ● The price stabilisation policy for food grains in India evolved over time, first with the **Essential Commodities Act in 1955** to counter price rise due to speculative private trading and then **MSP in the 1960s.**
  ● A **buffer stock policy** with the public storage of food grains for market intervention was developed that entailed storing the procured surplus for sale through the **Public Distribution System (PDS)** at issue price, and market intervention to stabilise price when deemed necessary.
  ● This task required interlinking procurement, storage and distribution with more centralised investment and control of each of these tasks.
  ● These induced farmers to shift to a **high-yielding varieties cropping pattern** during the Green Revolution, while ensuring food security for citizens.

What has been the consequences of the above policies?
  ● The procurement and PDS from the Green Revolution period provided assured price incentives for rice and wheat but left out some 20 crops now under discussion for MSP including millets, coarse cereals, pulses and oilseeds.
  ● As a result, this partial MSP coverage **skewed the cropping pattern** against several coarse grains and millets particularly in rain-fed areas.
    ○ From the time of the Green Revolution till recently, the area under cultivation of rice increased from 30 million hectares to 44 million hectares, while that under wheat increased nine million hectares to 31 million hectares.
    ○ However, area under the cultivation of coarse cereals decreased from 37 million hectares to 25 million hectares.
  ● As a result, these left-out crops (grown mostly in rain-fed conditions) were not made available in ration shops, which **impacted the nutritional security** of people.
    ○ Almost 68% of Indian agriculture is rain fed and the crops grown in these regions are usually more drought resistant, nutritious and staple in the diet of the poorer subsistence farmers.
  ● Such a regime also posed huge fiscal burden on government as the total economic cost involving subsidy for selling below market price would be around ₹3 lakh-crore.

What measures needs to be taken to reform MSP?
  ● **Wider MSP:** Greater coverage of all 23 crops under MSP is a way of improving both food security and income support to the poorest farmers in rain-fed regions.
  ● **Price Band:** Each crop within a band of maximum and a minimum price depending on harvest conditions (i.e. higher price in a bad and lower price in a good harvest year in general) will have its price set in the band.
    ○ The price of some selected coarse grains can be fixed at the upper end of its band to encourage their production in rain fed areas. |

- **Bank Credit**: A real breakthrough in the recurring problem of agricultural debt can be made by the linking of selling of grains under MSP to provision of bank credit particularly for small farmers.
  - The farmer can get a certificate selling grains at MSP which would be credit points proportional to the amount sold and this can entitle them to a bank loan.
- **Decentralising the implementing agencies:** MSP scheme could be implemented effectively upon decentralising the implementing agencies under the constitutionally mandated supervision of panchayats.

What will be the additional cost for govt in case of widened MSP?
- Of the total grains produced some 45%-50% is for farmers' self-consumption and the rest is marketed surplus.
- This marketed surplus sets the upper bound of total procurement cost from which must be deducted the net revenue recovered through the PDS (if all these crops are sold through ration shops). Preliminary estimate puts it in the range of ₹**5 lakh-crore.**
- This is not a big amount considering that it is of the same order of magnitude as DA to public sector employees (less than 5% of the population).
- The additional amount can be tapped from the income foregone announced in the Budget for a handful of industrial houses (₹3 lakh-crore)
- Increased expenditure on MSP will benefit more than half the population directly and another 20%-25% of the population indirectly in the unorganised sector — over 70% of India's citizens.

Connecting the dots
- The basis of MSP
- MSP in the age of Surplus
- How has agri-marketing policy changed over years
- New Farm Acts and Opposition to it
- Repeal of Farm Laws
- Legal Guarantee for MSP

Credit Rating agencies	**Context:** Recently, Credit ratings agencies' termed India as the most indebted emerging market and the claimed that the latest budget did not provide clarity on fiscal consolidation plans. - In response, Finance Secretary accused ratings agencies of "double standards" when assessing emerging markets and developing economies. **What did the rating agencies say?** - Fitch, a rating agency, had stated that higher deficits and continued lack of clarity on medium-term consolidation plans in the recent Union Budget was its rationale for projecting of a **downward trajectory in the country's debt/GDP**. - The report concluded saying, "The government has **little fiscal headroom** at its current level to respond to possible shocks to growth." - Another agency, Moody's, said the Union Budget was growth-oriented, credit positive for many issuers but the **budgetary provisions posed fiscal challenges**. Focus on capital expenditure, it said, supported near-term growth but challenged long-term fiscal consolidation. Additionally, the budget projected only a slight narrowing in the central government deficit. **What is a rating agency?** - Ratings agencies **assess the credit worthiness** or potential of an equity, debt or country.

- Their reports are read by investors to **make an informed decision** on whether or not to invest in a particular country or companies in that geography.
- They assess if a country, equity or debt is **financially stable** and whether it at a low/high risk. In simpler terms, these reports help investors gauge if they would get a return on their investment.
- The agencies periodically re-evaluate a previously assigned ratings after new developments (example, Coronavirus pandemic or a geography-specific climate change), geo-political events or a significant economic announcement by the concerned entity.
- Their reports are sold and published in financial and daily newspapers.

What grading pattern do they follow?
- The three prominent ratings agencies, viz., Standard & Poor's, Moody's and Fitch subscribe to largely similar grading patterns.
- **Standard & Poor's** accord their highest grade, that is, AAA, to countries, equity or debt with the exceedingly high capacity to meet their financial commitments.
    - Its lowest grade is 'D', accorded to entities with high probability of payment default or breach of an imputed promise.
    - Its grading slab includes letters A, B and C with an addition a single or double letter denoting a higher grade.
- **Moody's** separates ratings into short-term (obligations maturing in thirteen months or less) and long-term definitions (obligations maturing in eleven months or more)
    - Its longer-term grading ranges from Aaa to C, with Aaa being the highest. The succession pattern is similar to S&P.
    - The short-term ratings scale ranges from P-1 to NP, with P-1 being the highest.
- Fitch, too, rates from AAA to D, with D being the lowest. It follows the same succession scheme as Moody's and Fitch.

Do countries pay attention to ratings agencies?
- Lowered rating of a country can potentially cause panic selling or offloading of investment by a foreign investor.
- In 2013, the European Union opted for regulating the agencies. Also, in order to discourage domination by three it recommends use of smaller credit agencies.
- Back in September 2021, Finance Ministry officials had pitched for an upgrade in India's rating from Moody's Investor Service. Moody's had downgraded the India's rating to Baa3 in June 2020. The agency stated that the lowest investment grade was accorded because of a prolonged economic slowdown and deteriorating fiscal position.
- In November, Fitch had affirmed India's rating at BBB-.

Criticism of rating agencies
- Popular ratings agencies publicly reveal their methodology, which is based on macroeconomic data publicly made available by a country, to lend credibility to their inferences.
- However, credit rating agencies were subjected to severe criticism for allegedly **spurring the financial crisis in the United States**, which began in 2017. They were charged for methodological errors and conflict of interest on multiple counts.
- Over reliance on credit ratings may reduce incentives for investor to develop their own capacity for credit risk assessment.
- **Domination** by three agencies (namely, Fitch, Moody's and Standard & Poor's) often leading to distortion of the credit ratings.

Thousands may face starvation from February to May in 'hunger hotspots'	**Context:** People living in parts of 20 countries will face acute food insecurity from February through May 2022, warned Food and Agriculture Organization (FAO) and World Food Programme (WFP). Urgent and targeted humanitarian action is needed in these places to avoid putting the lives and livelihoods of this population at risk.

* Ethiopia, Nigeria, South Sudan and Yemen are on the highest alert, according to the research paper Hunger Hotspots.
* A share of the population in these four countries were projected to experience starvation and death in the last assessment by the agencies for August to November 2021.

Map of hunger hotspots
February to May 2022 Outlook
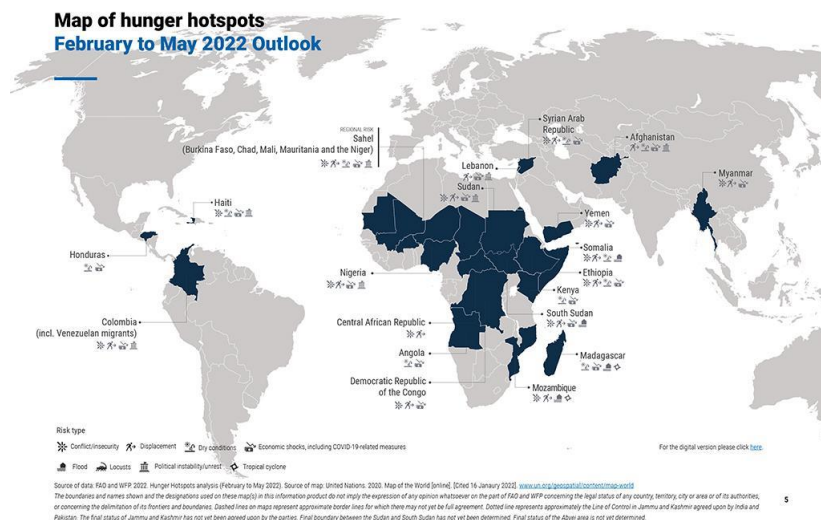
Famine

IPC defined famine as an extreme deprivation of food. This refers to a condition in which

* an area has at least 20 per cent households facing extreme lack of food
* at least 30 per cent children suffering from acute malnutrition and
* Two of every 10,000 people dying each day due to outright starvation or to the interaction of malnutrition and disease.

Area-wise

* At least 13,550 people in conflict-affected northern Nigeria and in particular Borno state could face catastrophic food insecurity (IPC Phase 5) from June to August 2022 if adequate humanitarian and resilience-building assistance are not provided.
* In Afghanistan, a total of 8.7 million people by March 2022 is expected to slide into critical levels of acute food insecurity (IPC Phase 4). This is more than double the number from the same time last year.

Drivers of food insecurity

A combination of factors are behind the acute food insecurity in these hotspots during the outlook period such as

* **Organized violence and conflict:** In Myanmar, Central African Republic, the Democratic Republic of the Congo, Central Sahel, Sudan, South Sudan, Somalia, the northern parts of Ethiopia, Nigeria and Mozambique, people were forced to abandon their land, homes and jobs due to conflict situations
* **Economic shocks** including impacts of COVID-19 pandemic will continue to drive food prices higher
* **Extreme weather events:**
  o Weather extremes such as heavy rains, tropical storms, hurricanes, flooding, drought and climate variability
  o The ongoing La Niña conditions led to an elevated risk of a two-year sequence of dry conditions, particularly in East Africa and Central Asia

- o Impact of climate extremes on food security was seen in Haiti, Eastern Africa, Madagascar, Mozambique and in Afghanistan's western region of Badghism
- **Animal and plant pests and diseases**
- **Poor humanitarian access:** Humanitarian access is limited in various ways, including administrative/bureaucratic impediments, movement restrictions, security constraints and physical constraints related to the environment.

What is happening in India?
How did India's food system work during Pandemic?
- During the COVID-19-precipitated lockdown, the FAO, IFAD and the WFP worked in close coordination to support the Government of India's Empowered Group 5 on facilitating supply chain and logistics management, so necessary items such as food and medicines were available.
- Over the past few decades, India has gone from being a net importer to a net exporter of food grains. This strength has been evident through the pandemic.
- During April to June 2020, Central and State governments were able to distribute around 23 million tonnes from India's large domestic food grain reserves through Public Distribution System
- The government also successfully **mobilised food rations for 820 million people** from April to November 2020, including finding alternate solutions to provide food rations to 90 million schoolchildren.
- During pandemic's initial days of lockdown, there were efforts to remove bottlenecks in the food supply chain to ensure that agricultural activities weren't disrupted.
- As a result, agriculture grew at 3.4% during the first quarter this financial year and the area cultivated this *kharif* exceeded 110 million hectares.

Challenges Ahead for India
- **High number of Malnourished**: The Comprehensive National Nutrition Survey 2016-18 revealed that over 40 million children are chronically malnourished, and more than half of Indian women aged 15-49 years are anaemic.
- **Climate change** continues to be a real and potent threat to agrobiodiversity, which will impact everything from productivity to livelihoods across food and farm systems.
- **Small Land Size:** Intensified food production systems with excessive use of chemicals and unsustainable farming practices cause soil degradation, fast depletion of groundwater table and rapid loss of agro-biodiversity. These challenges multiply with an increase in fragmentation of landholdings.

Way Ahead & Learnings for India
- **The way we produce food must change** through agroecology and sustainable production practices in agriculture and allied sectors
- India must **stop the waste** — one-third of the food we produce is wasted.
- COVID-19 and now the new realityis an opportunity to **adopt innovative solutions** based on scientific evidence so they can build back better and make food systems more resilient and sustainable
- **Everybody** — governments, the private sector, civil society and local communities- **has a role to play** in transforming our food systems so they can withstand increasing volatility and climate shocks

Can you answer the following questions?
1. Discuss the concept of food security. Also examine the reasons for the world food problem.
2. What are the factors contributing to India's below par performance on addressing hunger and malnutrition despite having adequate food stocks? Examine.

3. There are many international organisations and programmes that work for the eradication of extreme poverty and hunger. Can you discuss at least three of them? Also, discuss their mandate and objectives.

ENVIRONMENT

Our broken system of environmental clearance	**Context:** The Union Ministry of Environment, Forest and Climate Change (MoEFCC) has announced that it will rank the state environmental impact assessment authorities based on seven different criteria, which would exhibit their efficiency/on the speed at which environmental approvals are given. This received criticisms from all sides, leading the Ministry to state some clarifications – ● The move is aimed at encouraging the efficiency, transparency and accountability in the functioning of SEIAAs without diluting any regulatory safeguards. ● No SEIAA will be penalised for taking more time in granting permission. The SEIAAs are responsible for providing permissions and environmental clearance for more than 90 per cent infrastructure, developmental and industrial projects in the country, once they assess that these projects have little environmental impact. ● The ministry has taken several initiatives for streamlining the EC (environmental clearance) process and reduce the undue time taken in grant of clearances. As a step further new rating of SEIAAs has been introduced for encouraging the efficiency, transparency and accountability in the functioning of SEIAAs. **Why did it face backlash?** ● Undermines the role of regulatory oversight in environmental protection — recognised in several Supreme Court verdicts as one of the key instruments to ensure the right to life. ● The ranking exercise will compromise the SEIAAs' mandate to assess the impact of industrial, real estate and mining schemes on the environment and lead to an unhealthy competition amongst these agencies to swiftly clear projects without due diligence. **Instances where the Ministry has chipped away at key environmental regulation** ● Extended the deadline for compliance with emission norms for most thermal power plants from 2022 to 2025 and planned to reduce the ecological protection accorded to the Andaman and Nicobar Islands. ● Diluted the Coastal Zone Notification and proposed to amend the Forest Conservation Act to allow the use of forests for infrastructural projects in areas of "strategic importance". ● Granted relaxations include thermal power plants, manufacturing and mining of coal, minerals and ordinary earth for linear projects. **Other Challenges** ● **Inadequate capabilities:** Lack of trained EIA professionals often leads to the preparation of inadequate and irrelevant EIA reports. ● **Public Consultation:** Public comments are not considered at an early stage, which often leads to conflict at a later stage of project clearance. ● **Neglect of indigenous knowledge:** The data collectors do not pay respect to the indigenous knowledge of local people. ● **Communication issues:** Most reports in English and not in the local language. Hence, local people do not understand the intricacies of the report. ● **Poor review or monitoring:** EIA review is not up to the mark. The review agency called Impact Assessment Agency (IAA) lacks inter-disciplinary capacity. ● **Corruption:** There are so many cases of fraudulent EIA studies where erroneous data has been used, same facts used for two totally different places etc. ● **Distorted Focus:** The focus of EIA needs to shift from utilization and exploitation of natural resources to conservation of natural resources.

- **Exempt Categories:** For defence and national security installations, the EMP (Environment Management Plan) are often kept confidential for political and administrative reasons.
- **Considered as impediment to the ease of doing business:** Industries and business interests have long regarded EIA as a thorn in their side increasing their transaction cost and complicating the business process.

Conclusion

At a time when climate change is driving home the ecological fragility of large parts of India and pollution and water scarcity are taking a serious toll on the well-being of people in cities, towns, and villages, regulatory bodies require enabling policies to perform their tasks with rigour. The grading exercise, instead, reduces them to clearing houses. The Centre must rethink its move.

Note:

Environment Impact Assessment (EIA)
- UNEP defines EIA as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making.
- It aims to
    - Predict environmental impacts at an early stage in project planning and design,
    - Find ways and means to reduce adverse impacts,
    - Shape projects to suit the local environment and
    - Present the predictions and options to decision-makers.
- By using EIA both environmental and economic benefits can be achieved, such as reduced cost and time of project implementation and design, avoided treatment/clean-up costs and impacts of laws and regulations.
- EIA in India is statutorily backed by **the Environment Protection Act, 1986** which contains various provisions on EIA methodology and process
- The assessment is carried out by an Expert Appraisal Committee (EAC), which consists of scientists and project management experts.

What is the philosophy behind EIA?
- The basis in global environmental law for the EIA is the "**precautionary principle**". Environmental harm is often irreparable — one cannot reverse an oil spill.
- It is cheaper to avoid damage to the environment than to remedy it.
- Also, we are legally bound to the precautionary principle under international treaties and obligations, as well as by Supreme Court judgments.

History of EIA in India
- The Indian experience with EIA began in 1976-77 when the Planning Commission asked the Department of Science and Technology to examine the river-valley projects from an environmental angle.
- Till 1994, environmental clearance from the Central Government was an administrative decision and lacked legislative support.
- In 1994, the Union Environment ministry under the **Environmental (Protection) Act 1986**, promulgated an EIA notification making Environmental Clearance (EC) mandatory for activity listed in Schedule 1 of the notification
- Since then there have been 12 amendments made in the EIA notification of 1994 the latest one being in 2006 which has put the onus of clearing projects on the state government depending on the size/capacity of the project.
- Additionally, donor agencies operating in India like the World Bank and the ADB have a different set of requirements for giving environmental clearance to projects that are funded by them

Can you answer the following questions?

	1. What are the main principles of environmental impact assessment (EIA)? Is EIA central to various infrastructure projects in India? Examine.
Green, resilient and inclusive development	**Context:** The decade following the 2009 global financial crisis was characterised by growing structural weaknesses in developing countries, which have been further aggravated by the COVID-19 pandemic and climate change, worsening poverty and inequality. ● These weaknesses include slowing investment, productivity, employment, and poverty reduction; rising debt; and accelerating destruction of natural capital. ● The pandemic has already pushed over 100 million more people into extreme poverty and worsened inequality. ● The effects of climate change are expected to push an estimated additional 130 million people into extreme poverty by 2030. COVID-19 and climate change have starkly exposed the interdependence between people, the planet, and the economy. All economic activities depend upon ecosystem services, so depleting the natural assets that create these services, eventually worsens economic performance. **Recovery Packages** A business-as-usual recovery package that neglects these interlinkages would not adequately address the complex challenges that confront the world nor its structural weaknesses and would likely result in a lost decade of development. ● Targeting socioeconomic, climate change and biodiversity challenges in isolation is likely to be less effective than a coordinated response to their interacting effects. ● A continuation of current growth patterns would not address structural economic weaknesses and would erode natural capital and increase risks that affect long run growth. ● As the depletion of forests, oceans, and other natural assets worsen, the cost of inaction is becoming more expensive than the cost of climate action and it is the poor and vulnerable who are most disadvantaged by it. **The Answer lies in – The GRID approach** The solution is to adopt a **Green, Resilient and Inclusive Development (GRID) approach** that pursues poverty reduction and shared prosperity with a long-term sustainability lens. This approach sets a recovery path that ● Maintains a line of sight to long-term development goals ● Recognizes the interconnections between people, the planet, and the economy ● Tackles risks in an integrated way A green recovery will not just be beneficial for combating climate change but also offer the best economic returns for government spending and yield development outcomes. The GRID approach is novel in two respects. ● First, the GRID approach pays particular attention to their **interrelationships** and thus, on the **cross-sectoral nature of critical development policies**. ● Second, achieving GRID implies simultaneously and systematically addressing **sustainability, resilience and inclusiveness**. GRID is a balanced approach focused on development and sustainability and tailored to each country's needs and its Nationally Determined Contributions (NDC) objectives. Such a path will achieve lasting economic growth that is shared across the population, providing a robust recovery and restoring momentum on the Sustainable Development Goals (SDGs). **Recovering from COVID-19 with GRID** Looking ahead, setting a path to GRID will require urgent investments at scale in all forms of capital (human, physical, natural, and social) to address structural weaknesses and promote growth. ● Most urgently, a **fast and fair vaccine rollout** is critical to an L-shaped recovery. Vaccine access and deployment presents challenges unprecedented in scale, speed and specificities, which will require strong coordination.

- Special attention is needed on **human capital development** to rebuild skills and recover pandemic related losses, especially amongst marginalised groups. While the pandemic has amplified the **challenges of providing education for all**, it has also highlighted how disruptive and transformational technologies can be leveraged in addition to traditional in person learning to help education services withstand the unique pressures of this time.
- **Women must be at the center** of the GRID agenda as powerful agents of change. Education for girls, together with family planning, reproductive and sexual health, and economic opportunities for women will accelerate the green, resilient and inclusive dimensions of development.
- **Technology and innovation** will play an essential role in **promoting low carbon growth**. Recovery packages are an opportunity to prioritise investments in the infrastructure needed to develop and roll out transformative technologies.
- **Securing green finance at scale** will be essential for the GRID agenda. The low carbon transition may offer an opportunity for investors, especially as the returns to green investments begin to exceed investments in more conventional technological choices.
- **Necessity and urgency of systemic investments and transformations**
  - Transformational actions will be needed in key systems — for example, energy, agriculture, food, water, land, cities, transport and manufacturing — that drive the economy and account for over 90 percent of greenhouse gas emissions.
  - Such a transition, by addressing economic distortions, will promote greater economic efficiency and reduce adverse productivity and health impacts, leading to better development outcomes.
  - Domestic resource mobilisation can also be increased by enhancing tax progressivity, applying wealth taxation, and eliminating tax avoidance. There is also a need for greater selectivity and efficiency in spending.
  - But the fruits of the transition may not be evenly distributed and will require a range of **social and labour market policies that address adverse impacts, safeguard the vulnerable and deliver a just transition**.
  - The GRID approach, therefore, supports a transition to a low carbon economy while considering countries' energy needs and providing targeted support for the poorest.
- **Significant reforms of fiscal systems** will be needed to mobilise domestic resources and finance the transition. Taxes on externalities are a large and unused source of potential revenue, which can create incentives for the private sector to invest in more sustainable activities. Domestic resource mobilisation can also be increased by enhancing tax progressivity, applying wealth taxation, and eliminating tax avoidance. There is also a need for greater selectivity and efficiency in spending.
- **A strong private sector involvement** will be needed. The scale of investment needed far exceeds the possibilities of the public sector. Reforms are needed to remove constraints to private investment in appropriate sectors and technologies.
  - Thus, at the country level, a strong partnership and dialogue between the public and private sector is urgently needed.
  - And further developing and implementing green financial sector regulation, such as reporting standards and green taxonomies, can help harness investors' increasing appetite for sustainable investments, which offer both measurable impacts on the environment and society.
- **Multilateral development banks (MDBs) and Development Finance Institutions (DFIs)** must focus on catalytic and transformational investments in priority areas to develop green, inclusive and resilient project pipelines that support economic growth, and job and income generation.

Conclusion

Countries face a historic opportunity to establish a better way forward. Despite the damage wrought by the pandemic, the exceptional crisis response offers a unique opportunity for a "reset" that addresses past policy deficiencies and chronic investment gaps.

Can you answer the following questions?

1. By investing now to build a green, resilient and inclusive economy, countries can turn the challenges of COVID-19 and climate change into opportunities for a more prosperous and stable future. Discuss.
2. Interdependence between climate change and Covid-19 – comment.

Odisha can see highest human casualties due to elephant conflict this year	**Context:** Odisha can see the highest-ever human casualties due to human-elephant conflict (HEC) in 2021-2022 than the years before, experts have warned.

● Some 97 people have been killed in HEC from March 2021 to January 18, 2022.
● There have been 96 injuries.
● Sundargarh has recorded the highest human deaths due to HEC this year: 21 of the total 97 deaths. It is followed by Keonjhar (12) where rampant mining is permitted by the forest department.
● Some 611 elephants too have died in Odisha from April, 2014 to January 18, 2022. Of these, 191 have died unnatural deaths mainly due to electrocution (90), poaching and poisoning (77) and train and road kills (24).

Reasons for man-animal conflict:
● Expansion of human settlements into forests – expansion of cities, industrial areas, railway/road infrastructure, tourism etc.
● Allowing livestock to graze in forest areas
● Land use transformations such as change from protected forest patches to agricultural and horticultural lands and monoculture plantations are further destroying the habitats of wildlife.
● Unscientific structures and practices of forest management in the country
● Infestation of wildlife habitat by invasive exotic weeds leads to decreased availability of edible grasses for wild herbivores
● Decreased prey base caused by poaching of herbivores has also resulted in carnivores moving out of forests in search of prey and to indulge in cattle lifting.
● **Due to uncontrolled mining activity**, the stressed elephants are angry and enter villages in search of food, killing locals in the process. Every mining proposal in dense forests that are elephant habitat and feeding grounds has been cleared by the department,

The Way Forward

India's culture of tolerance must be supplemented by innovative, evidence-driven, socially-just institutions that govern the human-wildlife interface. For this, the Indian government and civil society need relevant and timely data.

First, we need to better understand the core ecological variables
● How many elephants are there, and how are they distributed? Do the forests that the elephants live in have enough palatable vegetation, or has it been replaced by invasive weeds and inedible plantation trees like teak?
● In northeast India, we don't even know all the places elephants go, inhibiting the protection of their habitat and lives. Such vital data could empower conservationists to pursue forest regeneration, grassland restoration, and corridor protection necessary to support large populations of elephants.

Second, data on human-elephant conflicts
● Currently, data on crop-raiding by elephants, elephant deaths, and human deaths due to conflict are buried in paper files scattered across the country, preventing timely analyses. If state governments develop electronic databases on human-elephant

conflict, the government and civil society can target interventions to places where elephants are troubling communities.
- We can strategically choose where to help farmers replace lethal electric fences with effective non-lethal barriers, deploy awareness programmes to minimise accidental encounters, and strengthen the administration of fair compensation programmes.
- The building of such evidence-driven institutions to protect elephants requires funding. While NGOs could use help from the private sector, the government must also step up.

Third, consider further dis-incentivizing cruelty towards animals
- Currently, the wildlife laws guiding sentencing for illegal hunting do not consider whether the animal suffered a slow and painful death. India's conservation laws are geared to protect species, not prevent animal cruelty.
- Accepting that the people will continue to kill wild animals, perhaps our laws should regard cruel acts more harshly than, say, defending crops with a gun when there is no alternative.

Also,
- 60 per cent of HEC involved tuskers. It was possible to prevent these confrontations if tuskers were identified and continuously tracked by expert trackers. Tracking is not happening since most trackers are actually deployed on other duties.
- Humans encountered elephants early in the morning while going out to relieve themselves in 50 per cent of the cases. The forest department should convince people to use toilets built under the Swachh Bharat Mission.
- Local youth teased elephant herds who then vented their anger on old people who could not run. Some casualties had occurred while people were taking selfies with elephants. The forest department must prevent this harassment by putting up warning sign boards and punishing offenders.
- Nearly 25 per cent of human casualties happened when the walls of huts were toppled by elephants to raid paddy and liquor. A massive door-to-door campaign needed to be launched by the forest department to make people aware about the danger of storing food grains and liquor in bedrooms.
- The forest department must prevent people from collecting fruits from reserve forests and sanctuaries so that there is enough left for elephants' consumption.
- Discoms should strengthen power supply poles, raise power lines to the stipulated 5.5 metres in height and fix earth leakage circuit breakers instead of abruptly cutting off power.
- Ensuring that elephant corridors are not razed/neglected due to overzealous developmental approach
- Radio tagging of elephants can help identify danger spots and also avoid man-animal conflict
- Ban on illegal electrical fencing with proper guidelines for maintaining the height of high tension electrical wires – cabling of power lines should be mandatory
- A proper zone-wise management plan for different elephant landscapes — where to allow elephants and where to restrict their movement
- Effort should be to expand elephant corridors, using the successful models within the country, including acquisition of lands using private funds and their transfer to the government.

Note:
World Elephant Day: 12th August
The Indian elephant
- One of three extant recognized subspecies of the Asian elephant and native to mainland Asia
- Listed as **Endangered** on the IUCN Red List

	● The wild population has declined by at least 50% since the 1930s ● Threatened by loss, degradation and fragmentation of its habitat ● An **endangered** species included in **Schedule 1 of the Wildlife Protection Act of 1972**. The animals included in Schedule 1 need **high level of protection**. The Schedule provides for the certificate of ownership and makes it mandatory for the elephant owners to provide adequate facilities for the housing, maintenance and upkeep of captive elephants. **About Project Elephant** ● It is a flagship programme of Ministry of Environment and Forests (MoEF) ● Launched in 1992 it is a Centrally-sponsored scheme ● Primarily aimed at protecting elephant, their habitats and corridors ● It addresses issues of man-animal conflict and welfare of domesticated elephants. **Elephant corridors** are strips of land connecting two large habitats, which are supposed to provide a safe corridor for elephants to migrate from one landscape to another. In India, there are 101 elephant corridors. **Elephant Information Network (EIN)** ● Has enabled human-elephant coexistence in southern India ● Acts as an early warning mechanism to alert people when elephants are nearby, minimizing negative human-elephant interactions, and increasing people's tolerance towards elephants. ● By Mr. Ananda Kumar **Can you answer the following questions?** 1. Why are man-animal conflicts on the rise in India? Identify the high risks/vulnerable zones and also suggest what corrective measures can be taken to avoid these conflicts? 2. Human-wildlife conflict is not linear, and can have unforeseen ripple effects on biodiversity and the forest ecosystem. Discuss
Understanding oceans: Why UNESCO wants to map 80% of the world's seabed	**Context:** Around 80 per cent of the world's ocean floors will be mapped by 2030, pledged the United Nations Educational, Scientific and Cultural Organization (UNESCO) February 10, 2022. ● At present, only 20 per cent seabed has been mapped and studied. ● The UN agency called for mobilisation of the 150 member states of its Intergovernmental Oceanographic Commission (IOC) and the private sector to carry out this exercise. ● Joined hands with Japan's Nippon Foundation in 2017, a non-profit that works on marine resource development among other projects, to launch the Seabed 2030 programme. ● A total funding of $5 billion (over Rs 37,600 crore) will be required for the project. This amounts to an average of $625 million per year by 2030. **Gathering of Data** Oceans cover 70 percent of Earth's surface, host a vast variety of geological processes responsible for the formation and concentration of mineral resources, and are the ultimate repository of many materials eroded or dissolved from the land surface. Hence, oceans contain vast quantities of materials that presently serve as major resources for humans. The repository of knowledge will be gained through studying the topology and depth of seafloors to identify the following: ● Location of ocean faults ● Workings of ocean currents and tides ● Transport of sediments ...to understand ● Seismic and tsunami risks ● Sustainable fisheries resources

- Ways to deal with oil spills, air crashes and shipwrecks
- Potential for offshore infrastructure

Ocean's as a great resource base for the future
- Findings made through ocean exploration are fundamental to reducing unknowns in deep-ocean areas and providing high-value environmental intelligence needed to address both current and emerging science and management needs.
- Exploration helps to ensure that ocean resources are not just managed, but managed well, so those resources are around for future generations to enjoy.
- Through ocean exploration, we can establish the baseline information needed to better understand environmental change, filling gaps in the unknown to deliver reliable and authoritative science that is foundational to providing foresight about future conditions and informing the decisions we confront every day on this dynamic planet.
- This same knowledge is often the only source for basic information needed to respond appropriately in the face of deep-sea disasters.
- Information from ocean exploration is important to everyone. Unlocking the mysteries of deep-sea ecosystems can reveal new sources for medical drugs, food, energy resources, and other products.
- Information from deep-ocean exploration can help predict earthquakes and tsunamis and help us understand how we are affecting and being affected by changes in Earth's environment.

Recent Efforts by UNESCO
- Multiple-beam sonars to measure water height at different points and directions simultaneously is one such innovation that will help scan seabeds in a shorter period.
- Deploying a fleet of 50 dedicated mapping vessels, intensifying the use of sonar on autonomous vessels, transmission of cartographic data archived by governments and corporations are other tools suggested by IOC experts.
- UNESCO also launched a repository of educational content for policymakers and curriculum developers for a holistic approach towards strengthening ocean research.
- It also advocated the use of traditional knowledge along with modern science to achieve this goal.

India and Oceans
India has a unique maritime position. Its 7517 km long coastline is home to nine coastal states and 1382 islands. The Government of India's Vision of New India by 2030 enunciated in February 2019 highlighted the Blue Economy as one of the ten core dimensions of growth.
- For India, with 7,517 km long coastline, nice coastal states with 30 percent of the country's population and three sides surrounded by the oceans, the ocean is a major economic factor supporting fisheries and aquaculture, tourism, livelihoods and blue trade.
- The oceans are also storehouse of food, energy, minerals, medicines.
- They are also modulator of weather and climate system of earth. Thus, oceanic health is important for Indian nonsoons.
- Oceans also provide ecosystem services like carbon sequestration, coastal protection, waste disposal and the existence of biodiversity.

Significance of blue water economy, in case of India:
- India has been part of various ad hoc committees of UN based on law of seas especially related to Indian Ocean to keep its strategic and political interest at the bay .With discovery of various mineral resources such as manganese and cobalt crust on ocean floor bed the potential of maritime mining has led to countries such as India, China and Japan.

	- With growing relation between Asia and Africa the Indian Ocean is key to India's strategic dominance. And also Asia-Pacific growing trade links, it is necessary to maintain security in these regions. - With initiative Such as Ro- Ro ferry services between Ghogha in Saurashtra, and Dahej in South Gujarat will unlock the India's true economic potential in environmental friendly and will reduce the vehicle movement in lands and hence will add to economic interest too. - India has large coastline and with new technologies in deep fishing the fisheries will provide a large number of employment and will also help in boosting exports and reduce trade deficit problem. **Conclusion:** Blue Economy is an area which has huge untapped potential. If utilized in proper way, it can provide a huge boost to our economic growth and development. As the saying goes, one who controls the ocean controls the world. But if not explored sustainably, then it might create huge trouble for future generation. **Can you answer the following questions?** 1. Why does UNESCO want to map 80% of the world's seabed? Examine. 2. Ocean beds are huge repositories of critical resources. Can you explain the distribution of such resources?
Consolidate clearances: 4 steps for effective green governance	**Context:** The Union Ministry of Environment, Forest and Climate Change (MoEFCC) has announced that it will rank the state environmental impact assessment authorities based on seven different criteria, which would exhibit their efficiency/on the speed at which environmental approvals are given. This received criticisms from all sides, leading the Ministry to state some clarifications – - The move is aimed at encouraging the efficiency, transparency and accountability in the functioning of SEIAAs without diluting any regulatory safeguards. - No SEIAA will be penalised for taking more time in granting permission. The SEIAAs are responsible for providing permissions and environmental clearance for more than 90 per cent infrastructure, developmental and industrial projects in the country, once they assess that these projects have little environmental impact. - The ministry has taken several initiatives for streamlining the EC (environmental clearance) process and reduce the undue time taken in grant of clearances. As a step further new rating of SEIAAs has been introduced for encouraging the efficiency, transparency and accountability in the functioning of SEIAAs. **Why did it face backlash?** - Undermines the role of regulatory oversight in environmental protection — recognised in several Supreme Court verdicts as one of the key instruments to ensure the right to life. - The ranking exercise will compromise the SEIAAs' mandate to assess the impact of industrial, real estate and mining schemes on the environment and lead to an unhealthy competition amongst these agencies to swiftly clear projects without due diligence. **Urgent need for an effective system** There is a need for a robust, credible system of environmental scrutiny, to find the balance between environment and development, and to mitigate harm. An effective system, working for environmental integrity, would ensure these happen, both in design and in implementation. 1. **First, we need to accept that the system has become unnecessarily convoluted and must be streamlined.** - There is a need to consolidate all clearances — environment, forests, wildlife and coastal — so that the environmental impact assessment (EIA) is comprehensive.

- In the Union Budget 2022-23, finance minister Nirmala Sitharaman announced a single-window clearance system. But because it is aimed solely towards the ease of doing business, it will further dilute this broken system. Therefore, the clearance system needs to be part of a package that simultaneously strengthens systems of public participation and monitoring.

2. **Second, the process of public assessment must be deepened.**
   - The task of listening to the community and its objections to the project can become as corrupt and compromised as the other parts of the system.
   - Today, public hearings are held, not heard. We need to see this as a critical process; risks from projects get mitigated when community concerns are heeded and efforts are made to remediate and mitigate fallouts. So, going forward, the mandatory videography of the public hearing should be livestreamed.
   - The committee assessing the project must be held to account that it has taken these concerns on board. To enable this, the monitoring and compliance conditions must be put in the public domain, and relayed back to the community.

3. **Third, it is necessary to review the role of the environmental assessment committees — at the Centre and at the state.**
   - These committees are the weakest link in this process, as they are faceless and are not responsible for the compliance or monitoring of the project.
   - It is a farce to say that the experts are independent. In fact, these committees make the government less accountable for the decisions that are taken during the scrutiny of the project.
   - It is time these committees were disbanded and the process of assessment and monitoring be done by the central and state environment departments, which in turn needs to be strengthened in terms of expertise. But with this, the list of projects cleared or rejected and their conditions should be made public.

4. **The fourth and most critical agenda is to greatly strengthen the process of monitoring the project, post clearance.**
   - For this, there is a need to integrate the functioning of all agencies — from state pollution control boards to the coastal- and forest-related institutions. Currently, there are many agencies and yet enforcement is weak.
   - The focus must be on monitoring for compliance. Otherwise, there is no point in this entire effort of assessing the impacts of projects.
   - But all this will not work unless baseline data about the project is credible and, again, publicly available. For this, the process of collecting updated information on different environmental parameters and on the ecological importance of the project site must be strengthened.
   - This data needs to be publicly accessible so that when it is used in the EIA report, its credibility and scientific rigour can be gauged.

Conclusion

This is only possible, if we believe that the process of project scrutiny has a value. Otherwise, these clearances will remain an exercise in futility, and government after government will take it down bit by bit to maintain the charade of environmental protection.

Note:
Environment Impact Assessment (EIA)
- UNEP defines EIA as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making.
- It aims to

	- Predict environmental impacts at an early stage in project planning and design, - Find ways and means to reduce adverse impacts, - Shape projects to suit the local environment and - Present the predictions and options to decision-makers. - By using EIA both environmental and economic benefits can be achieved, such as reduced cost and time of project implementation and design, avoided treatment/clean-up costs and impacts of laws and regulations. - EIA in India is statutorily backed by the Environment Protection Act, 1986 which contains various provisions on EIA methodology and process - The assessment is carried out by an Expert Appraisal Committee (EAC), which consists of scientists and project management experts. **What is the philosophy behind EIA?** - The basis in global environmental law for the EIA is the "precautionary principle". Environmental harm is often irreparable — one cannot reverse an oil spill. - It is cheaper to avoid damage to the environment than to remedy it. - Also, we are legally bound to the precautionary principle under international treaties and obligations, as well as by Supreme Court judgments. **History of EIA in India** - The Indian experience with EIA began in 1976-77 when the Planning Commission asked the Department of Science and Technology to examine the river-valley projects from an environmental angle. - Till 1994, environmental clearance from the Central Government was an administrative decision and lacked legislative support. - In 1994, the Union Environment ministry under the Environmental (Protection) Act 1986, promulgated an EIA notification making Environmental Clearance (EC) mandatory for activity listed in Schedule 1 of the notification - Since then there have been 12 amendments made in the EIA notification of 1994 the latest one being in 2006 which has put the onus of clearing projects on the state government depending on the size/capacity of the project. - Additionally, donor agencies operating in India like the World Bank and the ADB have a different set of requirements for giving environmental clearance to projects that are funded by them **Can you answer the following questions?** 1. Are we witnessing more and more cases of environment versus development, or just wilfully bad development? Critically examine.
New Study on Climate Change	**About Paris Climate Accord** **Objective**: It is a multilateral agreement within the United Nations Framework Convention on Climate Change (UNFCCC); signed to reduce, mitigate greenhouse-gas-emissions. **Temperature Targets**: To slow the process of global warming by limiting a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. **Emission Goals:** Another crucial point in this agreement was attaining "net zero emissions" between 2050 and 2100. Nations have pledged "to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century". **Burden Sharing**: Developed countries were also told to provide financial resources to help developing countries in dealing with climate change and for adaptation measures. Other countries are invited to provide support on voluntary basis. **Non-binding Voluntary Targets:** The Paris Agreement requires that all countries — rich, poor, developed, and developing — slash greenhouse gas emissions. Nations

voluntarily set their emissions targets and incur no penalties for falling short of their targets.

Is the world doing enough to tackle global warming?
- o As of today, human activities have already caused global temperatures to rise by about 1 degree Celsius above pre-industrial levels (1950-1900).
- o Another study published in Nature in September 2021 said that the global oil and gas production should decline by three percent per year until 2050 to keep global warming to below 1.5 degrees Celsius.
- o In August 2021, independent charitable organisation **Oxfam** said that the 'net zero' carbon targets that many countries have been announcing may be a "dangerous distraction" from the priority of cutting carbon emissions.
- o Oxfam said that the world needs to collectively be on track and should aim to cut emissions by 45 percent by 2030 from 2010 levels.

What the new study says?
- o The recent study simulated 100,000 possible future policy and emissions trajectories to identify the variables that are relevant to the climate-social system that are likely to impact climate change through this century.
- o Overall, these trajectories fell into five clusters, with warming varying between 1.8 and 3.6 degrees Celsius above the 1880-1910 average in the year 2100.
- o The study says that there is a "strong probability" of warming between 2 and 3 degrees Celsius at the end of the century.
- o These five possibilities suggest that **none of them meet the Paris Climate Agreement's target** of limiting warming to 1.5 degrees Celsius.
- o But the authors do suggest that there is a substantial chance of meeting the 2 degrees Celsius target.
- o Important determinants of the degree to which the climate will change over the 21st century are:
    - o Public perceptions of climate change
    - o Future cost and effectiveness of climate mitigation and technologies
    - o How political institutions respond to public pressure
- o Small changes in some variables, like the responsiveness of the political system or the level of public support for climate policy, can drastically change the emissions trajectory over the century
- o Essentially the authors are saying that while scientists make projections related to climate change, they should also take into account the effects of climate policy and social change.

Connecting the dots
- o Paris Climate Accord
- o COP26 Climate Conference

Wildfires will be more frequent, larger and intense due to climate change: UNEP	**In News:** Wildfires are predicted to worsen in the coming years and decades, the United Nations Environment Programme (**UNEP**) has warned in its annual **Frontiers report.** **Wildfire** • It is also called forest, bush or vegetation fire. • It is any uncontrolled burning of plants in a natural setting such as a forest, grassland which consumes the natural fuels and spreads based on wind, topography.

- These can be incited by human actions, such as land clearing, extreme drought or in rare cases by lightning.
- Three conditions needed for a wildfire:
    - fuel,
    - oxygen, and
    - a heat source.
- Globally, forest fires release billions of tons of Carbon dioxide into the atmosphere.
- The trends towards more dangerous fire-weather conditions are likely to increase due to **rising concentrations of atmospheric greenhouse gases** and the attendant escalation of **wildfire risk** factors.

What causes forest fires?
- There has been a rapid expansion of cities towards forest areas in many regions in recent decades. This wild land-urban interface is the area where wildfire risks are most pronounced.
- Extreme weather events such as hotter temperatures and more droughts lead to longer fire seasons and increase the likelihood of fire weather condition
- Emerging studies link climate change to rising instances of fires globally, especially the massive fires of the Amazon forests in Brazil and in Australia in the last two years.
- Fires of longer duration, increasing intensity, higher frequency and highly inflammable nature are all being linked to climate change.
- In Odisha, which saw a major fire recently in Simlipal forest, villagers are known to set dry leaves to fire in order to collect mahua flowers, which go into preparation of a local drink.
- **Lightning and pollution**
    - With rising forest fires, the world is very likely to see more frequent incidences of lightning
    - Lightning strikes are projected to increase in frequency in some parts of the world as the climate changes. Lightning ignition is the predominant driver of massive wildfires in the boreal forests of North America and northern Siberia.
    - Fire-induced thunderstorms are a new danger posed by rising wildfires.

Why are forest fires difficult to control?
- **Difficult Terrain:** The locality of the forest and access to it pose hurdles in initiating firefighting efforts.
- **Manpower Shortage:** During peak season, shortage of staff is another challenge in dispatching firefighting teams. Timely mobilisation of forest staff, fuel and equipment, depending on the type of fire, through the thick forests remain challenges.
- **Outdated Techniques:** As it is impossible to transport heavy vehicles loaded with water into the thick forests, a majority of fire dousing is initiated manually, using blowers and similar devices. But there have been incidents when forest fires were brought under control using helicopter services.
- **Weather Factors:** Wind speed and direction play a critical role in bringing a forest fire under control. The fire often spreads in the direction of the winds and towards higher elevations

What are the fuels of such massive fires?

- The dry leaf litter on the forest ground acts as a ready fuel. Fallen tree leaves, dry grass, weeds, low brushwood, deadwood on the forest floor, logs and stumps etc form the surface fuels.
- Below the loose litter, decaying materials such as humus, wood, shrubs, roots, much and peat can also support the combustion.
- Above the surface level, dry standing trees, mosses, lichens, dry epiphytic or parasitic plants, and fallen branches trapped in the understorey can spread the fire to the upper foliage and the tree crowns.

What factors make forest fires a concern?

- **Forest's role in mitigation and adaptation to climate change:** They act as a sink, reservoir and source of carbon. A healthy forest stores and sequesters more carbon than any other terrestrial ecosystem.
- **Endangers Livelihood of people and animals:** Forest fires may also impact the wildlife by burning eggs, killing young animals and driving the adult animals away from their safe haven. In India, with 1.70 lakh villages in close proximity to forests (Census 2011), the livelihood of several crores of people is dependent on fuelwood, bamboo, fodder, and small timber.
- **Impacts regeneration capacity of Ecosystem:** Forest fires can have multiple adverse effects on the forest cover, soil, tree growth, vegetation, and the overall flora and fauna. Fires render several hectares of forest useless and leave behind ash, making it unfit for any vegetation growth.
- **Shrinkage of Forests:** Heat generated during the fire destroys animal habitats. Soil quality decreases with the alteration in their compositions. Soil moisture and fertility, too, is affected. Thus forests can shrink in size. The trees that survive fire often remain stunted and growth is severely affected.
- **Impact on Water system:** Forests help maintain aquifers and continuous flow of streams and springs, and provide firewood, fodder and non-timber produce to the local communities – all these capacities may get adversely affected in case of a fire.
- **Impact on Soil Productivity:** Forest fires may destroy organic matter in the soil and expose the top layer to erosion thus negatively impacting soil fertility & productivity.
- **Impact on Air:** Wildfires are also responsible for air pollution. There is a link between impact of wildfire-related pollution and human deaths, according to a global study published in September 2021.

What can be done to prevent and control forest fires - The Way Forward?

A preventive approach, rather than reactive approach by engaging vulnerable groups, will help adapt to the wildfires.

- **Improved Policies:** Wildfire prevention, response and management calls for improved planning and policies coupled with practices.
- **Enhanced capabilities:** It is important to enhance fire-fighting capabilities and strengthen community resilience-building programmes.
- **Appreciating and adopting indigenous fire management techniques**
- **Focus on remote-sensing capabilities** such as satellites, ground-based radar, lightning detection as well as data handling

	Getting rid of forest fire fuels: Clearing camping sites of dried biomass. Early burning of dry litter on the forest floor **Changing Composition of Forest:** Growing strips of fire-hardy plant species within the forest **Defensive Mechanism**: Creating fire lines in the forests (fire lines are strips in the forest kept clear of vegetation to prevent the fire from spreading). **Better Predictions**: Forecasting fire-prone days using meteorological data will help control forest fires at early stages. Focus on long-range weather forecasting. **Dedicated Force**: Once a fire starts, early detection and quick action by fire-fighting squads is crucial. For such activities, the state forest department has a fire protection and fire control unit. **Regulation of Forest activities**: In 1999, the state government notified forest fire rules which restrict or regulate certain activities in and around forest areas such as lighting a fire, burning agricultural stubble or undergrowth (ghasnis) and stacking inflammable forest produce such as dried leaves and firewood. **Can you answer the following questions?** 1. Why are certain forests more susceptible to fires? How do local weather patterns add to this susceptibility? Explain. 2. What is the strategy to mitigate bushfires/ forest fires? Discuss.
Green Hydrogen	**In News:** The government has unveiled the first part of the much-awaited National Hydrogen Policy. - Government is targeting production of 5 million tonnes of green hydrogen by 2030. - The policy allows free inter-state wheeling of renewable energy used in the production of green hydrogen and ammonia as it seeks to boost usage of the carbon-free fuel, and make India an export hub. - It offers 25 years of free power transmission for any new renewable energy plants set up to supply power for green hydrogen production before July 2025. - There will also be a single portal for all clearances required for setting up green hydrogen production as well as a facility for producers to bank any surplus renewable energy generated with discoms for upto 30 days and use it as required. **What is green hydrogen?** Green hydrogen is hydrogen gas produced through electrolysis of water — an energy intensive process for splitting water into hydrogen and oxygen— using renewable power to achieve this. *Green hydrogen has specific advantages -* **Environment Friendly:** Green Hydrogen as energy source is seen as the next big thing as its usage would lead to zero emissions **Potential to Decarbonise various sectors:** It is a clean burning molecule, which can decarbonise a range of sectors including iron and steel, chemicals, and transportation. **Efficient utilization of Renewable Energy:** Renewable energy that cannot be stored or used by the grid can be channelled to produce hydrogen. **Reduced Dependence on Rare Minerals:** Green Hydrogen also holds the key to clean electric mobility that doesn't depend on rare minerals. Green Hydrogen helps achieve long-term vision of reduced dependency on minerals and rare-earth element-based battery as energy storage. **Helps Achieve Paris Goal:** Green hydrogen energy is vital for India to meet its Nationally Determined Contributions and ensure regional and national energy security, access and availability **Energy Security**: Green energy helps reduce import dependency on fossil fuels

How is the policy set to boost domestic production of green hydrogen production?

- The new policy offers 25 years of free power transmission for any new renewable energy plants set up to supply power for green hydrogen production before July 2025.
- This means that a green hydrogen producer will be able to set up a solar power plant in Rajasthan to supply renewable energy to a green hydrogen plant in Assam and would not be required to pay any inter-state transmission charges.
- The move is likely going to make it more economical for key users of hydrogen and ammonia such as the oil refining, fertiliser and steel sectors to produce green hydrogen for their own use. These sectors currently use grey hydrogen or grey ammonia produced using natural gas or naphtha.

What are the incentives?

- The government is set to provide a single portal for all clearances required for setting up green hydrogen production as well as a facility for producers to bank any surplus renewable energy generated with discoms for upto 30 days and use it as required.
- Energy plants set up to produce green hydrogen/ammonia would be given connectivity to the grid on a priority basis.
- Power distribution companies may also procure renewable energy to supply green hydrogen producers but will be required to do so at a concessional rate which will only include the cost of procurement, wheeling charges and a small margin as determined by the state commission, under the new policy. Such procurement would also count towards a state's Renewable Purchase Obligation (RPO) under which it is required to procure a certain proportion of its requirements from renewable energy sources.

What are the facilities to boost export of green hydrogen and ammonia?

- Under the policy port authorities will also provide land at applicable charges to green hydrogen and green ammonia producers to set up bunkers near ports for storage prior to export.
- Germany and Japan could be key markets for green hydrogen produced in India.

Challenges with regard to Hydrogen Fuel

- **Fuelling Infrastructure:** A big barrier to the adoption of hydrogen fuel cell vehicles has been a lack of fuelling station infrastructure — fuel cell cars refuel in a similar way to conventional cars, but can't use the same station (only 500 in the world & that too in Europe, Japan, South Korea)
- **Safety is seen as a concern:** Hydrogen is pressurised and stored in a cryogenic tank, from there it is fed to a lower-pressure cell and put through an electro-chemical reaction to generate electricity.
- **Scaling up the technology and achieving critical mass** remains the big challenge. More vehicles on the road and more supporting infrastructure can lower costs.

What next?

The government is set to come out with mandates requiring that the oil refining, fertiliser and steel sectors procure green hydrogen and green ammonia for a certain proportion of their requirements. The mandate for the refining sector could start at 15-20 per cent of the sectors total requirement.

Can you answer the following questions?

1. How will it benefit producers of green hydrogen? How will it boost India's energy security? Discuss.
2. Will it help us achieve the net zero emission targets? Critically examine.

Better late than never: Experts on Tamil Nadu's decision to go ahead with dugong reserve in Palk Bay	**Context:** Tamil Nadu government has recently taken a decision to go ahead with the establishment of a conservation reserve for the elusive dugong (Dugong dugon), a sirenian species native to parts of the Indian littoral.
	● The Tamil Nadu government had announced September 3, 2021 that a dugong conservation reserve would be established in the Gulf of Mannar, Palk Bay between India and Sri Lanka, for the conservation of the animals.
	● The TN government also accorded administrative approval for a sum of Rs 25 lakh for the preparation of a detailed project report and carrying out baseline field studies.
	
	About Dugong
	● Dugongs are a Schedule I animal under the Wildlife (Protection) Act, 1972. Legally, it was given the highest protection.
	● The dugong , also called the **sea cow**, is a herbivorous mammal.
	● It is the only living representative of the once-diverse family Dugongidae.
	● The dugong is strictly a marine mammal.
	● They graze on seagrass and come to the surface to breathe.
	● They are found in over 30 countries and in India are seen in the Gulf of Mannar, Gulf of Kutch, Palk Bay, and the Andaman and Nicobar Islands.
	● According to Wildlife Institute of India (WII) estimates, only 200-250 Dugongs are left in the wild, of which 150 are found in the Palk Bay and Gulf of Mannar in Tamil Nadu.
	● **Threats:**
	   o The loss of seagrass habitats
	   o Water pollution
	   o Degradation of the coastal ecosystem due to developmental activities
	   o Accidental entanglement in fishing nets
	   o Extraction of corals and sands by cement industries
	   o Increased turbidity of water
	   o Pollution by oil refineries, chemical industries
	   o Mechanized fishing boats and collision with boats, trawlers.
	● **Conservation status**
	   o IUCN- Vulnerable
	   o CITES: Appendix I
	   o **Wild (Life) Protection Act, 1972**: Schedule I
	   o The Government of India is also a signatory to the Conservation of Migratory Species (CMS) since 1983 where it has signed non-legally binding Memorandums of Understanding on the conservation and management of Siberian Cranes (1998), Marine Turtles (2007), Dugongs (2008) and Raptors (2016).
	Why is there a need for a Dugong Reserve today?
	Because dugongs are on the verge of extinction.
	● In the Andaman and Nicobar Islands, their population is less than 100.
	● There are very few left in the Gulf of Mannar.
	● In the Gulf of Kutch, there are very few sporadic records.
	● They were present in Lakshadweep but now are locally extinct.
	About the Conservation Reserve
	● The Conservation Reserve will cover an area of 500kms.

- The proposed conservation area has the highest concentration of dugongs in the country.
- The reserve will span the northern part of the Palk Bay from Adirampattinam to Amapattinam.
- AS part of the CAMPA-Dugong Recovery Project, various surveys were conducted in the Palk Bay and Gulf of Mannar, from November 2016 to March 2019.
- Gulf of Mannar is a shallow bay area between the south eastern end of Tamil Nadu and western Sri Lanka.

The Way Forward

- **Implementation is key:** In case of marine reserves, the sea is a type of commons. And coastal communities are highly dependent on it. By designating a protected marine area, you are literally denying the resources to such people. That is why there are community and conservation reserves. This will be a conservation reserve and it will be co-managed. But it still takes time for a management plan to be put in place.
- **Massive awareness** is needed about the dugong as very few people knew about them even in the Andamans where they are the state animal. The main cause of mortality for dugongs is accidental entanglement. They are marine mammals and have to surface every four minutes to breathe. Fishermen use gilnets and dugongs get trapped and killed in them unintentionally. This must be stopped.
    - o This could be done through incentive programmes. For instance, if a dugong gets captured and is released by fishermen, they get Rs 5,000 if they provide photo documentation of the act. If the government ensures that every dugong release is celebrated it can work wonders.
    - o Fishing communities should also decide to shift to other sources of food rather than hunt dugongs for meat if they want their future generations to see dugongs.
- **Strengthen enforcement of law:** Dugongs are protected under Schedule I of the Wildlife (Protection) Act, 1972 which means they have the highest level of legal protection under Indian law. But very few people have been arrested, imprisoned or prosecuted for poaching dugongs. The enforcement of the law needs to be strengthened if we want to conserve the species.
- **Preservation of the threatened seagrass ecosystem:** Ultimately, if there is no seagrass, dugongs will perish.

Linking Rivers	**Context:** Union Cabinet has recently approved the funding and implementation of Ken-Betwa inter-linking of rivers project.
	Ken-Betwa inter-linking of rivers project
	● This project involves transfer of water from the Ken to the Betwa River through the construction of Daudhan Dam and a canal linking the two rivers, the Lower Orr Project, Kotha Barrage -and Bina Complex Multipurpose Project.
	● The interlinking of rivers (ILR) programme is a major endeavour to create additional storage facilities and transfer water from water-surplus regions to more drought-prone areas.
	Significance
	● The Project will be of immense benefit to the water starved Bundelkhand region, spread across the states of MP and UP.
	● It will provide water for irrigation of 10.62 lakh ha annually, drinking water supply to a population of about 62 lakhs
	● Generate 103 MW of hydropower and 27 MW solar power
	● Expected to boost socio-economic prosperity in the backward Bundelkhand region on account of increased agricultural activities and employment generation. It would also help in arresting distress migration from this region.
	● This project also comprehensively provides for environment management and safeguards. For this purpose a comprehensive landscape management plan is under finalization by Wildlife Institute of India.
	Linking Rivers
	India witnesses spatial and temporal variations in rainfall, which often makes some areas as flood prone whereas others as drought prone. Also, Himalayan rivers flowing in northern part of the country are perennial, while rivers in peninsular India are mostly seasonal. River interlinking project envisages to link these two river systems to transfer water from surplus regions to the deficient ones, with the vision to mitigate flood and droughts and to provide more irrigation opportunities.
	Pros of river interlinking for water management in India:
	● **Hydropower generation:** This project envisages the building of many dams and reservoirs. For instance, NRLP can generate about 34000 MW of electricity if the whole project is executed.
	● **Round the year water availability:** River interlinking will help in dry weather flow augmentation. That is when there is a dry season, surplus water stored in the reservoirs can be released. This will enable a minimum amount of water flow in the rivers.
	● **Irrigation benefits:** River interlinking project will provide irrigation facilities in water-deficient places. For instance, Indian agriculture is primarily monsoon dependent. This leads to problems in agricultural output when the monsoons behave unexpectedly. This can be solved when irrigation facilities improve.
	● **River interlinking project will also help commercially** because of the betterment of the inland waterways transport system. For instance, as shown in Map 1, it will help

to have intricate network of rivers across India where NRLP will implement river interlinking. Thereby it will increase transportation capacity.

● **Moreover, the rural areas will have an alternate source of income** in the form of fish farming, etc. It will also augment the defence and security of the country through the additional waterline defence.

Major Issues

● **Ecological issues:** One of the major concerns is that rivers change their course in 70–100 years and thus once they are linked, future change of course could create huge practical problems for the project.

● **Aqua life:** A number of leading environmentalists are of the opinion that the project could be an ecological disaster. There would be a decrease in downstream flows resulting in reduction of fresh water inflows into the seas seriously jeopardizing aquatic life.

● **Deforestation:** Creation of canals would need large areas of land resulting in large scale deforestation in certain areas.

● **Areas getting submerged:** Possibility of new dams comes with the threat of large otherwise habitable or reserved land getting submerged under water or surface water. Fertile deltas will be under threat, with coastal erosion expected to threaten the land and livelihoods of local economies that support 160 million people.

● **Displacement of people:** As large strips of land might have to be converted to canals, a considerable population living in these areas must need to be rehabilitated to new areas.

● **Dirtying of clean water:** As the rivers interlink, rivers with dirty water will get connected to rivers with clean water, hence dirtying the clean water.

● **River inter-linking is an expensive business** from building the link canals to the monitoring and maintenance infrastructure. Implementation of the project not only needs a huge financial capital but also political support

● Another important issue is **building consensus** among states and Land acquisition.

● **A careful scientific assessment of the project and its impact on the environment**, is necessary in case of a project of this magnitude especially with regard to Biodiversity

Conclusion

With a bird's eye view it seems river interlinking has the potential to address the water stress issue of India. However, it is necessary to look at this issue on the basis of necessity and feasibility of river-interlinking. Most suitably it should be seen on case to case basis, with adequate emphasis on easing out federal issues. Besides as a supplementary measure we can incorporate traditional water harvesting and water management techniques which will help India to have a water security.

Note:

Launch of River Cities Alliance (RCA)

● **What:** A dedicated platform for river cities in India to ideate, discuss and exchange information for sustainable management of urban rivers

● This first of its kind Alliance in the world symbolizes the successful partnership of the two Ministries i.e., Ministry of Jal Shakti and Ministry of Housing and Urban Affairs.

	● The Alliance will focus on three broad themes- Networking, Capacity Building and Technical Support.
	Can you answer the following questions?
	1. Do you think river interlinking is the most suitable way forward for water management in India? Critically examine.
	2. The idea of interlinking the rivers to fight droughts and floods in various parts of the country might be economically prudent but its ecological fallouts outweigh the other benefits. Critically comment.
How technology can help save India's groundwater	**Context:** Groundwater has been a priceless resource for humanity for centuries. Today, technology, with local governance, offers the last chance of saving groundwater even as the world stands at a critical crossroads.
	Water Crisis in India
	● As per the Groundwater Resource Estimation Committee's report (from 2015), 1,071 out of 6,607 blocks in the country are **over-exploited**; this is likely to have worsened over the years.
	● More than a third of the country's population lives in **water-stressed areas,** and this number is expected to shoot up.
	● Per capita water availability in the country had fallen to just under a third of 1950 levels by 2011, both because of rising population and increasing unsustainable use.
	● 82% of rural households in India do not have individual piped water supply and 163 million live without access to clean water close to their homes.
	Groundwater in India
	India is the world's largest user of groundwater. The country's economy is tagged to groundwater development in many ways and its inadequacy will jeopardise progress.
	● Tube wells, bore wells, springs and open-dug wells remain the primary source of groundwater production and abuse in India. Currently, there is a complete mismatch between available resources and the volumes of water withdrawn.
	● Figures show that the extraction of groundwater in India, now a full-fledged industry in its own right, has shown an increase.
	o Drilling rigs and pumps registered an annual growth of 10-12 per cent.
	o An additional 10 million wells were energised with submersible pumps in the last two decades.
	o Centrifugal pumps in domestic, institutional, commercial and entertainment sectors remain unaccounted for.
	● *Some learnings:*
	o Groundwater extraction has to be decoupled from wealth-generation if the excessive demand for groundwater has to be moderated.
	o Groundwater use need not be made 'evil'. However, failing to distinguish 'need' from 'greed' is criminal.
	Causes for groundwater contamination
	● **Industries-** Manufacturing and other chemical industries require water for processing and cleaning purposes. This used water is recycled back to water sources without proper treatment. Also industrial waste is dumped in certain areas, the seepage of which results in groundwater contamination.
	● **Agriculture-** the fertilizers, pesticide and other chemicals used in growing plants contaminate groundwater.

- **Residential areas**- These generate pollutants (microorganisms and organic compounds) for groundwater contamination
- **Mining**- Mine drain discharge, oilfield spillage, sludge and process water also contaminate groundwater.
- **Coastal areas**- Saltwater intrusion increases the salinity of groundwater in nearby areas.
- **Excessive extraction**- It increases the concentration of minerals in the extracted areas, thus making it contaminated.

How technology can help save India's groundwater?

Integration of technology, ecology and livelihood is critical to the overall sustainability of groundwater. Technology can help in 'decision-making' on economic and social priorities related to groundwater use. Technology-guided decision-making would help distinguish groundwater abuse and promote efficient use.

Automated decision-making is one aspect that needs to be adopted as an integral part of groundwater extraction. We need to enable technologies to simulate appropriate human responses.

- Smart pumps should form part of automation at the basic well level. Sensors and decision-making tools must be integrated with the pump design to make them intelligent.
- Analysis of millions of wells' data in real-time needs to be supported by big-data analytics, cloud computing and real-time modelling with forecasting tools.
- Technology to automate water extraction systems should be adopted at the earliest and be completely automated five years after notification.
  - All existing tube well owners should be required to upgrade to the new technology. All new wells should integrate automation during construction.
  - Industries, farms, residential complexes, commercial establishments with multiple wells with bulk extraction should implement automation within six months of notification.
  - Individual households, small farms, schools, public institutions need to be incentivised to adopt automation and conform to water extraction norms.
  - The cost of automation to the well owners should not pinch the pocket, ideally matching the basic smartphone price.

Automation advantages
- Adopting artificial intelligence (AI) will help make decisions and visualise emerging scenarios for pro-active governance. For instance, smart sensors in different appliances and Internet of Things (the interconnection via the internet of computing devices embedded in everyday objects, enabling them to send and receive data) shall enable visibility of data of consequence.
- Data from millions of nodes (wells) can be analysed simultaneously in a decentralised fashion. Owners can be notified and decisions implemented simultaneously across India.
- Data from all nodes shall aggregate at the cloud servers for advanced regional analysis.
- Groundwater use through automation, be it for agriculture, industry, commerce, sports, entertainment and domestic use, will be forced to adhere to water footprint norms on daily and annual consumption.
- Zettabytes of data traffic flow shall enable daily audit of water balance at the well, watershed, aquifer and river basin scale.
- Big data analytics, combined with AI, shall transform governance into a practice of national behaviour for protecting the common property resource under threat.

Technology-guided decision-making would help distinguish groundwater abuse and promote efficient use. Additionally, this would ensure the safekeeping of groundwater within aquifers for posterity.

The Way Forward
- Make it mandatory for all energised pumping wells to integrate sensors and decision-making tools to help curb wastage and contamination.
- Privately financed wells, pumps, conveyance pipes, storage reservoirs, drips, sprinklers as well as treatment plants installed by millions of ordinary citizens and institutions have already built an efficient decentralised supply chain.
- Attaching additional technology to the existing investment is the first step in reducing wastage, improving efficiency and self-governance.
- Appropriate policy interventions in regulating further constructions and ensuring retention of 50 per cent of the resource within the aquifers can only help in its sustenance.

Groundwater remains the only natural resource that offers free access to all. For the poor, this has ensured economic growth, combined with social mobility. Groundwater cannot be allowed to fail.

NOTE: Groundwater Mapping
- Latest state-of-the-art technology is being employed by Council of Scientific & Industrial Research (CSIR) for mapping ground water sources in arid regions and thus help utilize ground water for drinking to supplement "Har Ghar Nal Se Jal" scheme.
- The entire work will be completed by 2025 with more than 1.5 lakh square kilometers of area with an estimated cost of Rs. 141 Crores.

Can you answer the following questions?
1. Examine the problem of groundwater contamination in India's agrarian states. What are the possible ways to address this challenge? Discuss.
2. Nitrate pollution of groundwater is an issue of serious concern in many parts of India. What causes nitrogen pollution of groundwater? What are its associated health hazards. Also discuss the remedial measures to address this problem.

Ineffective magic bullets: Antibiotic resistance is now the leading cause of deaths across the globe	**Context:** The phenomenon by which bacteria and fungi evolve and become resistant to presently available medical treatment is known as anti-microbial resistance. It is one of the greatest challenges of the 21st century. The term antimicrobial is used for **medicines targeting living microbes**.

Includes antibiotics for bacterial infections, anti-virals for viral infections, antifungals for fungal infections, and anti-parasitics for infections caused by parasites.
The term broadly defines how medicines that worked efficiently earlier are **unable to destroy microbes causing the disease**.

Typically, a pathogen can take **two routes to antibiotic resistance**:

- A pathogen's own genes can mutate spontaneously to help fight the drug. Mutations take time to spread through a bacterial population.
- Horizontal gene transfer- is for the bug to borrow resistance genes from its neighbours.

Scientists believe that many human pathogens today picked up their resistance genes from the environment.

Key Numbers

- Untreatable infections caused at least 1.27 million deaths per year across the globe
- The toll is higher than that for HIV/AIDS or malaria
- There were an estimated 4.95 million deaths associated with bacterial AMR in 2019. Out of these, 1.27 million deaths were directly attributable to AMR.
- Young children were found to be particularly affected by AMR, although every population group is at risk. In 2019, one in five deaths attributable to AMR occurred in children under the age of five.

Concerns

- **Undoes Medical Progress:** AMR represents an existential threat to modern medicine. AMR is a slow tsunami that threatens to undo a century of medical progress.
- **Increased Mortality:** AMR is already responsible for up to 7,00,000 deaths a year. Neonatal and maternal mortality will increase due to AMR.
- **Economic Loss:** Unless urgent measures are taken to address this threat, we could soon face an unprecedented health and economic crisis of 10 million annual deaths and costs of up to $100 trillion by 2050.
- **Increased Vulnerability to infections:** Without functional antimicrobials to treat bacterial and fungal infections, even the most common surgical procedures, as well as cancer chemotherapy, will become fraught with risk from untreatable infections.
- **Disproportionate Burden on Poor Economies:** The low- and middle-income countries (LMICs) of Asia and Africa are at severe risk of being overrun by untreatable infectious diseases.
- **The pediatric population** is vulnerable to respiratory and diarrhea infections owing to a weaker immunity compared to the older population.
    - A majority of these infections are caused by viruses that cause fever, running nose, cough and watery diarrhea.

- Viral infections are usually self-limiting and require only medicines to relieve symptoms; paracetamol, for example, brings down the fever. A saline nose drop relieves a blocked nose.
- Antibiotics that are meant to treat bacterial infections have no effect on viruses. And yet, antibiotics are widely misused.
- Children often receive multiple courses of antibiotics every year since viral infections are recurrent. This problem is further precipitated in children who have hypersensitive airways that make them cough whenever there is a change in climatic conditions or pollution levels. These conditions are often mistaken as bacterial pneumonia and are treated unnecessarily with antibiotics.

Reasons
- **Natural process catalyzed:** Microorganisms develop resistance to antimicrobial agents as a natural defence mechanism. But, human activity has significantly accelerated the process.
- **Misuse of Antibodies:** The misuse and overuse of antimicrobials for humans, livestock and agriculture is probably the biggest reason for this, but other factors also contribute. COVID-19 has increased awareness of infections and control measures such as hand washing and surveillance. But increased hospitalisations have raised fears that AMR will worsen due to increased use of antibiotics by patients.
- **Waste releases:** Once consumed, up to 80% of antibiotic drugs are excreted un-metabolised, along with resistant bacteria. Also, they are release in effluents from households and health pharmaceutical facilities, and agricultural run-off, is propagating resistant microorganisms.
- **Ineffective Wastewater treatment:** An analysis of single wastewater discharge from a treatment facility in India catering to drug manufacturers found concentrations of antibiotics high enough to treat over 40,000 people daily. Thus, Wastewater treatment facilities are unable to remove all antibiotics and resistant bacteria.
- **Pollution:** Research points to the role of environment and pollution in AMR.
- **Other reasons:** Water, then, may be a major mode for the spread of AMR, especially in places with inadequate water supply, sanitation and hygiene. Wildlife that comes into contact with discharge containing antimicrobials can also become colonised with drug-resistant organisms.

Way Ahead
India is severely affected by anti-microbial resistance and this has increased the burden of diseases. It is important for the government to initiate several measures from creating awareness to policies that shall be instrumental to address the same.
- **Comprehensive Surveillance Framework:** To track the spread of resistance in microbes, surveillance measures to identify these organisms need to expand beyond hospitals and encompass livestock, wastewater and farm run-offs.
- **Sustained Investments:** Finally, since microbes will inevitably continue to evolve and become resistant even to new antimicrobials, we need sustained investments and global coordination to detect and combat new resistant strains on an ongoing basis.
- **Managing Pharmaceutical Waste:** Given the critical role of manufacturing and environmental contamination in spreading AMR through pharmaceutical waste, there

is a need to look into measures to curb the amount of active antibiotics released in pharmaceutical waste.

- **Controlled Prescription & Consumer Awareness:** Efforts to control prescription through provider incentives should be accompanied by efforts to educate consumers to reduce inappropriate demand.
- **Multi-sectoral Coordination:** AMR must no longer be the remit solely of the health sector, but needs engagement from a wide range of stakeholders, representing agriculture, trade and the environment. Solutions in clinical medicine must be integrated with improved surveillance of AMR in agriculture, animal health and the environment.
- **Public awareness** about the need for judicious use of antimicrobials needs to be ramped up. This would help physicians to not resort to antimicrobials just for satisfying the health seeker.
- **Better and rapid diagnostic facilities:** The availability of rapid diagnostic tests such as rapid malarial antigen test, Dengue NS1 Antigen test, etc., has revolutionised the time taken to confirm a clinical diagnosis and give appropriate treatment.

The country needs stringent regulations to avoid irrational antibiotic combinations as well as over-the-counter availability of antibiotics. Vaccination plays an important role in preventing bacterial diseases such as pneumonia, typhoid, diphtheria, meningitis, whooping cough, etc.

Can you answer the following questions?
1. Elaborate on the criticality of antimicrobial resistance in India. How does it affect the socio economic set up of India?
2. A bigger challenge lies in checking irrational use of antimicrobials for common viral illnesses that a majority of children suffer from. Discuss.

Cyber Threats	**Context:** Estimates of the cost to the world in 2020 from cyber-attacks/ cyber crimes is believed to be more than $1 trillion and in 2021 it is likely to range between $3trillion-$4 trillion. • US defence secretary warned that the world had to prepare for a kind of '**cyber Pearl Harbour',** highlighting a new era of potential vulnerabilities. • However, the West seemed to lose its way on how to deal with the emerging cyber threat. Each succeeding year witnessed **no change in the method of response** despite an increase in cyber threats. **Sectors that are vulnerable** • According to experts, among the most targeted sectors in the coming period are likely to be: health care, education and research, communications and governments. • In the Information age, **data is gold.** Credential threats and the threat of data breaches, phishing, and ransomware attacks, apart from major IT outages, are expected to be among the main concerns • Vast majority of cyber attacks are directed at **small and medium sized businesses**, and it is likely that this trend will grow. • Ransomware is increasing in intensity and is tending to become a near destructive threat, because there are many available soft targets. Statistics in this regard are also telling, *viz.*, that new **attacks are taking place every 10 seconds.** • The huge security impact of working from home (accelerated by Pandemic) is likely to further accelerate the pace of cyber attacks. A rash of attacks is almost certain to occur on **home computers and networks**

- According to experts, a tendency seen more recently to put everything on the **Cloud could backfire,** causing many security holes, challenges, misconfigurations and outages.

Issue of low clarity
- Despite evidence, cyber security experts appear to be floundering in finding proper solutions to the ever widening cyber threat
- Devising standard methodologies may not ensure protection from all-encompassing cyber attacks. Some of the standard methodologies suggested are:
    - Technology geeks are insisting on every enterprise incorporating **SASE — Secure Access Service Edge** — to reduce the risk of cyber attacks.
    - Additional solutions are being proposed such as CASB — **Cloud Access Security Broker** — and SWG — **Secure Web Gateway** — aimed at limiting the risks to users from web-based threats.
    - **Zero Trust Model** that puts the onus on strict identity verification 'allowing only authorized and authenticated users to access data applications may not be effective in the face of the current wave of cyber attacks.
- While the West focused on 'militarization' of the cyber threat, and how best it could win with its superior capabilities, valuable time was lost that led to misplaced ideas and erroneous generalisations.

Way Ahead
- A **detailed study** of the series of low- and medium-level proactive cyber attacks that have occurred during the past decade is needed.
- Individual companies need to be prevented from tradeoffs — between investing in security and maximising short-term profits. One needs to make aware that inadequate corporate protection could have huge costs for company and thus persuade & support these **companies to adopt cyber security** in their operations.
- Nations and institutions, instead of waiting for the 'Big Bang cyber attack', should **actively prepare for a rash of cyber attacks** — essentially ransomware — mainly directed at available data.
- Consequently, **law enforcement agencies** would need to play a vital role in providing effective defence against cyber attacks.
- While solving the technical side is 'one part of the solution, networks and data structures need at the same time to **prioritise resilience through decentralised and dense networks**, hybrid cloud structures, redundant applications and backup processes'.
- This implies 'planning and training for network failures so that individuals could adapt and continue to provide service even in the midst of an offensive cyber campaign'.

Connecting the dots
- Cybersecurity & banks
- NATGRID
- India needs a Cybersecurity Strategy
- Global Cyber Security Index

Import Ban on Drones	**Context:** The Government recently issued an order regulating the import of drones. **What does the order say?** • The Directorate General of Foreign Trade (DGFT) under the Ministry of Commerce and Industry issued an order on February 2022 **prohibiting with immediate effect the import of drones.**

- Import of drones by government entities, educational institutions, government recognised R&D entities and drone manufacturers for R&D purpose as well as for defence and security purposes will be allowed provided upon approval from DGFT.
- The order also says that **import of drone components is "free",** implying that no permission is needed from the DGFT allowing local manufacturers to import parts like diodes, chips, motors, lithium ion batteries etc.
- Before this order, import of drones was "restricted" and needed prior clearance of the Directorate General of Civil Aviation (DGCA) and an import license from DGFT.
- However, smaller drones known as nano category drones that weighed less than 250 grams and flew below 50 feet or 15 meters needed an equipment type approval from the Department of Telecommunications for operating in de-licensed frequency band(s) and did not require an import clearance of the DGCA or an import license from the DGFT.

What other measures has the Government taken to promote indigenous drone manufacturing?
- In August 2021, the Government brought out liberalised Drone Rules, 2021 which reduced the number of forms to be filled to seek authorisation from 25 to five.
- They also dispensed with the need for a security clearance before any registration or issuance of licence.
- Under these rules, R&D entities too have been provided blanket exemption from all kinds of permissions, and restrictions on foreign-owned companies registered in India have also been removed.
- The Government has also announced a **production-linked incentive scheme for** drones and drone components with the aim to make India a "global drone hub by 2030".
    - It has allocated ₹120 crore for a period of three years under which it will offer an incentive of 20% of the value addition made by a manufacturer of drones or drone components or drone related IT products.

What is likely to be the immediate impact of the announcement?
- What the import ban will do is that it will ensure that an Indian manufacturer has the control of the IP, design and software which gives him or her a total understanding and control of the product. Over a period of time this can **enable further indigenisation.**
- Domestic industry has considered it as very good move by the Government to nurture and protect the industry.
- But how well the ban is implemented remains to be seen.
- There are questions raised on the difference which the import ban will make especially when local manufacturers rely heavily on foreign-made components.
- Most drone manufacturers in India assemble imported components in India, and there is less of manufacturing.
- For its defence needs, India imports from Israel and the U.S.. Consumer drones such as those used for wedding photography come from China and drones for light shows also come from China apart from Russia.
- Indian drone manufacturers and service providers arrange drones for a variety of use cases such as survey and mapping, security and surveillance, inspection, construction progress monitoring and drone delivery.
- The ban is likely to **hurt those who use drones for photography and videography for weddings** and events as these primarily come from China because they are cheaper and easy-to-use and India still has a lot of catching up to do in manufacturing them.

	Connecting the dots • Drones & their applications • Drones in Agriculture
India's Geospatial Sector	**Context:** It was in Feb 2021 new guidelines took effect to completely de-regulate the geospatial sector for Indians. It is time to look back and assess its impact and identify the bottlenecks so that the full potential of the geospatial sector can be realised **The Present Status of Geospatial sector** ● India has a robust ecosystem in geospatial, with the Survey of India (SoI), ISRO, remote sensing application centres (RSAC)s, and the National Informatics Centre (NIC) but the full benefits have **yet to percolate to the public** and there wasn't much contribution to the nation's GDP. ● Since deregulation, the geospatial sector, which was considered taboo by investors, is seeing new interest. The market of geospatial sector is estimated to grow to **₹1 lakh-crore by the year 2029** with 13% Compound Annual Growth Rate (CAGR). ● Since the new guidelines, some of the noticeable developments were over subscription of the initial public offering of MapmyIndia, launching of a city mapping programme by Genesys International in India and **aggressive stance by investors** in India's geospatial sector. **Are there roadblocks still despite the enabling policy in place?** ● **Low demand due to lack of awareness:** There is no demand for geospatial services and products on a scale linked to India's potential and size. This is mainly due to the lack of awareness among potential users in government and private. ● **Inadequate Products**: Barring a few cases, there are still no ready-to-use solutions especially built to solve the problems of India. ● **Shortage of Manpower**: The other hurdle has been the lack of skilled manpower across the entire pyramid. Unlike the West, India lacks a strata of core professionals who understand geospatial end-to-end. ● **Governance Gap:** The lack of clarity on data sharing and collaboration prevents co-creation and asset maximisation. The restrictive data policy of yesteryears was the root cause of many of these limiting factors. **Way Ahead** ● **Spread Awareness:** However, the experience has been that despite one year since the new guidelines came into effect, users are still not fully aware of things. There is a need to publish the entire policy document and make government and private users aware of things. ● **Generate foundation data** across India that should include the Indian national digital elevation model (InDEM), data layers for cities, and data of natural resources. ● **Accessibility of Public-Funded data:** The data available with government departments should be unlocked, and geo-portal needs to be established to make all public-funded data accessible through data as a service model, with no or nominal charge. ● **Open data sharing protocol:** There is a need to inculcate the culture of data sharing, collaboration and co-creation. This will only be possible through an open data sharing protocol. ● **Promote Entrepreneurship:** Solution developers and start-ups should be engaged to build solution templates for various business processes across departments. Local technology and solutions should be promoted, and competition should be encouraged for quality output.

	● **Decentralising Regulation:** National organisations like SoI and ISRO should be entrusted with the responsibility of regulation and the projects related to the nation's security and scientific significance. ● **Increase the pool of skilled manpower:** India should start a bachelor's programme in geospatial also in the IITs and NITs. Besides these, there should be a dedicated geospatial university.

INTERNATIONAL RELATIONS

FTA India and UK	**Context**: Recently, India and Britain launched trade talks in Delhi, with an aim to finalise a free trade agreement (FTA) as soon as possible. • The proposed pact with Britain could help double bilateral trade by 2030. **What is an FTA?** • An FTA is an agreement between two countries wherein it allows free flow of goods and services to and from both sides, removing all tariff barriers to boost trade with one another. **Recent development between UK and Australia** • With autonomy brought to UK after Brexit, U.K. signed an FTA with Australia in December 2021, eliminating almost 99% of tariff on both sides, allowing free flow of goods between the two countries. • This will save nearly $10 billion for Australia in its exports of agricultural products to Britain and the U.K. will save several hundred million dollars in automobile, liquor and cosmetics exports. • The pact further helps Britain access the Pacific Rim, an 11-nation trade conglomerate including Australia called the Comprehensive and Progressive Trans-Pacific Partnership. **What does it mean for India?** • Likewise, Brexit also paved the way for Britain to freely and comprehensively negotiate a new free mega trade deal with India. • The £1 billion investment and commercial trade deal India signed with Britain in May, 2021 creating 6,500 jobs in the U.K. was a kick-starter to this, opening a new chapter in commerce between them. • The free trade deal between India and the U.K. will bring in enormous changes not only in trade, but enhanced **cooperation in agriculture, education and health sectors.** • India's traditional stakes are high in Britain as British Indian companies cumulatively turned over **more than £85 billion** in 2021 even amid the pandemic. • Also, India's trade would see a quantum jump when the free trade pact is signed, from £23.3 billion when they inked an Enhanced Trade Deal last year to £50 billion post-FTA. • The **British inward investment** into the subcontinent was nearly £21 billion in the last two decades making Britain as the largest western investor in India, and this will also see a substantial increase. • With India set to becoming the world's third largest economy by 2050, India not only becomes the U.K.'s most preferred partner, its **1.5 million diaspora in UK** would get a shot in the arm when the FTA is signed. **What is India seeking from the U.K.?** • While the talks are centred around removing all trade bottlenecks, and green trade, India is also seeking cooperation from Britain to reduce its **carbon footprint** by 45% while steadfastly promoting green energy. • With trade between India and the U.K. set to soar, there are substantial activities simultaneously taking place in other sectors, especially agriculture and education. ○ The second Green Revolution, aimed at increasing food production in India to 400 million tonnes in the next 15 years, is led by plant ecology scientist from Cambridge University.

	• The TIGR2ESS, would strengthen alliance between Indian and British experts in social policy and science, hydrology and crop science based on the thesis of making modern agricultural practices reflect the needs of society acceptable to India today. • Both countries are also working for more cooperation in education, and possibly, India would allow more U.K. universities to open their branches in the subcontinent after the FTA. **Connecting the dots** • India-USA Trade Policy Forum • QUAD (India+ USA+ Australia + Japan) • AUKUS

Afghanistan-Pakistan relations and the Durand line: Why is it important?	**Context:** The bilateral relationship between Afghanistan and Pakistan has always been under duress. A major point of contention between the two neighbours is the status of a colonial legacy—the **Durand line**, cutting through the Pashtun-dominated tribal areas.
	• In an already precarious environment, with the ascendancy of the Taliban, the tempo of tensions flared up in the last few weeks of 2021. According to reports, the Pakistani forces encroached 15 kilometres inside Afghani territory in the Chahar Burjak district to erect fences, a second such attempt after their efforts to do the same near the Nangahar province were thwarted by the Taliban.
	• In Afghanistan, irrespective of the people in power, the Line is considered a 'historic mistake', a vestige of British colonialism that the Afghanis don't accept. After usurping the US-sponsored government in August 2021, the Taliban reiterated their position, asserting that the fencing has separated families, as well as restating that they won't accept any fresh attempts to fence the 'alleged' border.
	• Pakistan, on the other hand, considers it the legally binding international border and regards the fencing as a fait accompli as 90 percent of it is completed, with no option left for Afghanistan but to accept its reality.
	
	Circumstances which led to the signing of the Durand agreement and paved the way for the promulgation of the Durand Line
	• After the fall of the Durrani dynasty in the 18th century, the Pashtun empire disintegrated and the British eventually extended their control to the region. But the hinterlands were always a tough area to govern.
	• When the two Anglo-Afghan wars (1838-42 and 1878-80) failed to expand British influence and tame the belligerent tribal groups, a policy reassessment was undertaken.
	• Fearing Russian advancement towards Central Asia, and a possible attack from the Pashtun tribes on their settled populations, a multi-layered defence mechanism—a tripartite frontier—was postulated with three concentric frontiers:
	    o The first at the foothills of the Sulaiman hills, till where the British had formal control;
	    o The second where the vassal states under the 'influence' of British were located; and
	    o The final buffer which was Afghanistan itself
	Durand Commission
	• The Foreign Secretary, **Sir Mortimer Durand** was despatched to sign an agreement with the **Amir of Afghanistan, Abdur Rahman**.
	• Inked on 12 November **1893**, the Durand line demarcated the Pashtun-inhabited region, creating a cleavage amongst the people who shared the same culture and ethnicity and **didn't identify with either of the two parties**.
	    o The agreement, apart from ensuring protection in case of a Russian assault, gave Britain access to major trade and access routes

- o **Complemented its strategy of divide and rule** to curb the burgeoning Pashtun nationalism
- o Both sides agreed to limit their area of influence and refrain from interfering into the territories of the other.
- o In exchange for the 40,000 square miles of area which Afghanistan lost; the British increased their grant to 60,000 pounds a year and assured protection in any eventuality.
- o Boundary commissions were formed, with the final boundary delineated in **1897**.
- o Protests soon erupted, with tribes resisting the line, a resistance continuing till the present. At a **Loya Jirga (tribal assembly) in 1949**, Afghanistan unilaterally withdrew from the agreement. This position has remained unchanged, irrespective of who is at the helm in the country.
- Formed during the term of **Lord Lansdowne**

For the Pashtuns, their ethnic identities surpassed any state-imposed identity.

- Having lived together since the beginning, they regarded the line as nothing more than an 'artificial division'.
- Many Pashtuns still hold on to their tribal ways of living, exhorting 'Pashtunwali' more than the state-sponsored ideology that is forced on them.
- Even before independence, the **Pashtun Khudai Khidmatgar movement** (Khan Abdul Ghaffar Khan – Frontier Gandhi) in the North-western Frontier Agency, opposed Partition, and when Parition became a reality, they **pushed for an independent 'Pashtunistan', refusing to integrate with Pakistan**.
- Having retained all major policies of the British after independence, Pakistan, however, continued to rule the erstwhile Federally Administered Tribal Areas (FATA) through the Frontier Crimes Regulation (FAR), aggrandising power to inflict collective punishment on whole tribes for crimes committed by an individual.
- It was only after the province merged with the Khyber-Pakhtunkhwa province in 2018 in an effort to bring it into the mainstream of the Pakistani state that the FAR was replaced by customary laws.

Source: Indian Express

	(II)legality of the agreement
	The validity of the agreement, has been questioned on the basis of certain provisions of the Vienna Convention on the Law of Treaties (1969) (VCLT).
	• Afghanistan had evoked **Article 51 and 52 of the VCLT** to argue that
	    o As the agreement was **signed under pressure by the Amir** and cannot be considered legal
	    o Its **unilateral withdrawal from all agreements signed with the British Indian authorities in 1949**
	    o Its objection to Pakistan's status as the successor state
	• **Pakistan defends** its claim based on **four subsequent agreements signed in 1905, 1919, 1921, and 1930**.
	• **Declassified British Foreign office files point otherwise.**
	    o The architects of the line didn't wish to establish an international border. For them, its utility was in that specific time and space. This was pointed out by Durand himself who worried that envisioning the agreement as a 'partition' wouldn't bode well for British interests in the region.
	    o If this claim stands ground, then it also weakens Pakistan's reliance on the four subsequent agreements as mentioned above as all of them reiterate the original treaty.
	
	The way forward
	• The problem of the Durand Line can only be settled as part of a larger political reconciliation between Afghanistan and Pakistan. Such reconciliation would involve skirting the question of sovereignty, promoting transborder economic connectivity and cooperation, meeting the aspirations of the Pashtuns on both sides of the Line, and ending support to cross-border terrorism.
	• With Afghanistan on the brink of a humanitarian crisis and the Taliban struggling to establish order in the absence of international support and recognition, Pakistan's support is still very crucial.

India & Digital Trade: Joint Statement Initiative	**Context:** Despite the cancellation of the 12th Ministerial Conference of WTO in Dec 2021 due to COVID-19, digital trade negotiations continue their ambitious march forward.
	• In this context, members of plurilateral Joint Statement Initiative (JSI) on e-commerce, welcomed the 'substantial progress' made over the past three years
	
	What is Joint Statement Initiative?
	• JSIs are a negotiating tool initiated by a group of WTO Members who seek to advance discussions on certain specific issues **without adhering to the rule of consensus decision-making** of WTO.
	• They are open to any WTO Member.
	• JSI aims to produce a **binding agreement** among its members.
	• On the occasion of the 11th WTO Ministerial Conference, in 2017, JSIs were created on the following issues:
	    o e-commerce
	    o investment facilitation for development
	    o micro, small and medium-sized enterprises (MSMEs)
	    o domestic regulation in services
	    o trade and women's economic empowerment.
	    o In 2020, two new initiatives were launched on trade and the environment, focusing on environmental sustainability and plastics pollution.
	• The **JSI on e-commerce** encompasses both traditional trade topics (e.g. trade facilitation) and several digital policy issues, such as cross-border data flows and data localisation, online consumer protection and privacy and network neutrality.

- Some Members see JSIs as key mechanisms **to make progress on trade liberalization,** in a context in which consensus on rulemaking has been harder to achieve in WTO.
- India and South Africa have led the resistance and been the JSI's most vocal critics

Why JSIs has been resisted by some countries like India?
- **Weakens multilateralism:** India and South Africa have rightly pointed out that the JSI contravenes the WTO's consensus-based framework, where every member has a voice and vote regardless of economic standing.
- **Fear of arm twisting Developing countries:** Even though JSI members account for over 90% of global trade, and the initiative welcomes newer entrants, over half of WTO members (largely from the developing world) continue to opt out of these negotiations. They fear being arm-twisted into accepting global rules that are shaped by developed countries.
- **Sovereign Rights of States to frame policy:** Several countries have imposed data localisation mandates that compel corporations to store and process data within territorial borders. Developed countries believe that this increases compliance costs, hampering innovation and supposedly amounting to unfair protectionism.
    - There is a similar disagreement regarding domestic laws that mandate the disclosure of source codes which developing countries believe is essential for algorithmic transparency and fairness
    - Data sovereignty is championed as a means of resisting 'data colonialism' and any policy should benefit not just large players (in developed countries) but also small players in developing countries

What is the way forward?
- Hastily signing trading obligations could reduce the space available to frame appropriate policy. But sitting out trade negotiations will means India losing out on opportunities to shape these rules from being a part of it.
    - China and Indonesia, argued that they sought to **shape the rules from within** the initiative rather than sitting on the sidelines.
- Negotiations need not mean compromise. For example, **exceptions to digital trade rules,** such as 'legitimate public policy objective' or 'essential security interests', could be negotiated to preserve policymaking where needed
    - Taking a cue from the **Digital Economy Partnership Agreement (DEPA)** between Singapore, Chile, and New Zealand, India can push for a framework where countries can pick and choose modules with which they wish to comply

Conclusion
- Despite its failings, the WTO plays a critical role in global governance and is vital to India's strategic interests. Negotiating without surrendering domestic policy-making holds the key to India's digital future.

India and Nepal: Can BIMSTEC be the key?	**Context:** The bilateral relationship between the Himalayan country of Nepal and India in the new year of 2022 was inaugurated with an amicable telephonic conversation, between both the Minister of Foreign Affairs - what comes across is a reflection of both the countries attempting to explore better dimensions of their bilateral ties through both pre-existing and new ventures. - This stride would help to go beyond the cold demeanour of the recent past, post 2019, encompassing issues ranging from border disputes to the delay in supplying COVID-19 vaccines from India. - During 2021, Kathmandu remained embroiled in an unstable and fragile internal political scenario with the establishment of the new government led by Sher Bahadur Deuba.

The Border Dispute
- 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.
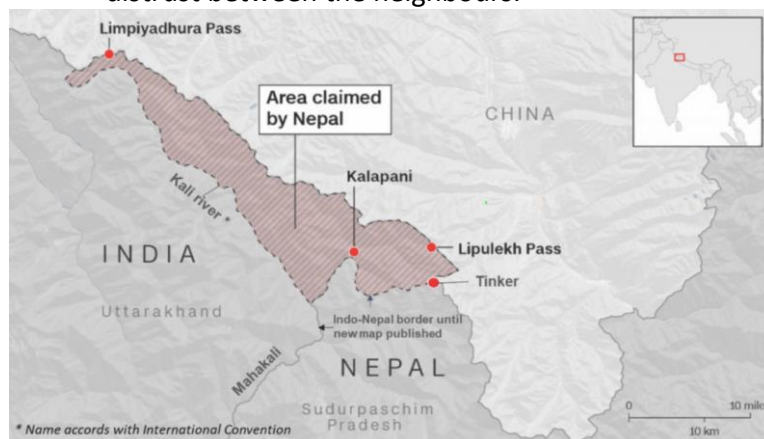

Image courtesy: TKP

Post COVID-19: India & Nepal
The relations between Nepal and India touched their lowest ebb in 2015, when Nepal was making its new constitution, and further in 2020, on the boundary issue in Nepal's North-western region. The spread of COVID-19 in the two countries further created a hardening of relations between the two countries as the open border was closed for over one-and-half years, beginning in March 2020.
But in the post-COVID-19 period, the situation on the ground is slowly returning to normal and, that too, after Sher Bahadur Deuba became Prime Minister of Nepal in July 2021.
- The border is now **re-opened and cross-border movement of people**—apart from vehicles, that remained disrupted for so long—has resumed.
- Even **cross-border marriages** have become a normal phenomenon.
- **Recognition of COVID-19 test reports** of one country by concerned authorities of the other country further facilitated the cross-border movement of people and vehicles.
- Nepal for the first time started to **export surplus electricity** to India. Exports of hydropower to India has opened a new prospect of earning revenue from India, which could, to a certain extent, bridge the gap in the balance of trade with India.
- There has also been a substantial increase in Nepal's exports to India.
- Estimates are that 6 to 8 million of the Nepalese, especially from the hill region of the country, get employment opportunities in India. Nepal receives a huge amount of remittance from these people.
- The Indian government has **handed over the Janakpur-Jaynagar sector of the railway** to the Government of Nepal. The Indian government had undertaken the construction of the 69-kilometre railway line between Jaynagar (India) and Janakpuri/Kurtha-Bardibas (Nepal) in 2014, of which the 34-kilometre Jaynagar-Janakpur/Kurtha section has already been completed and handed over to Nepal. Work on the remaining section of the railway line is in progress. The entire cost of the railway project, that amounts to INR. 8.8 billion, is being borne by the Indian government.

Can BIMSTEC be the thread?

Nepal has been making much progress in capitalising on the opportunities being offered in the multilateral forum of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), and has been lauded for its contributions too.

Within this organisation, Nepal primarily leads the sector on **People-to-People Connectivity**, with sub-sections comprising of Culture, Tourism, and People-to-People Contact Forums. Nepal and India have been working in close quarters in this forum. This is despite the tumultuous journey that they had been on since the past few years, with undercurrents of negative Nepalese sentiments since the 2015 India-Nepal blockade. However, the interaction of the two countries within BIMSTEC has not been a very smooth sailing.

- A major disagreement in this platform was witnessed in 2018 when the Nepalese government had outrightly rejected participation of the Nepalese Army in the first ever military exercise of the BIMSTEC countries. Even though the then Chief Nepalese Army was scheduled to attend the closing ceremony of the six-day counterterrorism drill at Pune, India, strict instructions from the Prime Minister K. P Sharma Oli, cancelled any Nepalese participation. This drill was mainly organised by the Indian Army and arguments were ripe regarding India's own vested interest in hosting such an event, in the garb of BIMSTEC joint effort.
- Furthermore, other critics had mentioned that this event was a venture to promote BIMSTEC as against the South Asian Association of Regional Cooperation (SAARC), by India, that has not been able to move out of dormancy because of the alleged India-Pakistan rivalry, thereby creating implications for the region and motivating smaller powers like Nepal.
- At the same time, Nepal might have realised the repercussions of such a strategic drill given its close proximity with China, not willing to portray any military liaison with India that does not share a good rapport with the latter.

Need to come out of disagreement over some issues– The Way Forward

- Nepal must realise the geopolitical significance of the Bay of Bengal region and the benefits that can be harnessed with the support of India.
- For instance, through the BIMSTEC Energy Centre, India can provide big investment and support long gestation period for a country like Nepal, to actualise its hydropower potential.
- At the same time, possibilities of cross-border river transportation with the navigation of larger, motorised ships down to Patna (Bihar, India) on the banks of the Ganges, from the Gandaki (near Chitwan National Park) and Koshi rivers, south of the barrages, flowing into India, west of Biratnagar, may be refurbished.
- Even though these Nepalese rivers were declared as 'unsuitable' for motorised navigation, former PM Oli had initiated the process of survey, with his Indian counterpart in 2018, with prospects of establishing docks and ports, river customs points, immigration offices, and quarantine facilities. However, much progress has not been made on this front, providing an opportunity for research and development between the two countries, within the domain of BIMSTEC. This is how both the countries can utilise the multilateral setup to enhance bilateral negotiations with convalescent outcomes for the future.

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Conclusion

Even though 2022 looks bright for this bilateral relationship, effort needs to be put in to wipe away the memories of disagreement. This can be done by focusing on sectors that are easier to access.

Can you answer the following questions?
1. Can Nepal and India move beyond the hurdles of the past by focusing on new avenues of cooperation in BIMSTEC? Discuss.

India needs a refugee and asylum law	**Context:** This month Congress MP Shashi Tharoor introduced a Private Member's Bill in the Lok Sabha proposing the enactment of a Refugee and Asylum law. ● The Bill lays down comprehensive criteria for recognising asylum seekers and refugees and prescribes specific rights and duties accruing from such status. ● It was made necessary as the government doesn't recognise the international legal **principle of non-refoulement** — the cornerstone of refugee law, which states that no country should send a person to a place where he or she may face persecution **Who is a refugee?** ● Refugee, in the internationally-accepted definition of the term, embraces people who have fled their home countries and crossed an international border because of **a well-founded fear of persecution** in their home countries, on grounds of race, religion, nationality, membership of a particular social group, or political opinion. ● This means that people who cross borders in quest of economic betterment, or because they are fleeing poverty, anarchy or environmental disaster, do not qualify as refugees. **Do You Know?** ● India hosts more than two lakh refugees and is at the center of refugee movements in the South Asian region. ● It has been a home to refugees from neighbouring countries such as Tibet, Bangladesh, Sri Lanka, Afghanistan, Myanmar, and Nepal. ● In 1996, the Supreme Court of India ruled that the state has to protect all human beings living in India, irrespective of nationality, since they enjoy the rights guaranteed by **Articles 14, 20 and 21 of the Constitution to all,** not just Indian citizens. **Recent instances of Government's handling of Refugees** ● The Government expelled Myanmar two batches of Rohingya refugees in the face of a grave risk of persecution in the country they had fled. ● It has attempted to do the same with Chakmas in Arunachal Pradesh and Myanmarese in Mizoram.

	● Also, Afghan students stranded in India by the takeover of their country by the Taliban have not had their visas renewed, and could find themselves in a similar situation. ● Because India has neither subscribed to international conventions on the topic nor set up a domestic legislative framework to deal with refugees, their problems are **dealt with in an ad hoc manner.** **What are the key features of the proposed bill?** ● The proposed bill seeks to incorporate the current policy on refugees, the principles of the Constitution, and India's international obligations. ● **The right to seek asylum** in India would be available to all foreigners irrespective of their nationality, race, religion, or ethnicity. ● **National Commission for Asylum** would be constituted to receive and decide all such applications. ● The principle of **non-refoulement is clearly affirmed,** with no exceptions, though reasons have been specified for exclusion, expulsion, and revocation of refugee status, to respect the Government's sovereign authority but limit its discretion. ● Need for proper framework to make sure that refugees can **access basic public services,** be able to legally seek jobs and livelihood opportunities for some source of income. ○ The absence of such a framework will make the refugees vulnerable to exploitation, especially human trafficking. **Merits of the bill** ● The provisions of the bill provide clarity and uniformity on the recognition of asylum seekers as refugees and their rights in the country. ● It also seeks to en**d a system of ambiguity** and arbitrariness which, too often, results in injustice to a highly vulnerable populace ● The bill seeks to enable the government to manage refugees with more accountability and order while **balancing humanitarian concerns and security interests** of the State. ● The enactment and enumeration of refugee rights will reduce our dependence on judge-centric approaches — or the whims of Home Ministry bureaucrats, police officers and politicians. **Way ahead** ● It is high time the Government reviewed its long-standing reluctance to sign up legally to what India has already been doing morally. ● In so doing, we would uphold our own finest traditions and the highest standards of our democracy, as well as demonstrate once again that we are what we have long claimed to be: a good international citizen in an ever-closer knit and globalising world.
Examining the Russia-China axis	**Context:** Russian President Vladimir Putin's visit to China as well as the Ukraine crisis have turned the spotlight on Russia's relations with China. ● Many in the west have blamed the Russia-China axis for emboldening Moscow's recent moves and ensuring it will not be completely isolated in the face of western sanctions. ● At the same time, Beijing has found itself walking a tightrope in its response and has so far stopped short of endorsing Russia's actions. **What explains the current state of Russia-China relations?** ● Last year, Russia's Foreign Minister described relations as the "**best in their entire history".**

- The last Xi-Putin meeting during Winter Olympics in China, produced an ambitious and sweeping joint statement, as well as a number of energy deals, that underlined the strategic, ideological, and commercial impulses driving the relationship.
- On the strategic front, the statement said "new inter-State relations between Russia and China are **superior to political and military alliances of the Cold War era.**" It added that the relationship "has no limits" and "there are no forbidden areas of cooperation".
- The biggest factor behind their current closeness is their **shared discomfort with the U.S. and its allies**.
  - The joint statement this month emphasised that point, with China supporting Russia in "opposing further enlargement of NATO and calling on the North Atlantic Alliance to abandon its ideological cold war approaches"
  - Russia echoed China's opposition to "the formation of closed bloc structures and opposing camps in the Asia-Pacific region and the negative impact of the United States' Indo-Pacific strategy."
- China, for its part, said it was "sympathetic to and supports the proposals put forward by the Russian Federation to create long-term **legally binding security guarantees in Europe"**.
- Russia returned the favour, saying it "reaffirms support for the **One-China principle**, confirms that Taiwan is an inalienable part of China, and opposes any forms of independence of Taiwan." In short, both have the other's backs on key strategic issues.
- This has also been reflected in **growing military closeness.**
  - China in 2014 became the first foreign buyer of the S-400 missile defence system, which India has also purchased (although there have been reported delays in delivery for reasons unknown).
  - Their joint exercises have also grown in scope. Chin views these exercises as the practical action to warn some countries outside the region and some neighbouring countries, like AUKUS and Quad, not to stir up trouble.
- There is also the **ideological binding glue** in shared opposition to what both countries described as the west's "attempts to impose their own democratic standards on other countries" and "interference" by the west on human rights issues".
- **Commercial ties** have also been growing.
  - Two-way trade last year was up 35% to $147 billion, driven largely by Chinese energy imports.
  - Russia is China's largest source of energy imports and second largest source of crude oil, with energy set to account for 35% of trade in 2022.
  - China has been Russia's biggest trading partner for 12 consecutive years and accounts for close to **20% of Russia's total foreign trade** (Russia, on the other hand, accounts for 2% of China's trade).
  - But Russia is, for China, a key market for project contracts besides energy supplies. Chinese companies signed construction project deals worth $5 billion last year — for the third straight year.

How has China responded to the Ukraine crisis?
- Given these deep trade linkages, **China does not want instability** (or, for that matter, a spurt in energy prices).
- That was the message from Chinese Foreign Minister on February 19, when he told the security conference in Munich that "the sovereignty, independence and

territorial integrity of all countries should be respected and safeguarded and that applies equally to Ukraine."
- China also outlined its preferred resolution to the current crisis - diplomatic solution and a return to the **Minsk agreement.**
  - Only two days later, that agreement was broken after President Putin ordered troops into two rebel-controlled areas (he called them "peacekeepers") and decided to recognise the "people's republics" of Donetsk and Luhansk. That, in of itself, showed China's limited influence.
  - Mr. Putin did, however, wait for the Winter Olympics to conclude on February 20 out of possible deference to Chinese sensitivities before making his move.

How is China's actions helping Russia?
- China has repeatedly underlined that it is sympathetic to Russia's concerns on NATO, which mirror its own opposition to America's allies in the Indo-Pacific.
  - Chinese strategists have repeatedly called the Quad an "Asian NATO", a label which its members reject.
- On the possibility of Russia now coming under heavy sanctions, close cooperation between China and Russia on energy, trade, finance and science and technology is all the more important.
- A strong economic cooperation with China will back up Russia to deflect ruthless economic coercion from the U.S.
- Strategists in the west and in India have often questioned the robustness of the relationship as well as **Russia's possible unease at being the "junior partner"** to China.

But are there any signs of a divide that can be exploited (as Nixon did five decades ago)?
- The evidence suggests no, and at least in the near-term, India should expect Sino-Russian closeness to continue, which poses its own challenges for India
- India has to navigate the three-way dynamic amid the worst period in relations with China in more than three decades, even as Russia remains a key defence partner.

Connecting the dots
- Shanghai Cooperation Organisation
- India and Eurasia Policy
- QUAD
- AUKUS

Shaking up Europe's security architecture	**Context:** The commencement of Russian military action in Ukraine is having huge implication on the global security order. At the heart of it is the instability in the post-Cold War security order. **What events led to emboldening of Russia?** ● **Reengagement between US & Russia:** A meeting between U.S. President Biden and Russia's President Vladmir Putin in June 2021 wanted to reverse seven years of relentless U.S.-Russia acrimony. ● **Growing US-China tensions**: US was seeking a modus vivendi with Russia and disengagement from conflicts in Europe and West Asia, to enable a sharper U.S. focus on domestic challenges and the external challenge from its principal strategic adversary, China.

- **Space for Russia**: Mr. Putin saw this reengagement as an opportunity to revive Russia's flagging economy and expand its freedom of political action globally. However, he wanted this engagement on equal terms where Russia's concerns are met, so that it does not constantly worry about strategic posture of NATO.

What were Russia's concerns with West?
- Russia has repeatedly articulated its grievances:
  - NATO's expansion violated promises made prior to the breakup of the Soviet Union
  - Ukraine's accession to NATO would cross Russia's red lines
  - NATO's strategic posture poses a continuing security threat to Russia
- NATO's expansion as a politico-military alliance, even after the dissolution of the Soviet Union and the Warsaw Pact, was at the U.S.'s initiative.
  - It was intended to temper European ambitions for strategic autonomy from the sole superpower and to counter Russia's resurgence.

How has the nature of NATO changed in the post Cold-war era?
- NATO countries today span a geography of uneven economic development and a diversity of political traditions and historical consciousness.
- Moreover, the original glue that held NATO together — ideological solidarity (free world against communist expansion) and an existential military threat — dissolved with the collapse of communism and the Warsaw Pact. There is **no ideology to oppose** now.
- Threat perceptions for NATO varies, depending on geographical location and historical experience. This **heterogeneity means a diversity of interests.**
- American leadership has normally succeeded in papering over differences, but the growing ambitions of countries is making this increasingly difficult.

Did US actions eventually led to the present crisis?
- US pressure on NATO in 2008 to recognise Ukraine's membership aspirations and its encouragement for a change of government in Ukraine in 2014, provoked the Russian annexation of Crimea.
- The subsequent armed separatist movement in eastern Ukraine (Donbas) led to the Minsk accords of 2014-15, which provided for a special status for this region within Ukraine.
- Ukraine considers this an unfair outcome, and the U.S. has supported its efforts to reinterpret the accords to its advantage.
- In recent months, the U.S. signalled that it would support the full implementation of the Minsk accords, but apparently found it difficult to shake the entrenched interests sufficiently to make it happen.
- This may have finally convinced Mr. Putin that his concerns would not be met through negotiations.
- U.S. interests have also divided **NATO on energy security.**
  - For Germany, the Nord Stream 2 (NS2) Russia-Germany gas pipeline is the cheapest source of gas for its industry.
  - US deem it a geopolitical project, increasing European dependence on Russian energy. US also has commercial interest in exporting LNG to Europe.
  - Ukraine fears the diminution of gas transit revenues, and also that if its importance for gas transit declines, so will Europe's support in its disputes with Russia.
  - European countries that oppose NS2 are ramping up their LNG import infrastructure to increase imports from the U.S.

What does the future hold?
- The manner in which NATO countries implement the promised harsh sanctions against Russia will demonstrate whether, how much and for how long, this crisis will keep them united.
- European order that does not accommodate Russia's concerns through genuine negotiation cannot be stable in the long term.
    - France's President Emmanuel Macron has been making this point forcefully, arguing for Europe to regain its strategic autonomy.
    - He has called NATO "brain-dead" and said that Europe, as a "geopolitical power" should control its own destiny, regaining "military sovereignty" and re-opening a dialogue with Russia.

What is the outlook for India?
- India will have to balance the pressure from one strategic partner to condemn the violation of international law, with that from another to understand its legitimate concerns.(Just like what India did in 2014)
- As Russia-West confrontation sharpens further, the U.S. Administration's intensified engagement in Europe will inevitably dilute its focus on the Indo-Pacific, causing India to make some tactical calibration of actions in its neighbourhood.

Conclusions
- Geopolitics, however, is a long game, and the larger context of the U.S.-China rivalry could, at some point in the not too distant future, reopen the question of how Russia fits into the European security order.

Connecting the dots
- Russia-Ukraine tension
- India-Russia Military alliance
- Indo-US defence deals

Canada's digital services tax	**Context:** The Office of the U.S. Trade Representative (USTR) has protested against Canada's decision to impose a digital services tax of 3% on large companies that sell various services in Canada.

- Companies with a total annual revenue of at least $850 million and profits of at least $16 million will be taxed by the Canadian government under the new rules.
- USTR has argued that the new tax particularly targets large U.S. technology businesses and has stated that it would look into ways available under existing bilateral and other trade agreements to retaliate against Canada's actions.

What is the issue?
- Many MNCs draw a large share of their revenue and profits from outside their home countries, yet they pay most of their taxes in their home country.
    - These include large technology companies such as Facebook, Apple, and Google which do business in developing countries like India and China but pay most taxes in the US or in tax shelters such as Ireland.
- Many governments have tried to tax at least a part of the profits of these MNCs.
- In a meeting of the Organization for Economic Cooperation and Development in October 2021, a total of 136 countries (including Canada and USA) came to an agreement on how to tax large MNCs.
- They agreed, under what is known as the OECD/G20 **Base Erosion and Profit Shifting (BEPS) project,** that large MNCs will have to pay tax on a certain portion of their profits to the government of the foreign country where they do business.

- To be particular, companies will have to **allocate 25% of the residual profits**, which is defined as profits exceeding 10% of revenue, as profits earned in the foreign country and pay tax on these profits.
- Other than this, the countries also agreed to impose a **minimum corporate tax rate of at least 15%** on corporations with revenues and profits above a certain threshold level.
- This was seen as a **way to bring an end to tax competition** which adversely affected the tax revenues of governments.
- So, Canada's new digital services tax basically comes at a time when governments are trying to implement new ground rules on how to tax companies and share revenues.

Why is the USTR unhappy about the digital services tax?
- USTR has argued that Canada's digital services tax goes against the spirit and the text of the **BEPS agreement** signed by 136 countries in October 2021.
- It was agreed that the signatory countries would not impose new unilateral taxes that work against the spirit of the BEPS agreement. Countries were instead supposed to work together on the swift implementation of the BEPS rules.
- Canada has contested that the digital services tax will not come into effect if the BEPS framework is implemented on time (by the end of 2023).
- Canada has also assured the United States that it is committed to cooperating with other governments to implement the BEPS framework. It should be noted that in case there is a delay in the implementation of the BEPS agreement, then companies will have to pay the digital service tax from 2024 on all their accumulated profits since 2022.

What lies ahead?
- The dispute over Canada's digital services tax is seen as a prelude to the various other problems that are likely to arise as governments across the world try to implement the BEPS agreement.
- Some also see Canada's decision as a sign that there may be doubts over the timely implementation of the BEPS framework.

Connecting the dots
- Global Minimum Corporate Tax
- Sovereign Right to Taxation

SWIFT

Context: U.S., Europe and several other western nations are moving to exclude Russia from the Society for Worldwide Interbank Financial Telecommunication (SWIFT), an international network for banks to facilitate smooth money transactions globally.
- This could be the strongest economic sanction against Russia over its military moves in Ukraine, as it will potentially cut off the country from receiving international payments.

What is SWIFT?
- SWIFT is a **messaging network** used by banks and financial institutions globally for quick and faultless exchange of information pertaining to financial transactions.
- The Belgium-headquartered SWIFT connects more than 11,000 banking and securities organisations in over 200 countries and territories.
- Each participant on the platform is assigned a **unique eight-digit SWIFT code or a bank identification code (BIC).**
- **SWIFT is merely a platform that sends messages** and does not hold any securities or money. It provides standardised and reliable communication to facilitate the transaction.

- o If a person, say, in New York with a Citibank account, wants to send money to someone with an HSBC account in London, the payee would have to submit to his bank, the London-based beneficiary's account number along with the eight-digit SWIFT code of the latter's bank. Citi would then send a SWIFT message to HSBC. Once that is received and approved, the money would be credited to the required account.
- In 2021, the SWIFT financial messaging platform had recorded an average of 42 million FIN messages per day, as per the data on its website.
- The full-year figure was an 11.4% growth on a year-over-year basis.
- Europe, West Asia, and Africa, combined sent approximately 4.66 billion messages.
- The Americas and the United Kingdom stood second with 4.42 billion interactions, with the Asia Pacific on third with an approximate 1.50 billion messages.

What happens if one is excluded from SWIFT?
- If a country is excluded from the most participatory financial facilitating platform, its **foreign funding** would take a hit, making it entirely reliant on domestic investors.
- An alternative system would be cumbersome to build and even more difficult to integrate with an already expansive system.
- SWIFT, first used in 1973, went live in 1977 with 518 institutions from 22 countries, its website states. SWIFT itself had replaced the much slower and far less dynamic Telex.

Are any countries excluded from SWIFT?
- Certain Iranian banks were ousted from the system in 2018 despite resistance from several countries in Europe.
- "This step, while regrettable, was taken in the interest of the stability and integrity of the wider global financial system, and based on an assessment of the economic situation," SWIFT states on its website.

How is the organisation governed?
- SWIFT claims to be neutral.
- Its shareholders, consisting of 3,500 firms across the globe, elect the 25-member board, which is responsible for oversight and management of the company.
- It is regulated by G-10 central banks of Belgium, Canada, France, Germany, Italy, Japan, The Netherlands, the United Kingdom, the United States, Switzerland, and Sweden, alongside the European Central Bank.
- Its lead overseer is the National Bank of Belgium.
- The SWIFT oversight forum was established in 2012.
- The G-10 participants were joined by the central banks of India, Australia, Russia, South Korea, Saudi Arabia, Singapore, South Africa, the Republic of Turkey, and the People's Republic of China.

Connecting the dots
- Ukraine Crisis and Economy

HISTORY

Veer Damodar Savarkar	**Period:** 28 May 1883 – 26 February 1966
	Cause of Death: Fasting (Sallekhana Prayopavesa)
	He was commonly known as Veer Savarkar ("brave" in his native Marathi language)
	- An Indian independence activist, politician, lawyer, writer, and the formulator of the Hindutva philosophy - Championed atheism and rationality and also disapproved orthodox Hindu belief. In fact, he even dismissed cow worship as superstitious. Savarkar was a radical and his Hindutva too was a radical break in the Hindu thought: anti-caste, reformist, modernist and futuristic. It was a modern Hindu response to the modern world - Organised a youth group named 'Mitra Mela' - In London, Veer Savarkar inspired his fellow Indian students and formed an organisation 'Free India Society' to fight against Britishers for freedom. - Was against foreign goods and propagated the idea of Swadeshi. In 1905, he burnt all the foreign goods in a bonfire on Dussehra. - Provided legal defence to Madan Lal Dhingra, who was accused in a murder case of a British Indian army officer named Sir William Hutt Curzon Wyllie. - Veer Savarkar also founded the two-nation theory in his book 'Hindutva' calling Hindus and Muslims two separate nations. In 1937, Hindu Mahasabha passed it as a resolution. In 1937, he also became the president of 'Hindu Mahasabha'. - A fierce critic of the Indian National Congress (INC) and Mahatma Gandhi; opposed the 'Quit India Movement' and later objected to INC's acceptance of Indian partition. He proposed the co-existence of two nations in one country.
	Hindutva
	The main challenge thrown by the British rule and colonial modernity under the pale of capitalism was for Hindus to justify their existence as a society. Who were they? Could Hindus survive in a modern world dominated by the expansionist organised religions, nations and nation-state? Savarkar responded to these challenges.
	- The coming together of various pagan traditions as Hinduism to meet the challenge of the Abrahamic monotheism is a centuries-old process. Savarkar consolidated it under a new ideological construct. - He wielded it into a coherent political construct, Hindutva that aimed to answer the challenges of the modern world, especially the charge of the colonialists that India is not a nation and hence unworthy of self-rule. - For India to be able to resist imperialism, a nation had to be born. For Savarkar, that nation was a Hindu Rashtra. Only a Hindu nation transcending caste, regional and linguistic barriers was capable of resisting imperialism. - No longer would invading armies roam around the countryside; no longer would India be a playground for colonial powers; no longer would its people and cities be pulverised by warlords for they would have to face a powerful Indian state created on the foundation of a Hindu nation. And the foundation of this Hindu nation was Hindutva. - Savarkar was a radical and his Hindutva, too, was a radical break in Hindu thought: anti-caste, reformist, modernist and futuristic. It was a modern Hindu response to the modern world. - Wrote A book - Hindutva: who is Hindu?

50 years of imprisonment – Kaala Paani

- Savarkar wrote a book titled "The History of the War of Indian Independence"- wrote about the guerilla warfare tricks used in 1857 Sepoy Mutiny.
- While the book was banned by Britishers, Madama Bhikaji Cama published the book in Netherlands, Germany and France, which eventually reached many Indian revolutionaries.
- Savarkar was arrested in 1909 on charges of plotting an armed revolt against the Morle-Minto reform. He also tried to escape by diving in the water but was arrested. He was sentenced to two life sentences i.e. 50 years in the cellular jail of Andamans, also known as Kala Pani, in 1911.

Death – 1964: Savarkar declared his wish to attain Samadhi and started hunger-strike on February 1, 1966 and passed away on February 26, 1966. He believed that his purpose of life is solved as India has gained Independence.

Note: In 2002, Port Blair airport at Andaman and Nicobar's Island was renamed after Veer Savarkar International Airport.

Q.1 Consider the following statements regarding reverse repo normalization:

1. Reverse repo normalization means the reverse repo rates will go up.
2. The process of normalization reduces excess liquidity and results in higher interest rates

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 African Union was launched in which of the following country?

a) South Africa
b) Libya
c) Ethiopia
d) Sudan

Q.3 Sacred Ensembles of the Hoysala belong to which of the following state of India?

a) Andhra Pradesh
b) Telangana
c) Tamil Nadu
d) Karnataka

Q.4 Consider the following statements regarding National Commission for Women (NCW) :

1. It is a constitutional body
2. The chairperson of the NCW is nominated by the Central Government.

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 Consider the following difference between Bomb Cyclone and a Hurricane

1. Hurricanes occur during summer or early fall, when seawater is warmest. Bomb cyclones generally occur during colder months.
2. Hurricanes tend to form in mid-altitude areas while bomb cyclone occurs in tropical areas

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.6 Which of the following is not correct regarding National Green Tribunal (NGT)

a) It is a statutory body established in 2010, as per the National Green Tribunal Act.
b) It is equipped with expertise solely for the purpose of adjudicating environmental cases in the country.
c) The chairperson of the NGT is a retired judge of the Supreme Court
d) Tribunal's orders are non-binding

Q.7 Consider the following statements regarding Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)?

1. The scheme is implemented by the Ministry of Rural Development .
2. Employment under MGNREGA is a legal entitlement

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 Electoral bonds:

1. The bonds are issued in multiples of Rs. 1,000, Rs. 10,000, Rs. 1 lakh, Rs. 10 lakh and Rs. 1 crore without any maximum limit.
2. State Bank of India is authorised to issue and encash these bonds, which are valid for fifteen days from the date of issuance.

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 Which of the following is newly added as Ramsar site?

a) Bakhira Wildlife Sanctuary
b) Khijadia Wildlife Sanctuary
c) Sultanpur National Park
d) Both (a) and (b)

Q.10 Consider the following statements regarding Supercomputer Param Pravega?

1. It is the first supercomputer designed by the Centre for Development of Advanced Computing (C-DAC).

2. It was developed under the National Supercomputing Mission (NSM).

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 regarding PRASHAD scheme:
   1. It was launched by Ministry of Education
   2. The destination of Punaura Dham has been recently included under PRASHAD Scheme which is located in Bihar.

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 Statue of equality is a gigantic statue of Which of the following?
   a) Raja Rammohan Roy
   b) Ramanujacharya
   c) Mahatma Gandhi
   d) Lala Lajpat Rai

Q.13 Consider the following statements:
   1. Delimitation is carried out by an independent Delimitation Commission appointed by the President of India.
   2. The Commission works in collaboration with the Election Commission of India.

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 The drug regulator DCGI (Drugs Controller General of India) has granted emergency use authorisation (EUA) to Single-dose Sputnik Light COVID-19 vaccine in India. Consider the following statements:
   1. Sputnik Light is based on recombinant human adenovirus serotype number 26.
   2. It is the world's first registered combination vector vaccine for the prevention of COVID-19

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 One District One Product Scheme comes under Which of the following Ministry?
   a) Ministry of Agriculture
   b) Ministry of Commerce & Industry
   c) Ministry of Tribal Affairs
   d) Ministry of Rural development

Q.16 Consider the following Factors Driving Ropeway Infrastructure:
   1. Economical mode of transportation
   2. Faster mode of transportation
   3. Environmentally friendly
   4. Last mile connectivity

Which of the above is or are correct?
   a) 1, 2 and 3 only
   b) 2 and 3 only
   c) 1 and 4 only
   d) All of the above

Q.17 What is the IUCN status of African Chetan?
   a) Extinct
   b) Vulnerable
   c) Critically endangered
   d) Least concern

Q.18 Launch of Operation AAHT is associated with which of the following?
   a) Marital rape
   b) Developing vaccine against Omicron variant
   c) Human trafficking
   d) Defence upgradation

Q.19 Consider the following statements regarding United Nations World Food Program (WFP):
   1. It is the world's largest humanitarian organization focused on hunger and food security, and the largest provider of school meals.
   2. It is headquartered in Rome

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 Consider the following statements regarding Aadhar:
   1. Aadhaar number is a 12-digit random number issued by the NITI Aayog.
   2. Enrolment in Aadhar is compulsory for every citizen of India

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.21 Sustainable Access to Markets and Resources for Innovative Delivery of Healthcare (SAMRIDH) initiative was developed by Which of the following?
a) NITI Aayog
b) Atal Innovation Mission (AIM)
c) U.S. Agency for International Development (USAID)
d) All of the above

Q.22 Consider the following statements regarding LiDAR
1. It is a remote sensing method that uses light in the form of a pulsed laser to measure ranges & variable distances.
2. This technology is used in Surveying, archaeology, geography.

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.23 Consider the following:
1. Defence
2. Healthcare Delivery Purposes
3. Agriculture
4. Monitoring

Which of the above is or are applications of drone technology correct?
a) 1 and 2 only
b) 2, 3 and 4 only
c) 1 only
d) All of the above

Q.24 Which of the following country is not a part of Quad?
a) Australia
b) USA
c) India
d) China

Q.25 Consider the following statements
1. Reverse Repo rate is the rate at which the central bank of a country lends money to commercial banks in the event of any shortfall of funds.

2. Repo rate is the rate at which the RBI borrows money from commercial banks within the country.

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.26 Consider the following:
1. Solar storms are magnetic plasma ejected at great speed from the solar surface.
2. Dark regions on the Sun are cooler than the surrounding photosphere.

Which of the above is or are correct?
a) 1 only
b) 2 only
c) Neither 1 nor 2
d) Both 1 and 2

Q.27 'Chintamani Padya Natakam', recently seen in news, was banned by which of the following state of India?
a) Telangana
b) Andhra Pradesh
c) Tamil Nadu
d) Kerala

Q.28 Which of the following has the greatest share in Core Industries:
a) Coal
b) Crude Oil
c) Natural Gas
d) Refinery Product

Q.29 Consider the following:
1. Habeas Corpus means "you may have the body." The writ is issued to produce a person who has been detained, whether in prison or in private custody, before a court and to release him if such detention is found illegal.
2. Mandamus is a judicial writ issued as a command to an inferior court or ordering a person to perform a public or statutory duty.

Which of the above is or are correct?
a) 1 only
b) 2 only
c) Neither 1 nor 2
d) Both 1 and 2

Q.30 Milan exercise is the largest exercise of which of the following country?
a) India

b) USA
c) SriLanka
d) Japan

Q.31 Which of the following is/are the function of SEBI?
   a) Passes rulings and orders
   b) Conducts investigation and enforcement action
   c) Drafts regulations
   d) All of the above

Q.32 Consider the following Polar Satellite Launch Vehicle:
   1. It is a four-staged launch vehicle with first and third stages using solid rocket motors and second and fourth stages using liquid rocket engines.
   2. It is the first Indian launch vehicle to be equipped with liquid stages.

Which of the above is or are correct?
   a) 1 only
   b) 2 only
   c) Neither 1 nor 2
   d) Both 1 and 2

Q.33 ModifiedElephant is associated with which of the following?
   a) Genetically enhanced breed of Asiatic elephant
   b) Hacking group
   c) Code name for India's neighbouring countries
   d) Latest PSLV satellite launched by ISRO

Q.34 Consider the following statements regarding Lassa Fever:
   1. It was first discovered in 1969 in Lassa, Nigeria.
   2. The fever is spread by birds.

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.35 Consider the following statements:
   1. The National Health Authority (NHA) is mandated with the implementation of the Ayushman Bharat Pradhan Mantri–Jan Arogya Yojana (AB PM-JAY).
   2. AB PM-JAY provides health assurance of up to Rs. 5 lakh for a family a year, for secondary and tertiary care-related hospitalisations.

Which of the above is or are correct?

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

Q.36 Which of the following is/are the negative consequences of riverbed sand mining?
   a) Soil erosion
   b) Disturbance of underwater and coastal sand
   c) Destruction of fisheries
   d) All of the above

Q.37 Consider the following statements regarding differences between GEO (geostationary equatorial orbit), MEO (medium earth orbit) and low earth orbit (LEO) satellites
   1. LEO satellites provide a larger coverage and only three satellites can cover the whole earth. Hundreds of GEO satellites are needed to provide coverage to a larger area.
   2. LEO satellites are smaller and are cheaper to launch than GEOs or MEOs.

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.38 Consider the following statements regarding Scheme for Economic Empowerment of DNTs (SEED):
   1. It is being carried out by The Minister of Social Justice and Empowerment
   2. Education and health insurance shall be provided to De-Notified, Nomadic and Semi Nomadic Tribes (DNT/NT/SNT) candidates and communities.

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.39 Which of the following is not a marsupial?
   a) Kangaroo
   b) Dingo
   c) Wallaby
   d) Koala

Q.40 Consider the following statements
   1. Ministry of New and Renewable energy is the nodal agency to tackle India's renewable energy issues.

2. National Solar Mission aims to establish India as a global leader in solar energy by creating the policy conditions for its deployment across the country.

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.41 Consider the following statements regarding Hydrogen Fuel:
   1. Hydrogen occurs freely in nature in useful quantities.
   2. It is more efficient than internal combustion engine.

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.42 New India Literacy Programme shall focus on Which of the following category of population?
   a) Tribals
   b) Children below 14 years of age
   c) Adults
   d) All of the above

Q.43 National Dam Safety Authority was recently brought into force. Consider the following statements regarding the same:
   1. The Authority will be headed by a chairman and assisted by five members to lead its five wings.
   2. The Authority will have its headquarters in Delhi and will be supported by four regional offices.

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.44 Where will Asia's biggest Bio-CNG plant be inaugurated?
   a) Beijing
   b) Tokyo
   c) Dhaka
   d) Indore

Q.45 India's first water taxi recently started in which of the following State/UT?
   a) Kerala
   b) Maharashtra
   c) Gujarat
   d) Daman and Diu

Q.46 Consider the following statements regarding Japanese encephalitis virus (JEV):
   1. It is a mosquito-borne flavivirus (mosquitos of the Culex species), and belongs to the same genus as dengue, yellow fever and West Nile viruses.
   2. JEV is the most important cause of viral encephalitis in Asia.

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.47 Extended Producers Responsibility is associated with which of the following?
   a) Production of photovoltaic cells
   b) Waste management
   c) Anti dumping duty
   d) Farming incentives

Q.48 Geckos are associated with which of the following wildlife animal?
   a) Lizards
   b) Tortoise
   c) Frogs
   d) Crocodiles

Q.49 Consider the following statements:
   1. Messier 77 is located 47 million light years (9.5 trillion km) from the Earth in the constellation Cetus.
   2. Active galactic nuclei are places at the centres of many large galaxies that have tremendous luminosity which sometimes outshine all of a galaxy's billions of stars combined.

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.50 Consider the following statements regarding Synthetic biology:
   1. Synthetic biology refers to the science of using genetic sequencing, editing, and modification to create unnatural organisms or organic molecules that can function in living systems.

2. It enables scientists to design and synthesise new sequences of DNA from scratch.

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.51 Which of the following is not the tributary of the Indus River?
   a) Shyok
   b) Gilgit
   c) Zaskar
   d) Luni

Q.52 Consider the following statements:
   1. The moth life cycle has four stages: egg, larva (caterpillar), pupa (chrysalis), and adult (imago).
   2. The larvae and adults of most moth species are plant eaters.

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.53 Consider the following statements regarding Corbevax:
   1. It is the first indigenously developed Receptor Binding Domain Protein sub-unit vaccine against COVID-19.
   2. It means it is made up of a specific part of SARS-CoV-2 - the spike protein on the virus's surface.

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.54 SEA-ME-WE-6 and India-Asia-Xpress (IAX) are associated with which of the following?
   a) Asia Bullet train
   b) Undersea cable
   c) GSLV satellite by ASEAN nations
   d) None of the above

Q.55 Consider the following statements:
   1. More than a third of the country's population lives in water-stressed areas, and this number is expected to shoot up.

2. 82% of rural households in India do not have individual piped water supply and 163 million live without access to clean water close to their homes.

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.56 Which of the following countries are associated with Nord Stream 2 gas pipeline
   a) France and Germany
   b) Germany and Russia
   c) USA, UK and Germany
   d) UK and Germany

Q.57 Fundamental duties are incorporated in Which of the following part?
   a) Part IV
   b) Part III
   c) Part IVA
   d) Part II

Q.58 Consider the following statements regarding Neolithic Age:
   1. The major crops grown during this period were ragi, horse gram, cotton, rice, wheat, and barley.
   2. Pottery first appeared in this age.

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.59 The Angadia system is used mostly in which of the following business?
   a) Farming
   b) Jewellery
   c) Cold storage
   d) Spices

Q.60 Exercise 'Cobra Warrior' will take place in which of the following country?
   a) UK
   b) USA
   c) Maldives
   d) India

Q.61 Consider the following statements:
   1. Radio Frequency (RF)-based charging can charge gadgets wirelessly at a few feet

distance, whereas loosely-coupled resonance charging can deliver a charge up to a few centimetres away.

2. In wireless charging, Both the phone and the charger need copper coils for charging.

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.62 The P-8I is responsible for?
   a) coastal patrolling
   b) search-and-rescue
   c) anti-piracy
   d) All of the above

Q.63 Net Zero Carbon Cities' mission is launched by which of the following count?
   a) World Economic Forum
   b) World Health Organisation
   c) United Nations Security Council
   d) World Bank

Q.64 Consider the following statements regarding the Council of Europe:
   1. No country has ever joined the EU without first belonging to the Council of Europe.
   2. It cannot make binding laws, but it does have the power to enforce select international agreements

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.65 Where did Chernobyl Nuclear disaster take place?
   a) Russia

   b) Belarus
   c) Ukraine
   d) Moldova

Q.66 Char Chinar Island is located in which of the following state/UT?
   a) Kerala
   b) Puducherry
   c) Jammu and Kashmir
   d) Gujarat

Q.67 Consider the following statements regarding International Space Station:
   1. The International Space Station is the only operational space laboratory as of now, orbiting the earth in a trajectory that is about 400 km above the land surface.
   2. It completes one journey around the earth in about one and a half hours. In one day, therefore, it makes about 16 trips around the world.
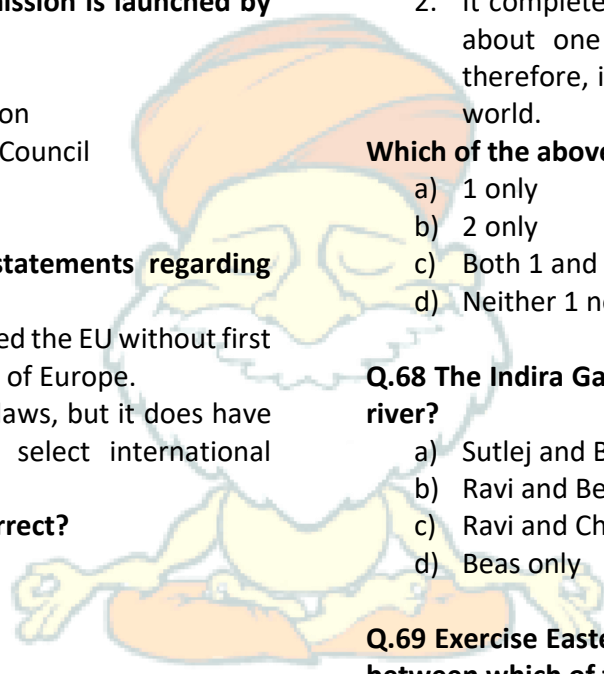
Which of the above is or are correct?
   a) 1 only
   b) 2 only
   c) Both 1 and 2
   d) Neither 1 nor 2

Q.68 The Indira Gandhi canal gets water from which river?
   a) Sutlej and Beas
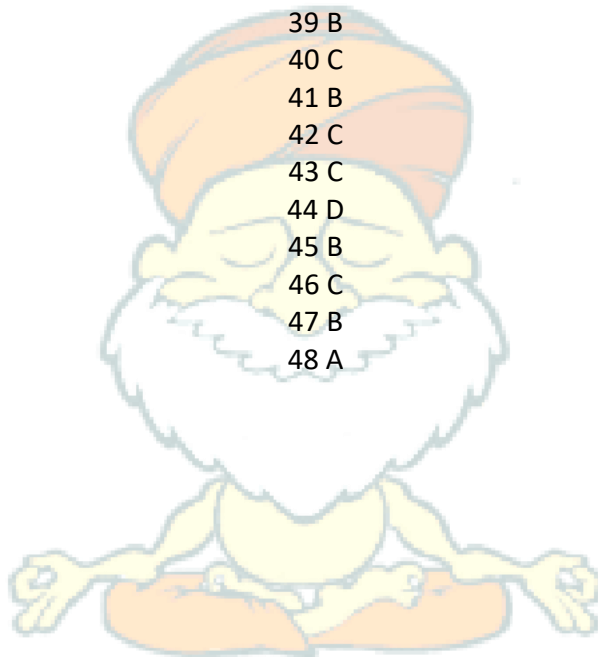   b) Ravi and Beas
   c) Ravi and Chenab
   d) Beas only

Q.69 Exercise Eastern Bridge-VI is a military exercise between which of the following?
   a) India and Vietnam
   b) India and Oman
   c) Oman and Vietnam
   d) Vietnam and Myanmar

MCQs ANSWER

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