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| <p><b>No SC, ST, OBC quota for NRIs appearing for NEET</b></p>     | <p><b>Context</b> Recent clarification by the Ministry of Health that aspiring candidates for NEET (National Eligibility cum Entrance Test) can only opt for one quota category.</p> <p><b>About</b></p> <ul style="list-style-type: none"> <li>● NRI students belonging to SC, ST and OBC communities can no longer enjoy the reservation benefits provided to them in the upcoming NEET examinations</li> <li>● Aspiring NRI students have also pointed out how they are denied seats under NRI quota in central, state and deemed institutions if they opt for ‘Indian’ as their nationality.</li> <li>● Such method of classification discriminates against NRI even though they hold an Indian citizenship</li> </ul> <p><b>Who is considered as a Non-resident?</b></p> <ul style="list-style-type: none"> <li>● A resident of India is an individual who stays in the country for at least 182 days in a fiscal year, or at least 60 days in a fiscal with 365 days or more during the previous four years</li> <li>● If an individual who is also an Indian citizen also takes up employment abroad, the period of 60 days is replaced by 182 days.</li> <li>● If a person is not a tax resident of India, he is non-resident</li> </ul> <p><b>About NEET examination</b></p> <ul style="list-style-type: none"> <li>● NEET is the qualifying test for MBBS and BDS programmes in Indian medical and dental colleges.</li> <li>● It is conducted by the National Testing Agency (NTA).</li> </ul> |
| <p><b>ASER report</b></p>  | <p><b>Context:</b> The Annual Status of Education Report (ASER), which was drawn up in March 2021 in only Karnataka this year, found a huge drop in learning levels in both reading and numeracy, especially for primary classes.</p> <ul style="list-style-type: none"> <li>● For the current report, Pratham surveyed 18,385 children between the age of five and 16 from 13,365 households across 24 districts. This was done earlier this year, the first since the COVID-19 pandemic.</li> </ul> <p><b>What is ASER</b></p> <ul style="list-style-type: none"> <li>● ASER stands for Annual Status of Education Report.</li> <li>● It is the largest citizen-led survey in India facilitated by <b>Pratham NGO</b>.</li> <li>● This is an annual survey, conducted every year since 2005, that aims to provide reliable estimates of children’s enrolment and basic learning levels for each district and state in India.</li> <li>● It is also the only annual source of information on children’s learning outcomes available in India today</li> <li>● ASER is a <b>household-based</b> rather than school-based survey.</li> <li>● This design enables all children to be included – those who have never been to school or have dropped out, as well as those who are in government schools, private schools, religious schools or anywhere else.</li> </ul>  |
| <p><b>Jharkhand House clears Bill for 75% quota for locals</b></p> | <p><b>Context</b> The Jharkhand Assembly passed a Bill, which provides 75% reservation for locals in private sector jobs with a monthly salary of up to Rs. 40,000.</p> <ul style="list-style-type: none"> <li>● Once notified, Jharkhand will become the third State, after Andhra Pradesh and Haryana, to pass such a law.</li> </ul> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● ‘The Jharkhand State Employment of Local Candidates Bill, 2021’ was tabled in the House in March but was later referred to a six-member select committee.</li> <li>● It was named ‘The Jharkhand State Employment of Local Candidates in Private Sector Bill, 2021’.</li> <li>● The monthly salary cap was increased from Rs. 30,000 to Rs. 40,000.</li> </ul>   |

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|                                   | <ul style="list-style-type: none"> <li>● Every employer shall register such employees receiving gross monthly salary as wages not more than Rs. 40,000 on the designated portal</li> </ul> <p><b>Concerns with regard to the bill</b></p> <ul style="list-style-type: none"> <li>● If skilled personnel are not available for the jobs at hand, these industrial units cannot 'import' labourers from elsewhere; the burden of imparting the requisite skills to, and of employing, locals will fall on the units.</li> <li>● It will almost certainly push up the cost of doing business in such geographical entities that embrace this policy, and make a mockery of the concept of the 'Indian Common Market', which rests on the foundational premise of unfettered labour mobility.</li> <li>● Significantly, a reservation for local populations is also a violation of the constitutionally guaranteed right of every citizen to work, live and move freely within the country.</li> </ul>  |
| <p><b>Right to Sit</b></p>        | <p><b>Context</b> Recently, the Tamil Nadu government has tabled a bill to amend Tamil Nadu Shops and Establishments Act, 1947.</p> <ul style="list-style-type: none"> <li>● The bill sought to add a subsection to mandatorily provide seating facilities for the employees.</li> </ul> <p><b>Key Highlights of the Bill</b></p> <ul style="list-style-type: none"> <li>● <b>Proposed Amendment:</b> The proposed Section 22-A to the Act reads that the premises of every establishment shall have suitable seating arrangements for all employees so that they may take advantage of any opportunity to sit.</li> <li>● <b>Need of the Bill:</b> Persons employed in shops and establishments are made to stand throughout their duty time resulting in varied health issues.</li> <li>● <b>Significance:</b> It would benefit thousands of employees of large and small establishments, particularly those working in textile and jewellery showrooms.</li> <li>● <b>Similar Legislation:</b> A few years ago, workers of textile showrooms in Kerala had gone on a protest demanding the 'Right to Sit'. <ul style="list-style-type: none"> <li>○ This prompted the Kerala government to amend the Kerala Shops and Establishments Act in 2018 to provide seating arrangements for them.</li> </ul> </li> </ul>  |
| <p><b>NIRF Rankings 2021</b></p>  | <p><b>Context</b> Union Education Ministry released its India Rankings 2021 under the National Institutional Ranking Framework.</p> <p><b>Key highlights of the India Rankings 2021</b></p> <ul style="list-style-type: none"> <li>● The IITs dominated the overall rankings, grabbing seven of the top 10 positions.</li> <li>● <b>Overall toppers:</b> The Indian Institute of Science (IISc), Bengaluru was ranked second, followed by the IITs in Bombay, Delhi, Kanpur, Kharagpur, Roorkee and Guwahati.</li> <li>● <b>Top Non-IITs University:</b> Jawaharlal Nehru University (JNU) and Banaras Hindu University (BHU) were at rank nine and 10.</li> <li>● <b>Top universities: (1) IISc; (2) JNU; (3) the BHU; (4) the University of Calcutta; (5) the Amrita Vishwa Vidyapeetham, Coimbatore; (6) Jamia Millia Islamia, New Delhi</b></li> </ul> <p><b>What is NIRF?</b></p> <ul style="list-style-type: none"> <li>● NIRF is an annual report card, by Ministry of Education, on the performance of the Higher Education Institutions (HEIs).</li> <li>● It was launched in 2015, outlines a methodology to rank institutions across the country.</li> <li>● <b>The NIRF ranks institutions based on five parameters:</b> <ul style="list-style-type: none"> <li>○ Teaching Learning and Resources (TLR), Research and</li> <li>○ Professional Practice (RP),</li> <li>○ Graduation Outcome (GO),</li> <li>○ Outreach and Inclusivity (OI) and</li> <li>○ Perception.</li> </ul> </li> </ul> |
| <p><b>About NCLT and ITAT</b></p> | <p><b>Context</b> The government has appointed 31 people as judicial, technical and accountant members at the National Company Law Tribunal (NCLT) and the Income Tax Appellate Tribunal (ITAT).</p>  |



|                                       |   |
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|                                       | <ul style="list-style-type: none"> <li>● Recently, the Supreme Court had flagged concerns about vacancies in various tribunals.</li> </ul> <p><b>Background:</b></p> <ul style="list-style-type: none"> <li>● There are around 250 posts lying vacant at various key tribunals and appellate tribunals such as the NCLT, the DRT, the TDSAT and the SAT.</li> </ul> <p><b>About NCLT:</b></p> <ul style="list-style-type: none"> <li>● It is a quasi-judicial body in India that adjudicates issues relating to companies in India.</li> <li>● Established on 1st June, 2016 (Companies Act, 2013).</li> <li>● Formed based on the recommendations of the Justice Eradi Committee.</li> <li>● It deals with matters mainly related to companies law and the insolvency law.</li> <li>● Term of members: Appointments will be for five years from the date of assumption of charge or till attaining the age of 65 or until further orders.</li> </ul> <p><b>About ITAT:</b></p> <ul style="list-style-type: none"> <li>● It deals with income tax matters.</li> <li>● It is a statutory body in the field of direct taxes and its orders are accepted as final, on findings of fact.</li> <li>● ITAT was the first Tribunal to be created on 25th January, 1941 and is also known as 'Mother Tribunal'.</li> <li>● With a view to ensuring the highest degree of independence of the ITAT, it functions under the Department of Legal Affairs in the Ministry of Law and Justice and is kept away from any kind of control by the Ministry of Finance.</li> <li>● The orders passed by the ITAT can be subjected to appellate challenge, on substantial questions of law, before the respective High Court</li> </ul> |
| <p><b>SVAMITVA Scheme</b></p>         | <ul style="list-style-type: none"> <li>● The acronym SVAMITVA stands for Survey of Villages and Mapping with Improved Technology in Village Areas.</li> <li>● It is a Central Sector Scheme (100% by Union Government) implemented by Union Ministry of Panchayat Raj</li> <li>● It is aimed at "providing 'record of rights' to village household owners possessing houses in inhabited rural areas in villages and issuance of property cards to the property owners."</li> <li>● The government aims to provide such property cards to each household in the next three to four years in every village across the country.</li> <li>● The plan is to survey all rural properties using drones and prepare GIS based maps for each village.</li> </ul>  |
| <p><b>Forest Rights Act, 2006</b></p> | <p><b>Context</b> The Jammu and Kashmir government has decided to implement the Forest Rights Act, 2006.</p> <ul style="list-style-type: none"> <li>● It will elevate the socio-economic status of tribals and nomadic communities, including Gujjar-Bakerwals and Gaddi-Sippis.</li> <li>● The decision will address the prolonged suffering of tribal people and also ensure forest conservation.</li> </ul> <p><b>About Forest rights act, 2006</b></p> <ul style="list-style-type: none"> <li>● The law deals with the rights of forest-dwelling communities to land and other resources, denied to them over decades as a result of the continuance of colonial forest laws in India.</li> <li>● Eligibility is confined to those who "primarily reside in forests" and who depend on forests and forest land for a livelihood.</li> <li>● Further, either the claimant must be a member of the Scheduled Tribes scheduled in that area or must have been residing in the forest for 75 years.</li> </ul>  |
| <p><b>Hindi Diwas</b></p>             | <ul style="list-style-type: none"> <li>● Celebrated every year on 14 September marking the declaration of the Hindi language as one of the official languages of Union government of India.</li> <li>● On 14 September 1949, Hindi was adopted as one of the official languages of India.</li> </ul>  |

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| <p><b>NCRB report on crime</b></p>   | <p><b>Context</b> National Crime Records Bureau (NCRB) report on Crime in India was recently launched.</p> <p><b>Key findings of the report</b></p> <ul style="list-style-type: none"> <li>• The Coronavirus pandemic and subsequent lockdown resulted in a <b>drop in traditional crimes</b> like theft, robbery, and assault on women and children in 2020.</li> <li>• There was a <b>28% increase in the registration of cases</b> in 2020 in the country compared to 2019, primarily owing to the violation of COVID-19 norms.</li> <li>• An almost 21-fold jump was recorded in cases of <b>disobedience to the order duly promulgated by public servants</b>.</li> <li>• Crimes against <b>Scheduled Castes</b> showed an increase of 9.4%.</li> <li>• offences against the <b>Scheduled Tribe</b> communities showed an increase of 9.3% over 2019</li> </ul> <p><b>About National Crime Records Bureau (NCRB)</b></p> <ul style="list-style-type: none"> <li>• <b>Headquarter:</b> New Delhi</li> <li>• <b>Set-up:</b> 1986</li> <li>• <b>Ministry:</b> Ministry of Home Affairs</li> <li>• <b>Objective:</b> To function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.</li> <li>• It was set up based on the recommendations of the National Police Commission (1977-1981) and the MHA's Task Force (1985).</li> </ul>  |
| <p><b>Kasturirangan Committee to Develop a New National Curriculum Framework (NCF)</b></p> | <p><b>Context</b> The Centre has appointed former ISRO chairman K. Kasturirangan as the head of a 12-member steering committee responsible for developing a new National Curriculum Framework (NCF).</p> <ul style="list-style-type: none"> <li>• Dr. Kasturirangan also chaired the drafting committee for the National Education Policy, 2020 which recommended the development of a new NCF.</li> </ul> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>• The steering committee has been given a tenure of three years to complete its task.</li> <li>• NCF is meant to be a guiding document for the development of textbooks, syllabi and teaching practices in schools across the country.</li> <li>• It will develop four such frameworks, one each to guide the curriculum of school education, teacher education, early childhood education and adult education.</li> </ul> <p><b>Major features of National Education Policy 2020</b></p> <ul style="list-style-type: none"> <li>• The current 10+2 system will be divided into 5 (3 to 8 years) +3 (8to 11 years) + 3 (11 to 14 years) + 4 (14 to 18 years) format.</li> <li>• Co-curriculum and vocational subjects like sports, arts, commerce, science will be treated at the same level.</li> <li>• Wherever possible, the medium of instruction in schools until at least Class 5, but preferably until Class 8 and beyond, will be the home language or mother tongue or regional language</li> <li>• Multi-disciplinary higher education framework with portable credits, and multiple exits with certificates, diplomas and degrees.</li> <li>• Higher Education Commission of India (HECI) will be set up as a single umbrella body for the entire higher education, excluding medical and legal education.</li> <li>• National Educational Technology Forum (NETF), will be created to provide a platform for the free exchange of ideas on the use of technology.</li> </ul> |
| <p><b>Central Vigilance Commission</b></p>   | <p><b>Context</b> Principal Economic Adviser, Ministry of Finance, Government of India, Sanjeev Sanyal has recently observed that the Vigilance Directorate of the Railways is functioning in violation of the Central Vigilance Commission (CVC) guidelines.</p> <p><b>About Railways Vigilance Directorate</b></p> <ul style="list-style-type: none"> <li>• The Vigilance Directorate plays a very important role in the area of management in the Indian Railways.</li> <li>• It investigates complaints, conducts sample checks in respect of managerial decisions to determine their conformity to rules and procedures.</li> </ul>   |

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|   | <p><b>About The Central Vigilance Commission (CVC)</b></p> <ul style="list-style-type: none"> <li>● It was set up by the Government in 1964 on the recommendations of the Committee on Prevention of Corruption, headed by K. Santhanam. (Santhanam Committee).</li> <li>● It is a statutory body governed by the Central Vigilance Commission Act 2003.</li> <li>● <b>Mandate:</b> To inquire into offences which might have been committed under the Prevention of Corruption Act, 1988 by certain categories of public servants.</li> <li>● <b>Composition:</b> The Commission shall consist of a Central Vigilance Commissioner (Chairperson); and not more than two Vigilance Commissioners (Members).</li> <li>● <b>Appointment:</b> They are appointed by the President of India on recommendation of a Committee consisting of the Prime Minister (Chairperson), the Minister of Home Affairs and the Leader of the Opposition in the Lok Sabha.</li> </ul>   |
| <p><b>Pew Study on the Religious Composition of India</b></p> | <p><b>Context</b> A new study on the religious composition of India's population since Partition was conducted recently by pew study.</p> <ul style="list-style-type: none"> <li>● The Pew Research Center is a nonpartisan American think tank based in Washington, D.C.</li> <li>● It provides information on social issues, public opinion, and demographic trends shaping the United States and the world.</li> </ul> <p><b>Major findings of the study</b></p> <ul style="list-style-type: none"> <li>● <b>Marginal change in composition:</b> Due to the “declining and converging fertility patterns” of Hindus and Muslims, there have been only marginal changes in the overall religious composition of the population since 1951.</li> <li>● <b>Total Fertility Rate (1992 to 2015):</b> For Muslims, it declined from 4.4 to 2.6, while that of Hindus declined from 3.3 to 2.1. This indicates that the gaps in childbearing between India's religious groups are much smaller than they used to be. <ul style="list-style-type: none"> <li>○ Women in central India tended to have more children.</li> <li>○ Bihar and Uttar Pradesh showed TFR of 3.4 and 2.7 respectively, in contrast to a TFR of 1.7 and 1.6 in Tamil Nadu and Kerala respectively.</li> </ul> </li> <li>● <b>Positive overall growth:</b> But all the six major religious groups — Hindus, Muslims, Christians, Sikhs, Buddhists and Jains — have grown in absolute numbers. <ul style="list-style-type: none"> <li>○ The sole exception to this trend are Parsis, whose number halved between 1951 and 2011, from 110,000 to 60,000.</li> </ul> </li> <li>● <b>Boy preference:</b> Sex-selective abortions had caused an estimated deficit of 20 million girls. This practice is more common among Indian Hindus than among Muslims and Christians.”</li> <li>● <b>Effect of migration:</b> Since the 1950s, migration has had only a modest impact on India's religious composition <ul style="list-style-type: none"> <li>○ Muslims more likely than Hindus to leave India while immigrants into India from Muslim-majority countries are disproportionately Hindu.</li> </ul> </li> <li>● <b>Religious conversion:</b> It has also had a negligible impact on India's overall composition, with 98% of Indian adults still identifying with the religion in which they were raised.</li> </ul> |
| <p><b>Sign Language Day</b></p>                               | <ul style="list-style-type: none"> <li>● Indian Sign Language Research and Training Centre (ISLRTC), an autonomous body within the Department of Empowerment of Persons with Disabilities (Divyangjan) under the Ministry of Social Justice and Empowerment, will be celebrating 'Sign Language Day' on 23rd September.</li> <li>● United Nations declared 23rd September as the International Sign Language Day, the ISLRTC has celebrated it every year - To sensitize the general public about the importance of Indian sign languages, and the information and communication accessibility for persons with hearing disabilities.</li> <li>● Sign language not only plays an important role in educating people, but also is vital in creating employment and vocational training for persons with hearing disabilities.</li> </ul>   |

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| <p><b>Caste Census of Backward Classes</b></p> | <p><b>Context:</b> The government has made it clear in the Supreme Court that a caste census of the Backward Classes is “administratively difficult and cumbersome”.</p> <p><b>Key Arguments by the Centre</b></p> <ul style="list-style-type: none"> <li>• The Centre reasoned that even when the census of castes were taken in the pre-Independence period, the data <b>suffered in respect of “completeness and accuracy”</b>.</li> <li>• Government has also said the caste data enumerated in the Socio-Economic and Caste Census (SECC) of 2011 is “<b>unusable</b>” for official purposes as they are “replete with technical flaws”. <ul style="list-style-type: none"> <li>○ The Centre said the raw caste/tribe data of 2011 was unusable. For example, Mappilas in Malabar region of Kerala were spelt in 40 different ways, resulting in the listing of 40 different castes.</li> <li>○ SECC caste data is stored in the Office of the Registrar General and has not been made public (Economic Data of SECC is published).</li> </ul> </li> <li>• The government said caste-wise enumeration in the decennial Census was given up as a matter of policy from 1951 as a <b>policy of “official discouragement of caste”</b>.</li> </ul> <p><b>What is Census?</b></p> <ul style="list-style-type: none"> <li>• In Census (decennial census), data is collected on demographic and various socio-economic parameters like education, SC/ST, religion, language, marriage, fertility, disability, occupation and migration of the individuals.</li> <li>• Office of the Registrar General and Census Commissioner, India under <b>Ministry of Home Affairs</b>, Government of India is responsible for carrying out the census.</li> <li>• It provides information on size, distribution and socio-economic, demographic and other characteristics of the country’s population.</li> <li>• The first synchronous census in India was held in 1881. Since then, censuses have been undertaken uninterruptedly once every ten years.</li> <li>• As per the official Gazette, the individual data collected in Census under the <b>Census Act, 1948</b>, are not made public as per the provisions contained in the Act. <ul style="list-style-type: none"> <li>○ The individual data are not used for the preparation of any other database, including the National Register of Citizens.</li> </ul> </li> <li>• Only the <b>aggregated Census data</b> at various administrative levels are released.</li> <li>• Owing to the outbreak of COVID-19 pandemic, Census 2021 and other Census-related field activities have been postponed until further orders.</li> </ul> |
| <p><b>FASTER system by Supreme Court</b></p>   | <p><b>Context:</b> Following an order in July by a Special Bench led by CJI, the Supreme court has introduced the “Fast and Secured Transmission of Electronic Records” (FASTER) system.</p> <ul style="list-style-type: none"> <li>• Through this system, Supreme Court’s crucial decisions, including orders on bail and stay of arrest, can be communicated electronically to prison authorities and investigating agencies through a secure channel.</li> <li>• The Rules and Handbook on Practice and Procedure of Supreme Court enables the transmission of a certified copy of the judgment or order either in physical or electronic form.</li> </ul> <p><b>Significance of FASTER system</b></p> <ul style="list-style-type: none"> <li>• It enables instantaneous delivery of orders passed by apex court through a secure communication channel and ensures that there are no delays in implementation of the orders passed by the Supreme Court.</li> <li>• The system is meant to ensure that undertrials are not made to wait for days on end behind bars to be released because the certified hard copies of their bail orders were late to reach the prison.</li> <li>• The system would also prevent unnecessary arrests and custody of people even after the court has already granted them its protection.</li> <li>• It may even communicate a stay on an execution ordered by the final court on time.</li> <li>• It is a big fillip to the fundamental rights of life, dignity and personal liberty.</li> </ul>   |

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| <p><b>Pradhan Mantri Digital Health Mission</b></p>          | <p><b>Context:</b> Prime Minister Narendra Modi will announce the nationwide roll-out of Pradhan Mantri Digital Health Mission on September 27.</p> <ul style="list-style-type: none"> <li>● Under this, a <b>unique digital health ID</b> will be provided to the people, which will contain all the health records of the person. <ul style="list-style-type: none"> <li>○ Every time one visit a doctor or a pharmacy, everything will be logged in this card. From the doctor’s appointment to the medication, everything will be available in the health profile</li> </ul> </li> <li>● It will not only digitise health records but also provides a registry of doctors and health facilities.</li> <li>● The mission is being rolled out on a pilot basis in six union territories including Puducherry, Chandigarh, Ladakh, Lakshadweep, Andaman and Nicobar Islands, Daman, Diu, Dadra and Nagar Haveli.</li> <li>● <b>Implementing agency:</b> The National Health Authority (NHA)</li> <li>● The NDHM is part of the Centre’s National Digital Health Blueprint, which aims to enhance healthcare delivery by setting up a core e-health database of international standards and, on paper, allowing patients to have control over their health data.</li> </ul> <p>With its key building blocks or applications, HealthID, DigiDoctor, Health Facility Registry, Personal Health Records, Telemedicine, and e-Pharmacy, the mission will bring together disparate stakeholders and radically strengthen — and, thus change — India’s healthcare delivery landscape.</p> |
| <p><b>Article 30(2) of Indian Constitution</b></p>           | <p><b>Context</b> The Supreme Court held in a judgment that the right of an institution, whether run by a majority or minority community, to get government aid is not a fundamental right.</p> <ul style="list-style-type: none"> <li>● Both have to equally follow the rules and conditions of the aid.</li> </ul> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● Whether it is an institution run by the majority or the minority, all conditions that have relevance to the proper utilisation of the grant-in-aid by an educational institution can be imposed.</li> <li>● The Bench said if the government made a policy call to withdraw aid, an institution cannot question the decision as a “matter of right”. An institution is free to choose to accept the grant with the conditions or go its own way.</li> </ul> <p><b>About Article 30(2)</b></p> <p>It states that The state shall not, in granting aid to educational institutions, <b>discriminate</b> against any educational institution on the ground that it is under the management of a minority, whether based on religion or language</p>  |
| <p><b>Deadline for promotion quotas for the disabled</b></p> | <p><b>Context</b> The Supreme Court has asked the Centre to issue instructions “at the earliest and not later than four months” for giving reservation in promotions to persons with disabilities (PwDs).</p> <ul style="list-style-type: none"> <li>● In a January 14, 2020 judgment of the apex court confirming that PwDs have a right to reservation in promotions. The judgement is famously known as Siddaraju v/s State of Karnataka.</li> <li>● It said instructions should be issued in accordance with Section 34 of the Rights of Persons with Disabilities Act, 2016. <ul style="list-style-type: none"> <li>○ It provides that “every appropriate government shall appoint in every government establishment not less than 4% of the total number of vacancies in the cadre strength in each group of posts meant to be filled with persons with benchmark disabilities.</li> </ul> </li> </ul> <p><b>About Siddaraju v/s State of Karnataka case</b></p> <ul style="list-style-type: none"> <li>● In the case of Siddaraju v/s State of Karnataka, the Supreme Court affirmed the Reservation of Persons with Disability (PWDs) under the Rights of Persons with Disabilities Act, 2016. In the given case, the decision given under Indra Sawhney's Case was reconsidered.</li> </ul>  |

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|   | <ul style="list-style-type: none"> <li>● The Court was of the view that the basis for providing reservation for PWD is a physical disability and not any of the criteria forbidden under article 16(1).</li> <li>● Further, the reservation of persons with disability has nothing to do with 50% ceiling. Therefore, the rule of no reservation promotions as laid down in Indra Sawhney has clearly and normatively no application to persons with disability.</li> </ul> <p><b>Other landmark judgements with regard to Reservation in promotion</b></p> <ul style="list-style-type: none"> <li>● In the <b>Indira Sawhney case (1992)</b>, SC held that the reservation policy cannot be extended to promotions.</li> <li>● However, the <b>77th Constitutional Amendment</b> inserted clause 4A in article 16 and restored provision of reservations in promotions.</li> <li>● In <b>Nagaraj judgement (2006)</b>, Court laid down three controlling conditions that the state must meet prior to granting SC/ST a reservation in promotion: <ul style="list-style-type: none"> <li>○ state must show that backwardness of the class</li> <li>○ class is inadequately represented in position or service</li> <li>○ reservations are in the interest of Administrative efficiency</li> </ul> </li> <li>● In <b>Jarnail Singh case (2018)</b>, it struck down the demonstration of backwardness provision from Nagaraj judgement.</li> </ul> |
| <p><b>PRAGATI</b></p>                                   | <ul style="list-style-type: none"> <li>● Launched in 2015, PRAGATI is the multimodal platform for <b>Pro-Active Governance and Timely Implementation</b> involving central and state governments - enables the PM to discuss the issues with the concerned central and state officials with full information and latest visuals of the ground-level situation.</li> <li>● <b>Designed by:</b> Prime Minister's Office (PMO) team with the help of the National Informatics Center (NIC).</li> <li>● <b>It is a three-tier system:</b> PMO, Union Government Secretaries, and Chief Secretaries of the States.</li> <li>● <b>Objective:</b> <ul style="list-style-type: none"> <li>○ Grievance Redressal;</li> <li>○ Programme Implementation;</li> <li>○ Project Monitoring</li> </ul> </li> <li>● <b>Significance:</b> <ul style="list-style-type: none"> <li>○ It promotes cooperative federalism;</li> <li>○ It is a robust system for bringing e-transparency and e-accountability with real-time presence and exchange among the key stakeholders;</li> <li>○ It is an innovative project in e-governance and good governance.</li> </ul> </li> </ul>   |
| <p><b>National Florence Nightingale Awards 2020</b></p> | <p><b>In News:</b> National Florence Nightingale Awards 2020 was conferred to 51 awardees by the President</p> <ul style="list-style-type: none"> <li>● Florence Nightingale awards were instituted in the year 1973 by the Government as a mark of recognition for the meritorious services rendered by <b>nurses to the society</b>.</li> </ul>  |

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| <p><b>Financial Stability and Development Council (FSDC) Meeting</b></p> | <p><b>Context:</b> Recently, the Finance Minister chaired the 24th meeting of the Financial Stability and Development Council (FSDC).</p> <p><b>About FSDC</b></p> <ul style="list-style-type: none"> <li>○ It is <b>non-statutory apex council</b> constituted by the Executive Order in 2010.</li> <li>○ It works under the <b>Ministry of Finance</b></li> <li>○ The <b>Raghuram Rajan committee (2008)</b> on financial sector reforms first proposed the creation of FSDC.</li> <li>○ It is chaired by the Finance Minister and its members include the heads of all Financial Sector Regulators (RBI, SEBI, PFRDA &amp; IRDA), Finance Secretary, Secretary of Department of Economic Affairs (DEA), Secretary of Department of Financial Services (DFS), Chief Economic Adviser, Secretary of Department of Electronics and Information Technology, Chairperson of the Insolvency and Bankruptcy Board of India (IBBI) and the Revenue Secretary.</li> <li>○ <b>FSDC sub-committee</b> is headed by the <b>Governor of RBI.</b></li> <li>○ The Council can <b>invite experts to its meeting if required.</b></li> <li>○ <b>Functions:</b> <ul style="list-style-type: none"> <li>○ To <b>strengthen and institutionalize the mechanism</b> for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development.</li> <li>○ To <b>monitor macro-prudential supervision of the economy.</b> It assesses the functioning of the large financial conglomerates.</li> </ul> </li> </ul> |
| <p><b>International Fund for Agricultural Development (IFAD)</b></p>     | <p><b>Context:</b> Recently, IFAD (International Fund for Agricultural Development) has committed to focus 30% of its climate finance to support nature-based solutions in rural small-scale agriculture by 2030.</p> <p><b>About IFAD:</b></p> <ul style="list-style-type: none"> <li>● It was created in 1977, which is the outcome of the World Food Conference of 1974.</li> <li>● IFAD is an international financial institution and specialized UN agency working in the field of poverty eradication in the rural areas of developing countries <b>providing grants and loans with low interest</b> for allied projects.</li> <li>● Headquarters: Rome, Italy</li> <li>● It brings out the <b>Rural Development Report</b> every year.</li> <li>● It has 177 member countries. India is also a member country.</li> <li>● <b>Objectives:</b> <ul style="list-style-type: none"> <li>○ To increase the productive capacity of poor people.</li> <li>○ To increase benefits for them from market participation.</li> <li>○ To strengthen the environmental sustainability &amp; climate resilience of their economic activities.</li> </ul> </li> <li>● It works with marginalized and vulnerable groups such as farmers with small holdings, foresters, Pastoralists, Fishermen and small scale entrepreneurs by giving them disaster preparedness, access to weather information, technology transfer and social learning.</li> </ul>  |
| <p><b>GST Appellate Tribunal</b></p>                                     | <p><b>Context</b> The Supreme Court has warned that the government has no option but to constitute the Goods and Services Tax (GST) Appellate Tribunal.</p> <ul style="list-style-type: none"> <li>● The GST tribunal has not been constituted even four years after the central GST law was passed in 2016.</li> <li>● Section 109 of the GST Act mandates the constitution of the Tribunal</li> </ul> <p><b>What is GST Appellate Tribunal?</b></p> <ul style="list-style-type: none"> <li>● The GST Appellate Tribunal (GSTAT) is the second appeal forum under GST for any dissatisfactory order passed by the First Appellate Authorities.</li> </ul>  |

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|   | <ul style="list-style-type: none"> <li>● The National Appellate Tribunal is also the first common forum to resolve disputes between the centre and the states.</li> <li>● Being a common forum, it is the duty of the GSTAT to ensure uniformity in the redressal of disputes arising under GST.</li> <li>● It holds the same powers as the court and is deemed Civil Court for trying a case.</li> </ul> <p><b>Constitution of the GST Appellate Tribunal</b></p> <ul style="list-style-type: none"> <li>● <b>National Bench:</b> The National Appellate Tribunal is situated in New Delhi, constitutes a National President (Head) along with 2 Technical Members (1 from Centre and State each)</li> <li>● <b>Regional Benches:</b> On the recommendations of the GST Council, the government can constitute (by notification) Regional Benches, as required. <ul style="list-style-type: none"> <li>○ As of now, there are 3 Regional Benches (situated in Mumbai, Kolkata and Hyderabad) in India.</li> </ul> </li> <li>● State Bench and Area Bench</li> </ul>   |
| <p><b>Mineral Exploration</b></p>                         | <p><b>In News:</b> The Geological Survey of India has delineated 100 geologically potential mineral blocks for auction.</p> <ul style="list-style-type: none"> <li>● Handing over of these 100 Reports to the State Governments will ensure continuous supply of minerals in the country and more revenue to the State Governments by bringing more number of mineral blocks under auction.</li> </ul> <p><b>The MMDR Amendment Act, 2021</b></p> <ul style="list-style-type: none"> <li>● The MMDR Amendment Act, 2015 ushered in transparency in the allocation of mineral concessions in terms of Prospecting License and Mining Lease.</li> <li>● In this continuous endeavour, the Mines and Minerals (Development and Regulation) Amendment Act, has been further liberalized in March 2021.</li> <li>● The recent amendment is expected to increase employment and investment in the mining sector, increase the revenue to the States, increase production and time bound operationalization of mines, maintain continuity in mining operations after change of lessee, increase the pace of exploration and auction of mineral resources.</li> </ul>  |
| <p><b>Local sales by SEZ units without import tag</b></p> | <p><b>Context</b> The government is considering a proposal to allow producers in Special Economic Zones (SEZs) to sell their output to the domestic market without treating them as imports. It is also reviewing the exclusion of export-oriented units (EOUs) and SEZs from the recently notified tax refund scheme for exports.</p> <ul style="list-style-type: none"> <li>● It was also emphasised recently that despite the rise in freight rates and input costs, SEZ and EOU units had not been given benefits under the Remission of Taxes and Duties on Export Products (RoDTEP) scheme.</li> </ul> <p><b>What is the RoDTEP Scheme?</b></p> <ul style="list-style-type: none"> <li>● The Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme was announced in 2019 by the Government of India and it became effective on 1 January 2021.</li> <li>● It allows exporters to receive refunds on taxes and duties that are not exempted or refunded under any other scheme.</li> <li>● <b>Aim:</b> To boost the export of goods that were poor in volume.</li> <li>● It replaces the Merchandise Export from India Scheme (MEIS).</li> <li>● It is a combination of the MEIS and the Rebate of State and Central Taxes and Levies (RoSCTL).</li> <li>● Under this scheme, refund would be claimed as a percentage of the Freight On Board (FOB) value of exports.</li> </ul> <p><b>What are Special Economic Zones (SEZ)?</b></p> <ul style="list-style-type: none"> <li>● It is a specifically delineated duty-free enclave, deemed to be foreign territory for the purposes of trade operations and duties and tariffs.</li> <li>● Goods and services going into the SEZ area from Domestic Tariff Area (whole India except SEZ) shall be treated as exports and goods coming from the SEZ area into DTA shall be treated as imports.</li> </ul> |



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|  | <ul style="list-style-type: none"> <li>● SEZ units may be set up for manufacture of goods and rendering of services.</li> <li>● The business and trade laws are different from the rest of the country.</li> <li>● SEZs are located within a country's national borders.</li> <li>● Their aims include increasing trade balance, employment, increased investment, job creation and effective administration</li> <li>● The present rule governing SEZ units is that SEZ units may import/procure goods and services from DTA without payment of import duty. But when SEZs are selling goods into DTA then Import/Customs Duty is imposed.</li> </ul>   |
| <p><b>Cairn Energy to end tax dispute with India</b></p> | <p><b>Context</b> The U.K.-based Cairn Energy is working with the Government of India to expedite “documentation and payment of refund” of \$1.06 billion of retrospective taxes.</p> <ul style="list-style-type: none"> <li>● In its half-yearly report, Cairn said it plans to return \$700 million to the shareholders through special dividends and buybacks, out of the expected tax refund from the Indian government.</li> </ul> <p><b>Recent Amendment to I-T laws by the Indian government</b></p> <ul style="list-style-type: none"> <li>● The government recently amended the income tax laws to scrap the retrospective tax provisions introduced in 2012-13, under which Cairn was taxed in 2014 for a corporate restructuring undertaken in 2006-07.</li> <li>● The tax department subsequently froze the firm's shares as part of the proceedings and sold them off to recover the claimed tax dues.</li> <li>● The changes propose to refund the taxes levied retrospectively if the affected taxpayers drop all pending litigation and forego any interest and damages claims.</li> </ul> <p><b>Tribunal verdict</b></p> <ul style="list-style-type: none"> <li>● An international arbitration tribunal, scrutinising the tax dispute, last year ruled in Cairn's favour and awarded \$1.2 billion in damages to the company. While the government has filed an appeal against the verdict, Cairn has filed lawsuits in several overseas jurisdictions to enforce the tribunal's award.</li> </ul> <p><b>Background</b></p> <ul style="list-style-type: none"> <li>● The year in reference, 2006-07, was one in which big corporate changes and developments took place in Cairn Energy.</li> <li>● It was the year in which it not only undertook a corporate reorganisation, but also floated an Indian subsidiary, Cairn India, which in early 2007 got listed on the Indian bourses.</li> <li>● Through the corporate reorganisation process, Cairn Energy had transferred all of its India assets, which were until then held by nine subsidiaries in various countries, to the newly-formed Cairn India.</li> <li>● But the tax authorities claimed that in the process of this reorganisation, Cairn Energy had made capital gains worth ₹24,500 crore. This, the department asserted, was the basis of the tax demand of 1.6 billions USD.</li> <li>● In 2011, the U.K.-based Vedanta Resources bought a nearly 60% stake in Cairn India. In fact, four years after this, Cairn India received a tax notice for not withholding tax for the gains ascribed to its former parent company.</li> </ul> |
| <p><b>Coal based Hydrogen</b></p>                        | <p><b>In News:</b> Ministry of Coal has constituted two Committees, one to oversee the program and another of experts to give guidance to the Ministry. This is aimed for contributing to PM's agenda of a hydrogen-based economy in a clean manner.</p> <p><b>Producing Hydrogen through Coal</b></p> <ul style="list-style-type: none"> <li>● Coal is one of the important sources of hydrogen making (Brown Hydrogen) apart from Natural Gas (Grey hydrogen) and renewable energy (Green Hydrogen) through electrolysis. In case of renewable energy (Green Hydrogen) surplus solar power is used to electrolyze water into hydrogen and oxygen.</li> <li>● The global emphasis is on substituting liquid fuels with hydrogen (as fuel in vehicles), storage of surplus renewable power as hydrogen (as power cannot be stored at a cost effective price), and cutting down emission.</li> </ul>  |

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|   | <ul style="list-style-type: none"> <li>• However, Coal has not been encouraged elsewhere because of the fear that while extracting hydrogen via coal (from the moisture embedded in coal) there may be carbon emission.</li> <li>• Almost 100% of Hydrogen produced in India is through Natural Gas.</li> </ul> <p><b>The Challenges</b></p> <p>Production of hydrogen from coal will have challenges in terms of <b>high emissions</b> and ‘carbon capture, utilisation and storage’ (CCUS) will play an important role. However, when the carbon monoxide and carbon dioxide formed during coal to hydrogen process are trapped and stored in an environmentally sustainable manner (CCUS), then, Indian coal reserves could become a great source of hydrogen.</p> <ul style="list-style-type: none"> <li>• For every tonne of brown hydrogen produced, we get – at a minimum – between 10 and 12 tonnes of CO<sub>2</sub>. That’s not even including the CO<sub>2</sub> produced by the energy source driving the process, or the CO<sub>2</sub> produced in transporting the hydrogen to the customer. In all, production and transport of brown hydrogen is very bad for the environment.</li> <li>• In steel making, lots of work has been done on production of steel by use of Hydrogen. However, iron reduction through hydrogen is an endothermic reaction and will require lot of heat. This heat can be generated in DRI plants due to presence of CO in syn Gas being produced from coal gasification process.</li> </ul>  |
| <p><b>PLI plan for India’s textile sector</b></p> | <p><b>Context</b> The Union Cabinet recently approved a Rs. 10,683 crore Production Linked Incentive (PLI) scheme for the textile sector</p> <ul style="list-style-type: none"> <li>• <b>Objective:</b> To help India regain its historical dominant status in global textiles trade.</li> </ul> <p><b>Key features of the scheme</b></p> <ul style="list-style-type: none"> <li>• The incentives shall encourage investment in new capacities in man-made fibre (MMF) apparel, MMF fabrics, and 10 segments or products of technical textiles.</li> <li>• The scheme shall help attract investment of more than Rs. 19,000 crore, creating an additional 7.5 lakh direct jobs.</li> <li>• There will be two levels of investment with different sets of incentives. <ul style="list-style-type: none"> <li>○ In the first category, any person or firm can invest a minimum Rs. 300 crore in plant, machinery, and civil works to produce the identified products to ensure eligibility for the PLI.</li> <li>○ In the second category a minimum investment of Rs. 100 crore would make an individual or firm eligible to apply for the incentives.</li> </ul> </li> <li>• Priority would be given for investment in aspirational districts, tier-three, tier-four towns and rural areas.</li> <li>• The scheme is expected to benefit States such as Gujarat, U.P., Maharashtra, Tamil Nadu, Punjab, Andhra, Telangana and Odisha.</li> <li>• Applicants would have two years as investment period and 2024-2025 would be the ‘performance’ year. The incentive flow would start in 2025-2026 and extend for five years.</li> </ul> <p><b>Significance of the Textiles Sector</b></p> <ul style="list-style-type: none"> <li>• Textiles &amp; garments industry is a labour intensive sector that employs 45 million people in India.</li> <li>• It is second only to the agriculture sector in terms of employment.</li> <li>• It contributes 2.3% to Indian GDP, 7% of Industrial Output, 12% to the export earnings of India and employs more than 21% of total employment.</li> <li>• India is the 6th largest producer of Technical Textiles with 6% Global Share, largest producer of cotton &amp; jute in the world.</li> <li>• Technical textiles are functional fabrics that have applications in industries such as automobiles, civil engineering and construction,</li> <li>• India is also the second largest producer of silk in the world and 95% of the world’s hand woven fabric comes from India.</li> </ul> |

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|   | <ul style="list-style-type: none"> <li>Two-thirds of India's textile exports now are cotton based whereas 66-70% of world trade in textiles and apparel is MMF-based and technical textiles.</li> </ul>  |
| <p><b>PMGDISHA campaign for 100 percent digital literacy in Digital Villages launched</b></p> | <p><b>In News:</b> The Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) drive for <b>100% Digital Literacy of all digital villages</b> has been launched under PMGDISHA scheme, a flagship Digital Literacy scheme of the Government for rural areas.</p> <ul style="list-style-type: none"> <li>Under the campaign, a three day certification drive for rural citizens especially women and disadvantaged communities will be conducted.</li> <li>Post that, a certification drive for PMGDISHA scheme will be conducted in a similar manner.</li> <li>Apart from this Common Service Center (CSC) also proposed to make all the Digital Villages 100 percent Digital Literate.</li> </ul> <p>PMGDISHA and CSCs have emerged as the enablers for digital literacy and they are important in realizing the vision of transforming lives of common people and to bridge the gap between government and citizens through digital technology.</p> <p><b>About PMGDISHA Programme</b></p> <ul style="list-style-type: none"> <li>Envisages to make six crore persons in rural areas, across States/UTs, digitally literate, reaching to around 40% of rural households by covering one member from every household where there is no digitally literate person.</li> <li>Digitally literate persons: Digitally literate persons would be able to operate computers/digital access devices (like tablets, smart phones, etc.), send and receive emails, browse internet, access Government Services, search for information, undertaking cashless transactions, etc. and hence use IT to actively participate in the process of nation building.</li> </ul>   |
| <p><b>Periodic Labour Force Survey (PLFS)</b></p>   | <p><b>In News:</b> On the basis of the data collected in PLFS, the quarterly bulletin for the quarter October- December 2020 has been released.</p> <p>Considering the importance of availability of labour force data at more frequent time intervals, National Statistical Office (NSO) launched Periodic Labour Force Survey (PLFS) in April 2017.</p> <ul style="list-style-type: none"> <li>To estimate the key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate) in the short time interval of three months for the urban areas only in the 'Current Weekly Status' (CWS).</li> <li>To estimate employment and unemployment indicators in both 'Usual Status' (ps+ss) and CWS in both rural and urban areas annually.</li> </ul> <p><b>Conceptual Framework of Key Employment and Unemployment Indicators for the Quarterly Bulletin:</b></p> <ul style="list-style-type: none"> <li>The Periodic Labour Force Survey (PLFS) gives estimates of Key employment and unemployment Indicators like the Labour Force Participation Rates (LFPR), Worker Population Ratio (WPR), Unemployment Rate (UR), etc. These indicators, and the and 'Current Weekly Status' are defined as follows:</li> <li><b>Labour Force Participation Rate (LFPR):</b> LFPR is defined as the percentage of persons in labour force (i.e. working or seeking or available for work) in the population. (Male: 73.6, Female: 20.6; Total: 47.3)</li> <li><b>Worker Population Ratio (WPR):</b> WPR is defined as the percentage of employed persons in the population. (Male: 66.7, Female: 17.9; Total: 42.4)</li> <li><b>Unemployment Rate (UR):</b> UR is defined as the percentage of persons unemployed among the persons in the labour force. (Male: 9.5, Female: 13.1; Total: 10.3)</li> </ul> |
| <p><b>Coal Gasification Based Methanol Production Plant</b></p>                               | <p><b>In News:</b> BHEL R&amp;D centre at Hydrabad began working on Indian high ash coal gasification in 2016 with support from the NITI Aayog to produce 0.25 ton per day methanol. The project was supported by the Department of Science and Technology with a Rs 10 crore grant. With four years of hard work BHEL successfully demonstrated a facility to create 0.25 TPD Methanol from high ash Indian coal using a 1.2 TPD Fluidized bed gasifier.</p>  |

- India's first demonstration plant of its kind, designed entirely in-house to work on high-ash Indian coal - BHEL R&D centre at Hyderabad
- The methanol purity of the crude methanol produced is between 98 and 99.5 percent.
- This endeavor led to the formation of in-house design expertise in BHEL for designing greater capacity coal gasification facilities, which will provide necessary impetus to the vision of 'Atam Nirbhar Bharat.' This in-house capability will assist India's Coal Gasification Mission and Coal to Hydrogen Production for Hydrogen Mission
- After achieving this feat BHEL is further developing in house some critical processes such as catalytic conversion of syngas to methanol.

#### About Methanol

- Methanol is utilized as a motor fuel, to power ship engines, and to generate **clean power** all over the world.
- Methanol is also used to generate di-methyl ether (DME), a liquid fuel that is very similar to diesel — existing diesel engines simply need to be minimally changed to use DME instead of diesel.
- Methanol could be the **most promising option** for large-scale market penetration of a natural gas-based fuel for light-duty vehicles because of its **low fuel cost and low additional cost** relative to powering a vehicle with gasoline.
- Methanol, like ethanol but unlike hydrocarbon fuels, is **water soluble**. As a consequence, it is transported through diffusion and convection through the environment at much faster rate than hydrocarbons. In addition to fast migration, methanol bio-degrades much faster than hydrocarbons. Fast transport and degradation result in short lifetimes. Hydrocarbons, on the other hand, comprise many stable compounds, which include some, such as aromatics, that are highly toxic to bio-organisms and degrade slowly
- Promoted under the Sustainable Alternative Towards Affordable Transportation (SATAT) initiative
- The majority of worldwide methanol production is derived from natural gas, which is a relatively easy process. Since India doesn't have much of the natural gas reserves, producing methanol from imported natural gas lead to outflow of foreign exchange and sometimes uneconomical due to excessive prices of natural gas.
- The next best option is to utilise India's abundant coal. However, due to the high ash percentage of Indian coal, most internationally accessible technology will not be adequate for our demands.

#### Swachh Survekshan Grameen 2021

**Context** Swachh Survekshan Grameen, 2021 was launched recently under the Swachh Bharat Mission Phase- 2.

- It aims to support acceleration of ODF plus interventions and results in the country.

#### About Swachh Survekshan Grameen (SSG), 2021

- An expert agency has been hired to conduct the Survekshan 2021.
- As part of the Survekshan, Villages, Districts and States would be ranked using key parameters.
- 17,475 villages in 698 Districts across the country will be covered where schools, anganwadis, public health centres, haat/bazaars/religious places will be visited for survey.
- Also, citizens will be mobilised to provide feedback on sanitation related issues online using an application developed for the purpose.

#### What is the Background of SSG?

- It was Commissioned by the Department of Drinking Water and Sanitation (DDWS) under the Ministry of Jal Shakti.
- It has been a vehicle for creating a Janandolan (people's movement).

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|   | <ul style="list-style-type: none"> <li>● Districts are ranked based on their performance on key quality and quantitative parameters.</li> <li>● The weights to different elements of the SSG 2021 are as below: <ul style="list-style-type: none"> <li>○ Direct Observation of sanitation at public places - 30%</li> <li>○ Citizen’s Feedback - 35%</li> <li>○ Service Level Progress on sanitation related parameters - 35%</li> </ul> </li> </ul> <p><b>What is Swachh Bharat Mission (Grameen) Phase-II?</b></p> <ul style="list-style-type: none"> <li>● SBM (G) Phase-II was approved in February 2020 by the Ministry of Jal Shakti and will be implemented from 2020-21 to 2024-25 with total outlay of Rs. 1,40,881 crores.</li> <li>● It emphasizes the sustainability of achievements under phase I and to provide adequate facilities for Solid/Liquid &amp; plastic Waste Management (SLWM) in rural India.</li> <li>● The fund sharing pattern between Centre and States will be 90:10 for North-Eastern States and Himalayan States and UT of J&amp;K; 60:40 for other States; and 100% for other Union Territories.</li> </ul> <p><b>About Open Defecation Free (ODF), ODF+, ODF++ Status (for Town and Cities)</b></p> <ul style="list-style-type: none"> <li>● <b>ODF:</b> At any point of the day, not even a single person is found defecating in the open.</li> <li>● <b>ODF+:</b> At any point of the day, not a single person is found defecating and/or urinating in the open, and all community and public toilets are functional and well maintained.</li> <li>● <b>ODF++:</b> If the area is already ODF+ and the faecal sludge/septage and sewage are safely managed and treated</li> </ul> |
| <p><b>Transport and Marketing Assistance (TMA) scheme</b></p> | <p><b>In News:</b> Centre Revises "Transport and Marketing Assistance" (TMA) scheme for Specified Agriculture Products’</p> <p><b>Background:</b> In February 2019, the Department of Commerce had introduced ‘Transport and Marketing Assistance (TMA) for Specified Agriculture Products Scheme’ to provide assistance for the international component of freight, to mitigate disadvantage of higher freight costs faced by the Indian exporters of agriculture products.</p> <p><b>Following major changes have been made in the revised scheme:</b></p> <ul style="list-style-type: none"> <li>● Dairy products, which were not covered under the earlier scheme, will be eligible for assistance under the revised scheme.</li> <li>● Rates of assistance have been increased, by 50% for exports by sea and by 100% for exports by air.</li> </ul> <p><b>Advantage:</b> Enhanced assistance under the revised scheme is expected to help Indian exporters of agricultural products to meet rising freight and logistics costs.</p>   |
| <p><b>Atmanirbhar Bharat corner for tribal products</b></p>   | <p><b>Context</b> As part of India@75, the Tribal Cooperative Marketing Development Federation (TRIFED) is setting up an Atmanirbhar Bharat corner.</p> <p><b>About Atmanirbhar Bharat corner</b></p> <ul style="list-style-type: none"> <li>● This corner will be an exclusive space to promote GI tagged tribal art and craft products besides natural and organic products.</li> <li>● With the focus on “Vocal for Local” and building an “Atmanirbhar Bharat”, TRIFED is undertaking several activities, while re-dedicating its efforts towards tribal empowerment.</li> <li>● The TRIFED has been actively collaborating with several ministries &amp; agencies such as: <ul style="list-style-type: none"> <li>○ Ministry of Culture.</li> <li>○ Department of Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce.</li> <li>○ India Posts.</li> <li>○ Ministry of Tourism.</li> <li>○ Office of the Prime Minister.</li> </ul> </li> <li>● TRIFED is also setting up an Atmanirbhar Bharat corner in 75 Indian Missions/ Embassies across the world in the next 90 days by collaborating with Ministry of External Affairs.</li> <li>● The first Atma Nirbhar Bharat corner has been successfully inaugurated at the Indian Embassy in Bangkok, Thailand on the occasion of Independence Day.</li> </ul>  |

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|  | <p><b>What is TRIFED?</b></p> <ul style="list-style-type: none"> <li>● It was established in August 1987 under the Multi-State Cooperative Societies Act, 1984 by the Government of India.</li> <li>● <b>Main objective:</b> Institutionalising the trade of Minor forest products(MFP) and to provide the tribals of India a fair price for the surplus agricultural products produced by them.</li> <li>● It is a national level cooperative body.</li> <li>● <b>Ministry:</b> Ministry Of Tribal Affairs.</li> <li>● TRIFED is mandated to bring about socio-economic development of tribals of the country by institutionalising the trade of Minor Forest Produce &amp; Surplus Agricultural Produce (SAP) collected/ cultivated by them.</li> </ul> |
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| <p><b>Petrol, diesel under GST purview</b></p> | <p><b>Context</b> The GST Council might consider taxing petrol, diesel and other petroleum products under the single national GST regime.</p> <ul style="list-style-type: none"> <li>● Instead of GST, as of now, taxes like 'Excise Duty' and 'VAT' are being imposed on Petroleum goods like petrol, diesel, Air Turbine Fuel (ATF), natural gas and crude oil</li> <li>● When GST was implemented in 2017, States did not allow these goods to be included in GST, because they were getting huge revenues (through VAT) on these goods.</li> <li>● They thought that if these petroleum goods were included in the GST, then they would lose the freedom to decide the tax rate on these goods.</li> <li>● So, at that time it was agreed that within 5 years i.e. by 2022, these petroleum goods will be included in GST.</li> </ul> <p><b>About GST Council</b></p> <ul style="list-style-type: none"> <li>● The GST Council is a constitutional body established under Article 279A of Indian Constitution</li> <li>● It makes recommendations to the Union and State Government on issues related to Goods and Service Tax (GST).</li> <li>● The GST Council is chaired by the Union Finance Minister.</li> <li>● Its other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.</li> </ul> |
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| <p><b>WPI inflation</b></p> | <p><b>Context</b> Inflation in wholesale prices resurged to 11.39% in August, staying in the double digits for the fifth month in a row.</p> <p><b>Key inflation data</b></p> <ul style="list-style-type: none"> <li>● Inflation in manufactured products: <b>11.4%</b></li> <li>● Inflation in manufactured products: <b>26.1%</b></li> <li>● Food price inflation: <b>3.43%</b></li> <li>● LPG, petrol and diesel inflation: <b>48.1%, 61.5% and 50.7%</b> respectively</li> </ul> <p><b>The Difference between WPI and CPI</b></p> <table border="1"> <thead> <tr> <th>Context</th> <th>WPI (Wholesale Price index)</th> <th>CPI (consumer price index)</th> </tr> </thead> <tbody> <tr> <td><b>Definition</b></td> <td>Amounts to the average change in prices of commodities at the wholesale level.</td> <td>Indicates the average change in the prices of commodities at the retail level.</td> </tr> <tr> <td><b>Publishing office</b></td> <td>Office of Economic Advisor (Ministry of Commerce &amp; Industry)</td> <td>Central Statistics Office (Ministry of Statistics and Programme Implementation) &amp; Labour Bureau</td> </tr> <tr> <td><b>Commodities</b></td> <td>Goods only</td> <td>Goods and Services both</td> </tr> <tr> <td><b>Base Year</b></td> <td>2011-12</td> <td>2012 Note: Base Year to be revised.</td> </tr> </tbody> </table> | Context   | WPI (Wholesale Price index) | CPI (consumer price index) | <b>Definition</b> | Amounts to the average change in prices of commodities at the wholesale level. | Indicates the average change in the prices of commodities at the retail level. | <b>Publishing office</b> | Office of Economic Advisor (Ministry of Commerce & Industry) | Central Statistics Office (Ministry of Statistics and Programme Implementation) & Labour Bureau | <b>Commodities</b> | Goods only | Goods and Services both | <b>Base Year</b> | 2011-12 | 2012 Note: Base Year to be revised. |
|-----------------------------|--|---|-----------------------------|----------------------------|-------------------|--|--|--------------------------|--|---|--------------------|------------|-------------------------|------------------|---------|-------------------------------------|
| Context                     | WPI (Wholesale Price index)  | CPI (consumer price index)  |                             |                            |                   |  |  |                          |  |   |                    |            |                         |                  |         |                                     |
| <b>Definition</b>           | Amounts to the average change in prices of commodities at the wholesale level.   | Indicates the average change in the prices of commodities at the retail level.                  |                             |                            |                   |  |  |                          |  |   |                    |            |                         |                  |         |                                     |
| <b>Publishing office</b>    | Office of Economic Advisor (Ministry of Commerce & Industry)   | Central Statistics Office (Ministry of Statistics and Programme Implementation) & Labour Bureau |                             |                            |                   |  |  |                          |  |   |                    |            |                         |                  |         |                                     |
| <b>Commodities</b>          | Goods only   | Goods and Services both   |                             |                            |                   |  |  |                          |  |   |                    |            |                         |                  |         |                                     |
| <b>Base Year</b>            | 2011-12  | 2012 Note: Base Year to be revised.   |                             |                            |                   |  |  |                          |  |   |                    |            |                         |                  |         |                                     |

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| <b>Linking of Unified Payments Interface (UPI) and PayNow</b> | <p><b>Context</b> The Reserve Bank of India (RBI) and the Monetary Authority of Singapore (MAS) announced a project to link their respective fast payment systems — Unified Payments Interface (UPI) and PayNow.</p> <ul style="list-style-type: none"> <li>● PayNow is the fast payment system of Singapore that enables peer-to-peer fund-transfer service.</li> <li>● The linkage is targeted to be operationalised by July 2022.</li> <li>● The UPI-PayNow linkage will enable users of each of the two fast-payment systems to make instant, low-cost, cross-border fund transfers on a reciprocal basis without a need to get on boarded onto the other payment system.</li> </ul> <p><b>What is Unified Payments Interface (UPI)?</b></p> <ul style="list-style-type: none"> <li>● UPI is a payment system launched in April 2016 by National Payments Corporation of India(NPCI), that allows money transfer between any two bank accounts by using a smartphone.</li> <li>● It facilitates customers to make round-the-clock payments instantly using a virtual payment address created by the customer.</li> <li>● UPI allows a customer to pay directly from a bank account to different merchants, both online and offline, without the hassle of typing card or bank details.</li> <li>● It also caters to the “Peer to Peer” collect request which can be scheduled and paid as per requirement and convenience.</li> <li>● More than 100 million UPI QRs have been created in the last 5 years</li> <li>● BHIM UPI in 2020-21 has processed 22 billion transactions worth Rs 41 lakh crore.</li> </ul> |         |         |
| <b>T+1 settlement system</b>                                  | <p><b>Context</b> Securities and Exchange Board of India (SEBI) has offered T+1 settlement system for stock Market exchanges.</p> <ul style="list-style-type: none"> <li>● If the stock exchange agrees to the proposal, investors will get money for shares they sold or bought in their accounts faster, and in a safer and risk-free environment.</li> </ul> <p><b>What Is T+1 (T+2, T+3) cycles?</b></p> <ul style="list-style-type: none"> <li>● T+1 (T+2, T+3) are abbreviations that refer to the settlement date of security transactions.</li> <li>● The “T” stands for transaction date, which is the day the transaction takes place.</li> <li>● The numbers 1, 2, or 3 denote how many days after the transaction date the settlement—or the transfer of money and security ownership—takes place.</li> <li>● Stocks and mutual funds are usually T+1 and bonds and money market funds vary among T+1, T+2, and T+3.</li> </ul>   |         |         |
| <b>Input Tax Credit (ITC)</b>                                 | <p><b>Context</b> Recently, The Supreme Court said that refunds of tax credit cannot be claimed for input services under the Goods and Services Tax regime’s inverted duty structure.</p> <ul style="list-style-type: none"> <li>● The SC has confirmed a Madras High Court judgment which upheld a fiscal formula included in the Central Goods and Service Tax Rules to execute refund of unutilised Input Tax Credit (ITC) accumulated on account of input services.</li> </ul> <p><b>What is Input Tax Credit (ITC)?</b></p> <ul style="list-style-type: none"> <li>● ITC is a mechanism to avoid cascading of taxes. Cascading of taxes, in simple language, is ‘tax on tax’.</li> <li>● Input Tax Credit refers to the tax already paid by a person at time of purchase of goods or services and which is available as deduction from tax payable .</li> <li>● Input tax credit in relation to GST to a registered person means, the CGST, SGST/UTGST or IGST charged on any supply of goods or services or both made to him.</li> <li>● It includes IGST charged on imports &amp; tax payable under reverse charge mechanism.</li> <li>● When one buys a product/service from a registered dealer we pay taxes on the purchase.</li> <li>● On selling, we collect the tax.</li> </ul>  |         |         |

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|  | <ul style="list-style-type: none"> <li>● We adjust the taxes paid at the time of purchase with the amount of output tax (tax on sales) and balance liability of tax (tax on sales minus tax on purchase) has to be paid to the government.</li> <li>● This mechanism is called utilization of input tax credit.</li> <li>● If the tax paid on inputs is higher than the tax on the output, the excess can be claimed as a refund.</li> </ul> <p><b>Exceptions:</b> A business under composition scheme cannot avail of input tax credit. ITC cannot be claimed for personal use or for goods that are exempt.</p>   |
| <p><b>WTO's Agreement on Agriculture pact</b></p>              | <p><b>Context</b> G-33 Virtual Informal Ministerial Meeting was recently held.</p> <ul style="list-style-type: none"> <li>● In the meeting, the Indian commerce and industry ministry has recently pointed out that the agreement on Agriculture at the World trade organisation (WTO) is riddled with deep imbalances, which favour the developed countries and have tilted the rules against many developing countries.</li> </ul> <p><b>What is G-33?</b></p> <ul style="list-style-type: none"> <li>● The G33 (or the Friends of Special Products in agriculture) is a coalition of developing countries.</li> <li>● It was established prior to the 2003 Cancun ministerial conference.</li> <li>● The group has coordinated during the Doha Round of WTO negotiations, specifically in regard to agriculture.</li> <li>● Dominated by India, the group seeks to limit the degree of market opening required of developing countries, especially with regard to agriculture.</li> <li>● There are currently 47 member nations.</li> </ul> <p><b>What is Agreement on Agriculture?</b></p> <ul style="list-style-type: none"> <li>● The Agreement on Agriculture (AoA) is an international treaty of the World Trade Organization.</li> <li>● It was negotiated during the Uruguay Round of the General Agreement on Tariffs and Trade, and entered into force with the establishment of the WTO on January 1, 1995.</li> <li>● The Agreement has been criticised by civil society groups for reducing tariff protections for small farmers, a key source of income in developing countries, while simultaneously allowing rich countries to continue subsidizing agriculture at home.</li> </ul> |
| <p><b>World Bank Stops 'Ease of Doing Business' Report</b></p> | <p><b>Context</b> The World Bank would discontinue the practice of issuing 'Doing Business report' following an investigation reported "data irregularities" in its 2018 and 2020 editions (released in 2017 and 2019, respectively) and possible "ethical matters" involving bank staff.</p> <ul style="list-style-type: none"> <li>● It will be working on a new approach to assessing the business and investment climate.</li> </ul> <p><b>About Ease of Doing Business Report</b></p> <ul style="list-style-type: none"> <li>● The report was introduced in 2003 to provide an assessment of objective measures of business regulations and their enforcement across 190 economies on ten parameters affecting a business through its life cycle.</li> <li>● Notably, in three reports, released in 2017, 2018 and 2019, India ranked among the top 10 economies showing "the most notable improvement".</li> </ul> <p><b>About World Bank</b></p> <ul style="list-style-type: none"> <li>● It was created in 1944, as the International Bank for Reconstruction and Development (IBRD) along with the International Monetary Fund (IMF). <ul style="list-style-type: none"> <li>○ The IBRD later became the World Bank.</li> </ul> </li> <li>● It works for sustainable solutions that reduce poverty and build shared prosperity in developing countries.</li> <li>● Major reports: <ul style="list-style-type: none"> <li>○ Ease of Doing Business.</li> <li>○ Human Capital Index.</li> <li>○ World Development Report.</li> </ul> </li> <li>● Its <b>Five development institutions:</b></li> </ul>  |



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|  | <ul style="list-style-type: none"> <li>○ <b>International Bank for Reconstruction and Development (IBRD):</b> provides loans, credits, and grants.</li> <li>○ <b>International Development Association (IDA):</b> provides low- or no-interest loans to low-income countries.</li> <li>○ <b>International Finance Corporation (IFC):</b> provides investment, advice, and asset management to companies and governments.</li> <li>○ <b>Multilateral Guarantee Agency (MIGA):</b> insures lenders and investors against political risk such as war.</li> </ul> <p><b>International Centre for the Settlement of Investment Disputes (ICSID):</b> settles investment-disputes between investors and countries.</p>   |
| <p><b>Rail Kaushal Vikas Yojana</b></p>      | <p><b>Context:</b> Recently, the Ministry of Railways launched Rail Kaushal Vikas Yojana (RKVY) under Pradhan Mantri Kaushal Vikas Yojana (PMKVY).</p> <p><b>What is Rail Kaushal Vikas Yojana (RKVY)?</b></p> <ul style="list-style-type: none"> <li>● This is a skill development programme, where training will be provided to youth with a special focus on jobs that are relevant to the Railways.</li> <li>● The training will be provided in four trades viz. Electrician, Welder, Machinist and Fitter and other trades will be added by zonal railways and Production units based on regional demands and needs assessment.</li> <li>● Training will be provided to apprentices under the Apprentice Act 1961.</li> <li>● <b>Objectives:</b> <ul style="list-style-type: none"> <li>○ To impart training skills to the youth in various trades to bring qualitative improvement.</li> <li>○ To train 50,000 candidates over the next three years.</li> </ul> </li> <li>● <b>Eligibility:</b> Candidates who are 10th passed and between 18-35 years shall be eligible to apply.</li> <li>● <b>Significance:</b> It will not only improve the employability of the youth but also upgrade the skills of employed.</li> </ul> <p><b>What is Pradhan Mantri Kaushal Vikas Yojana?</b></p> <ul style="list-style-type: none"> <li>● Launched in 2015, it is a flagship program of the <b>Ministry of Skill Development and Entrepreneurship (MSDE).</b></li> <li>● <b>Aim:</b> To mobilize youth to take up skill training with the aim of increasing productivity and aligning the training and certification to the needs of the country.</li> </ul> <p><b>Key Components:</b></p> <ul style="list-style-type: none"> <li>○ <b>Short Term Training:</b> Training as per National Skills Qualification Framework (NSQF) is provided to those who are either school/college dropouts or unemployed.</li> <li>○ <b>Recognition of Prior Learning (RPL):</b> An individual with a certain set of skills or with prior learning experience is assessed and certified under RPL with grade according to the NSQF.</li> <li>○ <b>Special Projects:</b> This component ensures training in special areas and premises of government bodies and corporate. It aims to encourage training in vulnerable and marginalized groups of society.</li> <li>○ <b>Training Partners (TPs)</b> are mandated to organize Kaushal and Rozgar Melas every six months</li> </ul> |
| <p><b>State Food Safety Index: FSSAI</b></p> | <p><b>Context</b> Recently, the Union Minister for Health and Family Welfare has released the 3rd State Food Safety Index (SFSI).</p> <ul style="list-style-type: none"> <li>● Also, 19 Mobile Food Testing Vans (Food Safety on Wheels) have been flagged off to supplement the food safety ecosystem across the country.</li> </ul> <p><b>About the Index:</b></p> <ul style="list-style-type: none"> <li>● The index is developed by FSSAI (Food Safety and Standards Authority of India) to measure the performance of states on five significant parameters of Food Safety.</li> <li>● The first State Food Safety Index for the year 2018-19 was announced on the first-ever World Food Safety Day on 7th June 2019.</li> </ul> <p><b>Ranking of States:</b></p>   |

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|   | <ul style="list-style-type: none"> <li>● Among the larger states, Gujarat was the top ranking state, followed by Kerala and Tamil Nadu.</li> <li>● Among the smaller states, Goa stood first followed by Meghalaya and Manipur.</li> <li>● Among UTs, Jammu &amp; Kashmir, Andaman &amp; Nicobar Islands and New Delhi secured top ranks.</li> </ul> <p><b>About Food Safety and Standards Authority of India (FSSAI)</b></p> <ul style="list-style-type: none"> <li>● It is an autonomous statutory body established under the Food Safety and Standards Act, 2006 (FSS Act).</li> <li>● The Act aims to establish a single reference point for all matters relating to food safety and standards, by moving from multi- level, multi-departmental control to a single line of command.</li> <li>● <b>Ministry:</b> Ministry of Health &amp; Family Welfare.</li> <li>● It comprises a Chairperson and twenty two members out of which one – third are to be women. The Chairperson of FSSAI is appointed by the Central Government.</li> <li>● The primary responsibility for enforcement is largely with the State Food Safety Commissioners.</li> </ul>   |
| <p><b>SPIN scheme</b></p>                       | <p><b>Context</b> Recently, Khadi and Village Industries Commission (KVIC) launched a unique Scheme called SPIN (Strengthening the Potential of India).</p> <p><b>About SPIN scheme</b></p> <ul style="list-style-type: none"> <li>● The SPIN scheme aims at infusing self-sustainability in the Indian pottery sector.</li> <li>● The Scheme enables the registered potters to get a direct loan from the banks under Pradhan Mantri Shishu Mudra Yojana.</li> <li>● Under this Scheme, KVIC is acting as a facilitator for financial aid to potters through RBL bank and also providing training to the artisans, opting for this scheme.</li> <li>● There will be no financial burden on the exchequer and the loan will be repaid by the potter in easy installments.</li> <li>● It is a no-subsidy program.</li> <li>● Under the scheme, 780 potters from Uttar Pradesh, Bihar, Rajasthan and Jharkhand have registered for financial assistance from the bank to begin their own business.</li> </ul> <p><b>What is Pradhan Mantri Mudra Yojana?</b></p> <ul style="list-style-type: none"> <li>● The scheme launched in April, 2015 to provide formal access of financial facilities to the Non Corporate Small Business Sector.</li> <li>● <b>Objective:</b> To promote &amp; ensure bank finance to unfunded segments of the Indian economy.</li> <li>● These loans are classified as MUDRA loans under PMMY.</li> <li>● These loans are given by Commercial Banks, RRBs, Small Finance Banks, MFIs and NBFCs.</li> <li>● <b>Types of loans:</b> Loans are given as per the stage of growth and funding needs of the beneficiary micro unit. <ul style="list-style-type: none"> <li>○ <b>Shishu:</b> covering loans up to Rs. 50,000</li> <li>○ <b>Kishore:</b> covering loans above Rs. 50,000 and up to Rs.5 lakh.</li> </ul> </li> </ul> <p><b>Tarun:</b> covering loans above Rs. 5 lakh and up to Rs.10 lakh.</p> |
| <p><b>Service Exports from India Scheme</b></p> | <p><b>Context:</b> Bringing some relief to services exporters, the government has notified the benefits to be given for exports undertaken in 2019-20 under the Service Exports from India Scheme (SEIS).</p> <ul style="list-style-type: none"> <li>● It has capped entitlements at ₹5 crore per exporter.</li> <li>● The notification of benefits will ease the credit burden of firms, especially for players in the travel, tourism and hospitality sectors that have been hit hardest in the pandemic.</li> </ul> <p><b>About the Service Exports from India Scheme (SEIS)</b></p> <ul style="list-style-type: none"> <li>● Service Exports from India Scheme (SEIS) aims to promote export of services from India by providing duty scrip credit for eligible exports.</li> </ul>   |

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|   | <ul style="list-style-type: none"> <li>○ A Duty Credit Scrip is like a credit certificate issued by the Director General of Foreign Trade (DGFT) and can be used to pay various duties/taxes to the Central Govt.</li> <li>● Service providers of eligible services shall be entitled to duty credit scrip at notified rates on the net foreign exchange earned.</li> <li>● Duty credit scrips can be used for the payment of custom duties, excise duties, GST on procurement of services etc.</li> <li>● Further, the SEIS scheme has given relaxation to the actual user condition and duty credit scrips and goods imported using duty credit scrips are freely transferable. Duty credit scrip would be valid for a period of 18 months from the date of issue.</li> </ul> <p>The scheme is implemented and administrated by the Government's Ministry of Commerce and Industry, in association with the Directorate General of Foreign Trade (DGFT).</p>   |
| <p><b>Patents (Amendment) Rules, 2021</b></p>                 | <p><b>In News:</b> Patent Fees for Educational Institutions have been reduced by 80 percent. At the time of applying for patents, the innovators have to apply these patents in the name of the institutions which have to pay fees for large applicants, which are very high and thus work as a disincentive. In this regard and to encourage greater participation of the <b>educations institutions</b>, who play a pivotal role in country's innovation, official fees payable by them in respect of various acts under the Patents Rules, 2003, have been reduced by way of the Patents (Amendment) Rules, 2021.</p> <ul style="list-style-type: none"> <li>● Augmentation of manpower by recruiting new examiners</li> <li>● Making process of applying and granting patents completely online</li> <li>● Hearing of cases in Patents through Video-Conferencing for speedy and contact-less proceedings</li> <li>● Dynamic redesigning of website and real time based hassle free dissemination of IP information to stakeholders</li> <li>● Encouraging the digital process for applying &amp; granting Patents</li> <li>● Scheme for Facilitating Startups Intellectual Property Protection (SIPP) has been launched to provide facilitators to Startups for filing and processing of their applications</li> <li>● The mechanism to lodge feedback/suggestions/complaints has been set up</li> <li>● An Expedited Examination System has been introduced wherein an application for grant of patent is being decided within one year of filing such request</li> </ul> |
| <p><b>Scheme to promote medical device parks notified</b></p> | <p><b>Context</b> The Union government recently notified a scheme to promote medical device parks at a financial outlay of Rs. 400 crore till financial year 2024-2025.</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● The scheme aims to ensure easy access to testing and infrastructure facilities.</li> <li>● It is expected that this will bring down the cost of production of medical devices, thereby making them more affordable for domestic consumption.</li> <li>● The financial assistance for a selected medical device park would be 90% of the project cost of common infrastructure facilities for the northeastern and hilly States. For the rest, it would be 70%.</li> <li>● However, a maximum assistance under the scheme for one such park will be Rs. 100 crore.</li> </ul> <p><b>About Medical device</b></p> <ul style="list-style-type: none"> <li>● The medical device industry is a unique blend of engineering and medicine. It involves the creation of machines that are used to support life within the human body.</li> <li>● Medical devices include Surgical Equipment, Diagnostic equipment like Cardiac imaging, CT scans, X-ray, Molecular Imaging, MRI and Ultrasound-imaging including hand - held devices; Life Support equipment like ventilator, etc. as well as Implants and Disposables.</li> </ul> <p><b>Do you know?</b></p>   |

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|   | <ul style="list-style-type: none"> <li>● As per industry estimates, the Indian medical devices market will grow to USD 50 billion by 2025</li> <li>● 100% FDI is permitted in Medical devices through the automatic route</li> <li>● Medical Device Parks are planned across India, including Andhra Pradesh MedTech Zone Limited (AMTZ), a park in Sultanpur village (Telangana) and HLL Lifecare Mediparks in Tamil Nadu, Maharashtra and Gujarat.</li> </ul>  |
| <b>Anti-dumping duty</b>  | <p><b>Context</b> Directorate General of Trade Remedies (DGTR) has recommended the imposition of anti-dumping duty on a pharma raw material — Ceftriaxone Sodium Sterile — from China to guard local players from cheap imports.</p> <ul style="list-style-type: none"> <li>● Ceftriaxone Sodium Sterile is an API used in formulation for treating diseases such as lower respiratory tract infection, skin and surgical prophylaxis.</li> <li>● The Finance Ministry will take the final decision on imposing the duty.</li> </ul> <p><b>About the DGTR authority</b></p> <ul style="list-style-type: none"> <li>● DGTR functions as an attached office of the Department of Commerce, Ministry of Commerce and Industry.</li> <li>● DGTR deals with Anti-dumping, Countervailing Duty (CVD) and Safeguard measures.</li> <li>● It also provides trade defence support to our domestic industry and exporters in dealing with increasing instances of trade remedy investigations instituted against them by other countries.</li> <li>● DGTR provides a level playing field to the domestic industry against the adverse impact of the unfair trade practices</li> </ul> <p><b>About Anti-dumping Duty</b></p> <ul style="list-style-type: none"> <li>● An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports that it believes are dumped.</li> <li>● The imposition of anti-dumping duty is permissible under the World Trade Organization regime.</li> <li>● It is aimed at ensuring fair trading practices and creating a level-playing field for local producers vis-a-vis foreign producers and exporters.</li> <li>● These tariffs can also lead to higher prices for domestic consumers.</li> </ul> <p><b>What is Active Pharmaceutical Ingredient (API)?</b></p> <ul style="list-style-type: none"> <li>● Part of any drug that produces its effects.</li> <li>● Intended to furnish pharmacological activity or other direct effect in the diagnosis, cure, mitigation, treatment, or prevention of disease.</li> </ul> |
| <b>Steering Committee for Local Value Addition, Manufacturing and Exports (SCALE)</b> | <p><b>Context:</b> Ministry of Commerce and Industry and Manufacturing industry have set up the Steering Committee for Local Value Addition, Manufacturing and Exports or SCALE to revive manufacturing.</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● <b>Aim:</b> Navigating Indian manufacturing away from the import-dependence pitfalls exposed by the COVID-19 pandemic.</li> <li>● <b>Composition:</b> The SCALE includes the top officials from three industry bodies — CII, FICCI and Asshocham — three representatives from government and three industry leaders.</li> <li>● The group is working on ideas for 17 sectors — from toys, textiles, furniture and e-cycles to drones, and even fisheries.</li> <li>● It shall have no deadlines and will follow a rigorous process of consultations to align different factions of industry with varying agendas at multiple levels.</li> </ul> <p><b>Do you know?</b><br/>A sunset industry is an industry in decline, one that has passed its peak or boom periods.</p>  |
| <b>Assam's Rice Wine Judima gets GI tag</b>   | <p><b>Context</b> Judima, the wine brewed by the Dimasa community in Assam, has been awarded the geographical indication (GI) tag.</p> <ul style="list-style-type: none"> <li>● This wine is made from rice and a certain herb.</li> <li>● It is the first beverage from the north-eastern region to earn this label.</li> <li>● Judima is intrinsic to the social and cultural life of the Dimasas.</li> </ul>  |

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|   | <ul style="list-style-type: none"> <li>● The GI tag for the drink came 14 years after the ginger of the adjoining Karbi Anglong district received its geographical indication.</li> <li>● A week ago, Manipur saw two of its indigenous products get the GI tag. These were the <b>Tamenglong orange</b> and <b>Hathei chilli</b> grown in the hills.</li> </ul>   |
| <b>Registrar-General and Census Commissioner of India</b> | <p><b>Context</b> The Union government had recently told the Supreme Court that the caste data enumerated in the Socio-Economic Caste Census (SECC) of 2011 was “unusable”, but in 2016, the Registrar-General and Census Commissioner of India had informed the Standing Committee on Rural Development that 98.87% of the data on individual caste and religion was “error free”.</p> <p><b>What is the Registrar-General and Census Commissioner of India?</b></p> <ul style="list-style-type: none"> <li>● Registrar General and Census Commissioner of India, was founded in 1961 by the Government of India, Ministry of Home Affairs.</li> <li>● <b>Role:</b> Arranging, conducting and analysing the results of the demographic surveys of India including Census of India and Linguistic Survey of India.</li> <li>● The position of Registrar is usually held by a civil servant holding the rank of Joint Secretary.</li> </ul> <p><b>What is the Socio-Economic Caste Census (SECC)?</b></p> <ul style="list-style-type: none"> <li>● Socio-Economic Caste Census (SECC), which collected the first figures on caste since 1931, is the largest exercise of the enumeration of caste.</li> <li>● 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.</li> </ul> <p>The Census thus provides a portrait of the Indian population, while the SECC is a tool to identify beneficiaries of state support.</p> |
| <b>SEBI clears norms for gold exchanges</b>               | <p><b>Context</b> The Securities and Exchange Board of India (SEBI) approved the framework for a gold exchange as well as for vault managers, facilitating trading in securities tied to the gold.</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● Gold exchanges will be set up for trading in ‘Electronic Gold Receipts’ (EGRs) like in the case of other securities.</li> <li>● Existing stock exchanges will be allowed to provide the platform for trading of EGRs.</li> <li>● The denomination for trading the EGRs and conversion of EGRs into gold would be decided by the exchanges with the approval of SEBI.</li> <li>● EGR holders, at their discretion, could withdraw the underlying gold from the vaults after surrendering the EGRs.</li> <li>● SEBI-accredited vault managers would be responsible for the storage and safekeeping of gold deposits, creation of EGRs, withdrawal of gold, grievance redressal and periodic reconciliation of physical gold with the records of depository.</li> <li>● The vault manager would have to have a net worth of at least Rs. 50 crore.</li> <li>● <b>Significance:</b> The exchanges would enable transparent price discovery, investment liquidity and assurance in the quality of gold</li> </ul>   |
| <b>Dissolution of the Ordnance Factory Board (OFB)</b>    | <p><b>Context</b> The Defence Ministry has issued an order for the dissolution of the Ordnance Factory Board (OFB) with effect from October 1 2021 upon which its assets, employees and management would be transferred to seven newly constituted defence public sector undertakings (DPSUs).</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● Once implemented, the OFB will cease to exist.</li> <li>● There will be no change in service conditions of the employees.</li> <li>● On June 16, the Union Cabinet had approved a long-awaited reform plan to corporatise the OFB, which has 41 factories, into seven fully government-owned corporate entities on the lines of DPSUs.</li> <li>● <b>Benefits</b> <ul style="list-style-type: none"> <li>○ Make the country self-sufficient in defence manufacturing</li> <li>○ Transform the ordnance factories into productive and profitable assets,</li> </ul> </li> </ul>   |

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|   | <ul style="list-style-type: none"> <li>○ Deepened specialisation in the product range</li> <li>○ Enhanced competitiveness</li> <li>○ Improved quality</li> <li>○ Help in overcoming various existing shortcomings like eliminating inefficient supply chains</li> </ul> <p><b>About Ordnance Factory Board</b></p> <ul style="list-style-type: none"> <li>● Ordnance Factory Board (OFB), consisted of the Indian Ordnance Factories.</li> <li>● It was an organisation, under the control of department of defence production (DDP), Ministry of Defence (MoD), Government of India.</li> <li>● It was engaged in research, development, production, testing, marketing and logistics of a product range in the areas of air, land and sea systems.</li> </ul> <p>OFB was the world's largest government-operated production organisation, and the oldest organisation in India.</p>   |
| <p><b>Emergency Credit Line Guarantee Scheme (ECLGS) extended</b></p> | <p><b>Context</b> The government has extended the Rs. 4.5 lakh crore Emergency Credit Line Guarantee Scheme (ECLGS) till March 31, 2022, to help businesses cope with the pandemic's adverse effects.</p> <p><b>What is Emergency Credit Line Guarantee Scheme (ECLGS)?</b></p> <ul style="list-style-type: none"> <li>● Launched by Government of India as a special scheme in view of COVID-19 crisis</li> <li>● <b>Objective:</b> To provide 100% guarantee coverage to Banks and NBFCs to enable them to extend emergency credit facilities to Business Enterprises / MSMEs in view of COVID-19 to meet their additional term loan/additional working capital requirements.</li> <li>● The amount of Emergency Credit line to be extended to Business Enterprises / MSMEs would be upto 20% of total outstanding as on Feb 29,2020.</li> <li>● 100% Guarantee Coverage for the additional funds sanctioned under the Emergency Credit Line Scheme.</li> <li>● <b>Eligible borrowers:</b> Business Enterprises / MSMEs with outstanding loan of upto Rs.50 crore as on February 29, 2020 and turnover of upto Rs.250 crore in FY 2019-20.</li> <li>● <b>Interest rate:</b> Interest rate charged is capped at 9.25% for banks and 14% for NBFCs.</li> <li>● No charges or Guarantee fees.</li> </ul> |



**Ladakh adopts State animal and bird**



**Context** Ladakh recently adopted two endangered species, snow leopard and black-necked crane, as the State animal and the State bird.

- Black-necked crane, only found in the Ladakh region, was the State bird of J&K before August 5, 2019.

**About Snow Leopard**

- It is also known as Ghost of the mountains.
- They are positioned as the top predator in the food web.
- It acts as an indicator of the health of the mountain ecosystem in which they live.
- **Habitat:** Higher Himalayan and trans-Himalayan landscape in J&K, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.
- **Snow Leopard's capital of the world:** Hemis, Ladakh.
- **Threats:** Reduction in prey populations, illegal poaching and increased human population infiltration into the species habitat and illegal trade of wildlife parts and products
- **Conservation Efforts by India:**
  - **Himal Sanrakshak:** It is a community volunteer programme, to protect snow leopards, launched on 23rd October 2020
  - In 2019, **First National Protocol** was also launched on Snow Leopard Population Assessment
  - **SECURE Himalaya:** Global Environment Facility (GEF)-UNDP funded project on conservation of high altitude biodiversity
  - **Project Snow Leopard** launched in 2009
  - Snow Leopard is in the list of 21 critically endangered species for the recovery programme of the Ministry of Environment Forest & Climate Change.

**About Black-necked crane**

- It has A conspicuous red crown that adorns the head.
- The juveniles have a brownish head and neck and plumage is slightly paler than that of an adult.
- The bird is revered by the community of Monpas (major Buddhist ethnic group of Arunachal Pradesh) as an embodiment of the sixth Dalai Lama (Tsangyang Gyatso).
- **Habitat and Breeding Grounds :** The high altitude wetlands of the Tibetan plateau , Sichuan (China), and eastern Ladakh (India)
  - In Bhutan and Arunachal Pradesh, it only comes during the winters.
- **Threats:** Damage to the eggs and chicks; Loss of habitat due to humans Development Projects; Increased grazing pressure on the limited pastures near the wetlands.
- **Steps for their Conservation:** World Wide Fund for Nature-India (WWF-India) in collaboration with the Department of Wildlife.
- Protection, Jammu & Kashmir, has been working towards conservation of high altitude wetlands, with black-necked cranes as a priority species in Ladakh region.

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| <p><b>Chhattisgarh's state animal, Wild buffalo, close to extinction</b></p> | <p><b>Context</b> The sole female wild buffalo in a conservation centre at Chhattisgarh's <b>Sitanadi-Udanti tiger reserve</b> died recently.</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● Chhattisgarh's state animal is on the verge of extinction with less than 20 individuals of the species left in the state.</li> <li>● The conservation centre had only one female and three males and now no more female wild buffalos are left in the reserve.</li> <li>● The reserve is also contiguous to Khariar Forest Division of Odisha State and acts as Buffer for <b>Sunabeda Wildlife sanctuary</b>.</li> </ul> <p><b>About Wild water Buffalo</b></p> <ul style="list-style-type: none"> <li>● The wild water buffalo (<i>Bubalus arnee</i>), also called Asian buffalo, is a large bovine native to the Indian subcontinent and Southeast Asia.</li> <li>● It has an ash-gray to black skin. They are both diurnal and nocturnal. Both sexes carry horns.</li> <li>● It is among the heaviest living wild bovid species, and is slightly smaller than gaur.</li> <li>● It is associated with wet grasslands, swamps, flood plains and densely vegetated river valleys.</li> <li>● It is included in CITES Appendix III.</li> <li>● It is legally protected in Bhutan, India, Nepal, and Thailand.</li> <li>● <b>IUCN Red List status:</b> Endangered since 1986.</li> <li>● The remaining population totals less than 4,000 out of which around 91% live in India, mostly in Assam.</li> <li>● It is found in the following National Parks and wildlife sanctuaries: <ul style="list-style-type: none"> <li>○ <b>Assam:</b> Kaziranga, Manas and Dibru-Saikhowa National Parks, Laokhowa Wildlife Sanctuary and Bura Chapori Wildlife Sanctuary</li> <li>○ <b>Arunachal Pradesh:</b> D'Ering Memorial Wildlife Sanctuary</li> <li>○ <b>Meghalaya:</b> Balphakram National Park</li> <li>○ <b>Chhattisgarh:</b> Indravati National Park and Udanti Wildlife Sanctuary.</li> </ul> </li> </ul> |
| <p><b>Neelakurinji</b></p>   | <p><b>Context</b> Neelakurinji flowers have bloomed in Kodagu district of Karnataka after 12 years. This kind of mass flowering is known as gregarious flowering.</p> <p><b>About the flower</b></p> <ul style="list-style-type: none"> <li>● It is a shrub that is found in the shola forests of the Western Ghats in Kerala, Karnataka and Tamil Nadu.</li> <li>● Locally known as Kurinji, the flowers grow at an altitude of 1,300 to 2,400 metres.</li> <li>● <b>Nilgiri Hills</b>, which literally means the <b>blue mountains</b>, got their name from the purplish blue flowers of Neelakurinji that bloom only once in 12 years.</li> <li>● <b>Kurinjimala Sanctuary</b> of Kerala protects the kurinji in approximately 32 km<sup>2</sup> core habitat in Kottakamboor and Vattavada villages in Idukki district.</li> <li>● <b>Kurinji Andavar temple</b> located in Kodaikanal of Tamil Nadu dedicated to Tamil God Murugan also preserves these plants.</li> <li>● The <b>Paliyan tribal people</b> living in Tamil Nadu used it as a reference to calculate their age.</li> <li>● Karnataka has around 45 species of Neelakurinji and each species blooms at intervals of six, nine, 11 or 12 years.</li> <li>● Besides the Western Ghats, Neelakurinji is also seen in the <b>Shevroy in the Eastern Ghats, Sanduru hills</b> of Bellary district in Karnataka.</li> </ul>   |
| <p><b>Turtle Conservation</b></p>  | <p><b>Context</b> Indian biologist <b>Shailendra Singh</b> has been awarded the Behler Turtle Conservation Award for bringing three critically endangered turtle conservation species back from the brink of extinction.</p>  |



- The award has been bestowed by several global bodies involved in turtle conservation such as Turtle Survival Alliance, IUCN/SSC Tortoise and Freshwater Turtle Specialist Group, Turtle Conservancy, and the Turtle Conservation Fund.
- He and his team's efforts now span much of India, impacting well over half of its turtle and tortoise species, many of which are among the most endangered turtles on the planet
- For some species, such as the red-crowned roofed turtle ( Batagur kachuga ), northern river terrapin ( Batagur baska ), and black softshell turtle ( Nilssonia nigricans ), Dr. Singh and his team's efforts are the last hope for their wild survival in the country.

**IUCN updates the Red list of species**

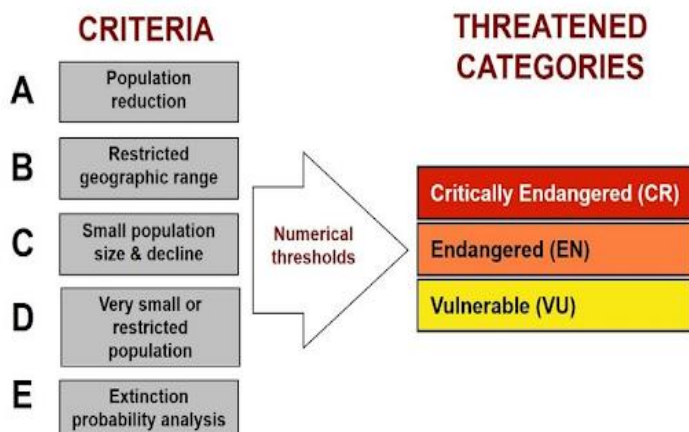
**Context** International Union for Conservation of Nature (IUCN) has updated the Red list of species at the World Conservation Congress in Marseille, France held on September 4, 2021.

**Key updates:**

- The 30% of the species (38,543) that it assessed (138,374) face the threat of extinction.
- Some 902 species are officially extinct.
- Some 80 species are extinct in the wild, 8,404 are critically endangered, 14,647 are endangered, 15,492 are vulnerable and 8,127 are near threatened.
- Four of the seven most commercially fished tuna species have shown signs of recovery.
- The world's largest living lizard, the **Komodo dragon** (Varanus komodoensis), has been moved from vulnerable to endangered.
  - The species is endemic to Indonesia and occurs only in the World Heritage-listed Komodo National Park and neighbouring Flores.
- 37% of the world's shark and ray species were threatened with extinction.

**About IUCN Red List of Threatened Species**

- It was established in 1964, by the IUCN and has evolved to become the world's most comprehensive information source on the global extinction risk status of animal, fungus and plant species.
- The IUCN Red List is a critical indicator of the health of the world's biodiversity.
- It uses a set of quantitative criteria to evaluate the extinction risk of thousands of species.
- It provides information about range, population size, habitat and ecology, use and/or trade, threats, and conservation actions that will help inform necessary conservation decisions.
- It is used by government agencies, wildlife departments, conservation-related NGOs, natural resource planners, educational organisations, students, and the business community.
- The Index is available for five groups: birds, mammals, amphibians, corals and cycads.



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| <p><b>Oil spill in the Gulf of Mexico</b></p>                       | <p><b>Context</b> Clean-up crews and the US Coast Guard are trying to locate the source of an oil spill spotted in the Gulf of Mexico after deadly Hurricane Ida.</p> <ul style="list-style-type: none"> <li>● Recent satellite photos by the National Oceanic and Atmospheric Administration (NOAA) showed the slick about two miles (3km) off Port Fourchon, Louisiana.</li> </ul> <p><b>What is the source of the spill?</b></p> <ul style="list-style-type: none"> <li>● The source of the miles-long oil spill was believed to be in the Bay Marchand area of the Gulf of Mexico. The Gulf of Mexico is an ocean basin and a marginal sea of the Atlantic Ocean, largely surrounded by the North American continent.</li> <li>● It appears to be coming from a source underwater at an offshore drilling site</li> <li>● Damaged pipelines in the Bay are possible reasons for the spill.</li> </ul> <p><b>What is an oil spill?</b></p> <ul style="list-style-type: none"> <li>● An oil spill refers to any uncontrolled release of crude oil, gasoline, fuels, or other oil by-products into the environment.</li> <li>● <b>Harmful effects of oil spill</b> <ul style="list-style-type: none"> <li>○ Oil spills can pollute land, air, or water.</li> <li>○ It prevents sufficient amounts of sunlight from penetrating the surface.</li> <li>○ It also reduces the level of dissolved oxygen.</li> <li>○ Oil-coated birds and marine mammals may die from hypothermia</li> <li>○ Ingested oil can be toxic to affected animals, and damage their habitat and reproductive rate.</li> </ul> </li> </ul> <p><b>Cleanup of Oil Spill:</b></p> <ul style="list-style-type: none"> <li>● <b>Containment Booms:</b> Floating barriers, called booms are used to restrict the spread of oil and to allow for its recovery, removal, or dispersal.</li> <li>● <b>Skimmers:</b> They are devices used for physically separating spilled oil from the water's surface.</li> <li>● <b>Sorbents:</b> Various sorbents (e.g., straw, volcanic ash, and shavings of polyester-derived plastic) that absorb the oil from the water are used.</li> <li>● <b>Dispersing agents:</b> These are chemicals that contain surfactants, or compounds that act to break liquid substances such as oil into small droplets.</li> <li>● <b>Biological agents:</b> Nutrients, enzymes, or microorganisms such as <i>Alcanivorax</i> bacteria or <i>Methylocella silvestris</i> that increase the rate at which natural biodegradation of oil occurs are added</li> </ul> |
| <p><b>Assam to phase out fossil fuel-based vehicles by 2030</b></p> | <p><b>Context</b> The Assam government has unveiled an electric vehicle (EV) policy for phasing out vehicles running on fossil fuels by 2030.</p> <p><b>Key features of the scheme</b></p> <ul style="list-style-type: none"> <li>● The mission entails converting all government vehicles and fleet of public buses to electric and deploying 2 lakh EVs within the next five years.</li> <li>● The policy also offers a set of incentives for people to switch to EVs.</li> <li>● These include 100% exemption on registration charges and road tax.</li> <li>● Entrepreneurs setting up EV charging stations have been assured of 90% exemption of electricity duty.</li> </ul> <p><b>What are the Government Initiatives?</b></p> <ul style="list-style-type: none"> <li>● Government has set a target of electric vehicles making up 30 % of new sales of cars and two-wheelers by 2030 from less than 1% today.</li> <li>● To build a sustainable EV ecosystem initiatives like – National Electric Mobility Mission Plan (NEMMP) and Faster Adoption and Manufacturing of (Hybrid &amp;) Electric vehicles in India (FAME India) have been launched by India.</li> </ul>  |
| <p><b>India's first dugong conservation reserve</b></p>             | <p><b>Context</b> The Government of Tamil Nadu will set up India's first Dugong Conservation Reserve in the Palk Bay Dugong.</p> <p><b>About the Conservation Reserve</b></p> <ul style="list-style-type: none"> <li>● The Conservation Reserve will cover an area of 500kms.</li> <li>● The proposed conservation area has the highest concentration of dugongs in the country.</li> </ul>  |

- 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.

#### About Dugongs

- 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:**
  - The loss of seagrass habitats
  - water pollution
  - degradation of the coastal ecosystem due to developmental activities
  - accidental entanglement in fishing nets
  - collision with boats, trawlers.
- **Conservation status**
  - **IUCN-** Vulnerable
  - **CITES:** Appendix I
  - **Wild (Life) Protection Act, 1972:** Schedule I
- 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).
- Proper conservation is the only way to save dugongs from extinction.

#### Pollen calendar

**Context** Recently, Chandigarh got its first Pollen calendar, arguably the first for any city in India.

#### What is a Pollen Calendar?

- Pollen calendars represent the time dynamics of airborne pollen present in a particular geographical area.
- They yield readily accessible visual details about various airborne pollen present throughout the year in a single picture.
- Pollen calendars are location-specific, with concentrations closely related to locally distributed flora.
- Europe, UK and the US are using regional pollen calendars in a big way to prevent and diagnose allergic rhinitis/hay fever and predict the timing and severity of the pollen season.

#### Significance of a pollen calendar?

- A pollen calendar provides a clear understanding for clinicians, as well as people with allergies to identify the potential allergy triggers and help to limit their exposure during high pollen load season.
- The early advisories can be prepared and disseminated through media channels to the citizens

#### About Chandigarh's Pollen calendar

- The pollen calendar for Chandigarh was prepared by studying airborne pollen and its seasonal variations for about two years.
- The study highlights the variability of crucial pollen types in different seasons. Spring and autumn are two seasons when airborne pollen dominate.

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|  | <p><b>Pollen &amp; its impact on Human health-</b></p> <ul style="list-style-type: none"> <li>● Pollen grains are male biological structures with the primary role of fertilisation, but when inhaled by humans, they may strain the respiratory system and cause allergies.</li> <li>● Pollen found suspended in air can cause widespread upper respiratory tract and nasobronchial allergy with manifestations like asthma, seasonal rhinitis, and bronchial irritation.</li> <li>● About 20-30% of the population suffers from allergic rhinitis/hay fever in India, and approximately 15% develop asthma.</li> <li>● Pollen is considered a major outdoor airborne allergen responsible for allergic rhinitis, asthma, and atopic dermatitis in humans.</li> <li>● Trees such as palms, nettle, safeda, white mulberry (shahtoot), congress grass, pine, have a high incidence of pollen.</li> </ul>  |
| <p><b>Climate change could cause 216 mn to migrate: World Bank</b></p> | <p><b>Context</b> World Bank has recently published Groundswell report.</p> <ul style="list-style-type: none"> <li>● The report examined how the impacts of slow-onset climate change, such as water scarcity, decreasing crop productivity and rising sea levels, could result in millions of “climate migrants” by 2050</li> </ul> <p><b>Key findings of the report</b></p> <ul style="list-style-type: none"> <li>● Climate change could push more than 200 million people to leave their homes in the next three decades and create migration hotspots unless urgent action is taken to reduce global emissions and bridge the development gap.</li> <li>● The report forecasts up to 216 million people moving within their own countries across the six regions analysed. <ul style="list-style-type: none"> <li>○ Those regions are Latin America; North Africa; Sub-Saharan Africa; Eastern Europe and Central Asia; South Asia; and East Asia and the Pacific.</li> </ul> </li> <li>● In the most climate-friendly scenario, with a low level of emissions and inclusive, sustainable development, the world could still see 44 million people being forced to leave their homes.</li> <li>● In South Asia, Bangladesh is particularly affected by flooding and crop failures, accounting for almost half of the predicted climate migrants.</li> <li>● <b>Findings regarding African region:</b> <ul style="list-style-type: none"> <li>○ Sub-Saharan Africa — the most vulnerable region due to desertification, fragile coastlines and the population’s dependence on agriculture — would see the most migrants, with up to 86 million people moving within national borders.</li> <li>○ North Africa is predicted to have the largest proportion of climate migrants, with 19 million people moving.</li> <li>○ The northeastern Tunisia, northwestern Algeria, western and southern Morocco, and the central Atlas foothills will face increased water scarcity.</li> </ul> </li> </ul> |
| <p><b>‘Shoonya’ Campaign</b></p>                                       | <p><b>About the campaign:</b> An initiative to promote zero-pollution delivery vehicles by working with consumers and industry.</p> <ul style="list-style-type: none"> <li>● The campaign aims to accelerate adoption of electric vehicles (EVs) in the urban deliveries segment and create consumer awareness about the benefits of zero-pollution delivery.</li> <li>● Urban freight vehicles account for 10 percent of freight transportation-related CO2 emissions in India, and these emissions are expected to grow by 114 percent by 2030.</li> <li>● EVs emit no tailpipe emissions, which can contribute immensely to an improved air quality. Even when accounting for their manufacture, they <b>emit 15-40 percent less CO2</b> compared to their internal combustion engine counterparts and have lower operational cost.</li> </ul>   |

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| <p><b>Arsenic Contamination of Food Chain</b></p>   | <p><b>Context</b> A recent study in Bihar has found Arsenic contamination not only in groundwater but in the food chain as well.</p> <ul style="list-style-type: none"> <li>• The research study was a part of the Project Nature and Nurture in Arsenic Induced Toxicity of Bihar jointly funded by the British Council in the United Kingdom and Department of Science and Technology in India.</li> </ul> <p><b>Major Findings:</b></p> <ul style="list-style-type: none"> <li>• Arsenic has found its way into the food chain - mainly rice, wheat and potato.</li> <li>• Arsenic is present in the groundwater as it is used on a large scale for irrigation by farmers. That is how it finds its way into the food chain as well.</li> <li>• The food had more arsenic content than drinking water, even when arsenic levels in drinking water was above the World Health Organization (WHO) provisional guide value of 10 micrograms per litre (µg/L).</li> </ul> <p><b>What is Arsenic?</b></p> <ul style="list-style-type: none"> <li>• Arsenic is an odourless and tasteless metalloid widely distributed in the earth's crust.</li> <li>• It is naturally present at high levels in the earth crust and groundwater of a number of countries. It is highly toxic in its inorganic form.</li> <li>• Arsenicosis is the medical word for arsenic poisoning, which occurs due to accumulation of large amounts of arsenic in the body.</li> <li>• Long-term exposure to arsenic from drinking-water and food can cause cancer and skin lesions. It has also been associated with cardiovascular disease and diabetes.</li> </ul> |
| <p><b>India's first-ever Euro Green Bond</b></p>    | <p><b>In News:</b> Power Finance Corporation Ltd (PFC), the leading NBFC in power sector has successfully issued its maiden Euro 300 million 7-year Euro Bond</p> <ul style="list-style-type: none"> <li>• The pricing of 1.841% achieved is the lowest yield locked in by an Indian Issuer in the Euro markets.</li> <li>• First ever Euro denominated Green bond issuance from India</li> </ul> <p>First ever Euro issuance by an Indian NBFC and the first Euro bond issuance from India since 2017.</p>  |
| <p><b>Solution for converting keratin waste</b></p> | <p><b>In News:</b> Indian scientists have developed a new sustainable and affordable solution for converting keratin waste (inexpensive sources of amino acids and protein) such as human hair, wool, and poultry feathers to fertilizers, pet, and animal feeds.</p> <ul style="list-style-type: none"> <li>• Patented, easily scalable, environment-friendly, energy-efficient, and it will make amino acid-rich liquid fertilizers more economical as compared to currently marketed products.</li> <li>• The key technology behind this involves pre-treatment followed by hydrolysis of keratin using a technique called Hydrodynamic Cavitation, which involves vaporization, bubble generation, and bubble implosion in a flowing liquid.</li> </ul>  |
| <p><b>27th Global Ozone Day</b></p>                 | <ul style="list-style-type: none"> <li>• World Ozone Day is celebrated on 16th September each year to commemorate the signing of the Montreal Protocol,</li> <li>• Montreal protocol is an international environmental treaty for phasing out of production and consumption of Ozone Depleting Substances, which came into force on this day in 1987.</li> </ul> <p><b>India's achievements in implementation of Montreal Protocol (since June 1992)</b></p> <ul style="list-style-type: none"> <li>• Met all the obligations of the Montreal Protocol</li> <li>• India has phased out Chlorofluorocarbons, Carbon tetrachloride, Halons, Methyl Bromide and Methyl Chloroform for controlled uses in line with the Montreal Protocol. Currently Hydrochlorofluorocarbons are being phased out as per the accelerated schedule of the Montreal Protocol. Hydrochlorofluorocarbons Phase out Management Plan (HPMP) Stage-II is currently under implementation from 2017 and will be completed by 2023.</li> <li>• Preparation of Hydrochlorofluorocarbons Phase out Management Plan (HPMP) Stage-III will be commenced shortly, which shall address phase out of use of HCFC-</li> </ul>   |

22, a refrigerant used in Refrigeration and Air-conditioning manufacturing and the servicing sectors.

- The Kigali Amendment to the Montreal Protocol, finalized by the Parties during 2016, shall gradually reduce the consumption and production of hydrofluorocarbons (HFCs) - adoption of low-global warming potential and energy-efficient technologies will achieve energy efficiency gains and carbon dioxide emissions reduction - a “climate co-benefit.”
- Synergizing the Refrigeration and Air-conditioning servicing sector training under the Hydrochlorofluorocarbons Phase out Management Plan (HPMP) with the Skill India Mission of the Government of India, to multiply the impact of skilling and training.

**Global Methane Pledge**

**Context:** U.S. President Joe Biden recently announced the Global Methane Pledge, a U.S.–EU led effort to cut methane emissions by a third by the end of this decade.

- The announcement was made at the Major Economies Forum on Energy and Climate (MEF), hosted virtually by the White House recently, in which leaders from several countries and the EU, as well as UN Secretary General António Guterres and (India’s) Environment Minister participated.

**Key takeaways**

- The pledge will help in rapidly reducing the rate of global warming.
- It will also produce a very valuable side benefit, like improving public health and agricultural output.

**About Methane**

- Methane is a greenhouse gas.
- It is 80 times more potent than carbon dioxide in terms of its global warming capacity.
- Approximately 40% of methane emitted is from natural sources and about 60% comes from human-influenced sources, including livestock farming, rice agriculture, biomass burning and so forth.

**Do you know?**

- 26th Conference of the Parties (COP26), the UN climate conference in Glasgow, Will be held in November 2021.
- The objective is to review progress since the Paris Agreement (2015) on climate, with some countries making commitments to achieve net zero emissions by 2050.
- The Paris deal seeks to maintain temperature rises to under 2 degrees Celsius (and pursue the goal of limiting rises to below 1.5 degrees Celsius) above pre-industrial levels by getting countries to commit to emission cuts.

**Mura-Drava-Danube: World’s First ‘Five-Country Biosphere Reserve’**



**Context** Recently, Mura-Drava-Danube (MDD) was declared as the world’s first ‘five-country biosphere reserve’ by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

**About MDD:**

- The biosphere reserve covers 700 kilometres of the Mura, Drava and Danube rivers and stretches across Austria, Slovenia, Croatia, Hungary and Serbia.

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|   | <ul style="list-style-type: none"> <li>● The total area of the reserve is a million hectares - in the so-called 'Amazon of Europe', which is now the largest riverine protected area in Europe.</li> <li>● The biosphere "represented an important contribution to the European Green Deal (climate action plan) and contributed to the implementation of the EU Biodiversity Strategy in the Mura-Drava-Danube region."</li> <li>● The strategy's aim is to revitalise 25,000 km of rivers and protect 30% of the European Union's land area by 2030.</li> </ul> <p><b>Importance of the MDD:</b></p> <ul style="list-style-type: none"> <li>● The area is one of the richest in Europe in terms of species diversity.</li> <li>● It is home to floodplain forests, gravel and sand banks, river islands, oxbows and meadows.</li> <li>● The area is home to the highest density in Europe of breeding pairs of white-tailed eagle and endangered species such as the little tern, black stork, otters, beavers and sturgeons.</li> <li>● It is also an important stepping stone for more than 2,50,000 migratory waterfowls every year.</li> </ul>   |
| <p><b>Major Economies Forum on Energy and Climate (MEF)</b></p> | <p><b>Context:</b> Major Economies Forum on Energy and Climate (MEF) aims at facilitating candid dialogue among major emitters countries, both developed and developing, to garner political leadership to advance climate action.</p> <ul style="list-style-type: none"> <li>● Also aims at enabling dialogue and discussion and building consensus before COP26, which will set a precedent for climate efforts in the years to come.</li> </ul> <p><b>India's stand-</b></p> <ul style="list-style-type: none"> <li>● Combating climate change is a shared global challenge and our response must be based on the fundamental principles of equity and common but differentiated responsibilities and respective capabilities.</li> <li>● Though India's share of world population is 17% but the country's share in cumulative historical emissions is just 4% and even the current annual emissions are only 5.2% of the global emissions and the per capita emissions are about a third of the global average.</li> <li>● India's target is of 450 GW of Renewable Energy by 2030.</li> <li>● India's solar capacity, drawing on the collaborative spirit of member countries through the International Solar Alliance, has increased fifteen times in the last six years.</li> </ul>  |
| <p><b>Conversion of high ash Indian coal to methanol</b></p>    | <p><b>In News:</b> India has developed an indigenous technology to convert high ash Indian coal to methanol and established its first pilot plant in Hyderabad.</p> <ul style="list-style-type: none"> <li>● Will help the country move towards the adoption of clean technology</li> <li>● Will promote the use of methanol as a transportation fuel (blending with petrol), thus reducing crude oil imports.</li> </ul> <p><b>Process and Challenge:</b></p> <ul style="list-style-type: none"> <li>● The broad process of converting coal into methanol consists of conversion of coal to synthesis (syngas) gas, syngas cleaning and conditioning, syngas to methanol conversion, and methanol purification.</li> <li>● Coal to methanol plants in most countries are operated with low ash coals. Handling of high ash and heat required to melt this high amount of ash is a challenge in the case of Indian coal, which generally has high ash content.</li> <li>● Currently, the pilot plant is producing methanol with purity of more than 99%. Scaling it up will help in optimum utilization of the country's energy reserves and accelerate its journey towards self-reliance.</li> </ul> <p>Methanol could be the most promising option for large-scale market penetration of a natural gas-based fuel for light-duty vehicles because of its <b>low fuel cost</b> and <b>low additional cost</b> relative to powering a vehicle with gasoline. Methanol will cut down India's oil import bill by an estimated 20 per cent over the next few years.</p> |

## Humboldt Penguin



**Context** Two new Humboldt penguin chicks, join seven adult Humboldt penguins at Mumbai's Byculla Zoo.

### About Humboldt penguins

- Humboldt penguin is named after the cold ocean current, known as **Humboldt current**.
  - *Humboldt Current*, also called the Peru Current, is a cold, low-salinity ocean current that flows north along the **western coast of South America**.
- **Habitat:** Humboldt penguin is a South American penguin that breeds in coastal Chile and Peru.
- When not raising chicks, these penguins have been known to travel long distances at sea to find food.
- Humboldt penguins can breed at any time of year.
- **IUCN status:** Vulnerable

## Sea Cucumber



**Context** Recently, the Indian Coast Guard (ICG) has seized two tonnes of sea cucumber, a banned marine species, in the Gulf of Mannar and Palk Bay areas in Tamil Nadu.

### What is Sea Cucumber?

- Sea cucumbers are marine invertebrates that live on the seafloor found generally in tropical regions.
- They're named for their unusual oblong shape that resembles a fat cucumber.
- **Significance:**
  - They are crucial to maintain the balance of ocean habitats.
  - The main by-products of the sea cucumbers digestion of sand is calcium carbonate and this is essential for the survival of the coral reefs.
  - They act like garbage collectors of the ocean world, and they recycle nutrients
- **Threats:** Illegal Trading and smuggling
- **Protection:**
  - **IUCN Red List:** Brown Sea Cucumber (Endangered), Blackspotted Sea Cucumber (Least Concern), Blue Sea Cucumber (Data Deficient), etc.
  - **Wildlife Protection Act, 1972:** Schedule I.
  - **Conservation Efforts:** In 2020, the Lakshadweep Islands administration created the world's first conservation area - 239 sq. km - for sea cucumbers

## Pearl Farming in Tribal Areas

**Context** Recently, the TRIFED (Tribal Cooperative Marketing Development Federation of India) inked an agreement with the Jharkhand-based Purty Agrotech for the promotion of pearl farming in tribal areas.

### About the agreement

- As part of the agreement, Purty Agrotech pearls will be sold through 141 Tribes India outlets, apart from various e-commerce platforms.
- Purty Agrotech's centre will be developed into a Van Dhan Vikas Kendra Cluster (VDVVC). Besides, there is a plan to develop 25 such VDVVCs for pearl farming in Jharkhand.
- The breeding of oysters and development of pearls is a sustainable mode of business and can be easily practised by tribals who have access to nearby water bodies.
- It will prove to be game-changers for tribal livelihoods in the times to come.

### About Pearl Farming


- Pearls are the only gemstones in the world that come from a living creature.
- Mollusks such as oysters and mussels produce these precious jewels
- Pearl oysters are farmed in a number of countries in the world in the production of cultured pearls.
- Freshwater pearls are pearls that are grown on pearl farms using freshwater mussels.



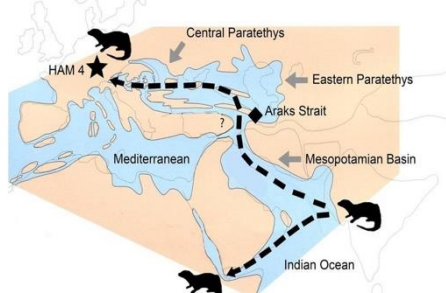
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|   | <ul style="list-style-type: none"> <li>● Since mussels are the organic hosts, the pearls can grow up to 10 times bigger than those made by saltwater oysters, naturally.</li> </ul> <p><b>About The Tribal Cooperative Marketing Development Federation of India (TRIFED)</b></p> <ul style="list-style-type: none"> <li>● Established in 1987, under the Multi-State Cooperative Societies Act, 1984, this statutory body works for the social and economic development of the tribal people of the country</li> <li>● <b>Ministry:</b> Ministry of Tribal Affairs.</li> <li>● It has been registered as a National Level Cooperative body by the Government of the country.</li> <li>● It helps tribal people manufacture products for national and international markets on a sustainable basis and also supports the formation of Self-Help Groups and imparting training to them.</li> </ul>   |
| <p><b>International Blue Flag Certification</b></p> | <p><b>In News:</b> The globally recognized and the coveted International eco-label "Blue Flag", has accorded the Blue Flag Certification for 2 new beaches this year –<b>Kovalam in Tamil Nadu and Eden in Puducherry beaches.</b></p> <ul style="list-style-type: none"> <li>● Foundation for Environment Education in Denmark (FEE) which accords the globally recognized eco-label - Blue Flag certification, has also given re-certification for 8 nominated beaches Shivrajpur-Gujarat, Ghoghla-Diu, Kasarkod and Padubidri-Karnataka, Kappad-Kerala, Rushikonda- Andhra Pradesh, Golden-Odisha and Radhanagar- Andaman and Nicobar, which were awarded the Blue Flag certificate last year.</li> <li>● <b>Beach Environment &amp; Aesthetics Management Services (BEAMS):</b> <ul style="list-style-type: none"> <li>○ To protect and conserve the pristine coastal and marine ecosystems through holistic management of the resources</li> <li>○ To abate pollution in coastal waters, promote sustainable development of beach facilities, protect &amp; conserve coastal ecosystems &amp; natural resources, and seriously challenge local authorities &amp; stakeholders to strive and maintain high standards of cleanliness, hygiene &amp; safety for beachgoers in accordance with coastal environment &amp; regulations.</li> </ul> </li> </ul>   |
| <p><b>WHO tightens global air quality norms</b></p> | <p><b>Context</b> The World Health Organisation (WHO), in its first-ever update since 2005, has tightened global air pollution standards because it has been recognised in the past decade that the impact of air pollution on health is much more serious than earlier envisaged.</p> <ul style="list-style-type: none"> <li>● Every year, exposure to air pollution is estimated to cause 7 million premature deaths and result in the loss of millions more healthy years of life.</li> </ul> <p><b>New norms</b></p> <ul style="list-style-type: none"> <li>● The upper limit of annual PM2.5 as per the 2005 standards is 10 microgram per cubic metre. That has now been revised to five microgram per cubic metre.</li> <li>● The upper limit of PM10 is 20 microgram and has now been revised to 15.</li> <li>● The 24-hour value has been revised from 50 to 45 microgram.</li> </ul> <p><b>Impact on India</b></p> <ul style="list-style-type: none"> <li>● The move does not have an immediate effect in India as the National Ambient Air Quality Standards (NAAQS) do not meet the WHO's existing standards.</li> <li>● The government has a dedicated National Clean Air Programme that aims for a 20% to 30% reduction in particulate matter concentrations by 2024 in 122 cities, keeping 2017 as the base year</li> </ul> <p><b>What is National Ambient Air Quality Standards (NAAQS)?</b></p> <ul style="list-style-type: none"> <li>● National Ambient Air Quality Standards are the standards for ambient air quality set by the Central Pollution Control Board (CPCB)</li> <li>● The CPCB has been conferred this power by the Air (Prevention and Control of Pollution) Act, 1981.</li> <li>● Ambient Air Quality Standards contains 12 pollutants</li> </ul> <p><b>What is National Clean Air Programme (NCAP)?</b></p> <ul style="list-style-type: none"> <li>● It was launched by the MoEFCC in January 2019.</li> </ul> |

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|                               | <ul style="list-style-type: none"> <li>● It is the first-ever effort in the country to frame a national framework for air quality management with a time-bound reduction target.</li> <li>● It seeks to cut the concentration of coarse (PM10) and fine particles (PM2.5) by at least 20% in the next five years, with 2017 as the base year for comparison.</li> <li>● The plan includes 102 non-attainment cities, across 23 states and Union territories, which were identified by the Central Pollution Control Board (CPCB) on the basis of their ambient air quality data between 2011 and 2015.</li> <li>● <b>Non-attainment cities:</b> These are those that have fallen short of the National Ambient Air Quality Standards (NAAQS) for over five years.</li> </ul>  |
| <p><b>World Rhino Day</b></p> | <p><b>Context</b> World Rhino Day is observed on 22th September to spread awareness for all five species of rhino and work being done to save them.</p> <ul style="list-style-type: none"> <li>● It was first announced by the World Wildlife Fund (WWF) - South Africa in 2010.</li> <li>● The species of rhinoceros are on the verge of extinction due to persistent poaching and habitat loss over several decades.</li> <li>● <b>Theme 2021:</b> Keep the five Alive.</li> <li>● <b>Objectives:</b> Strengthening protection, Expanding the distribution range, Research and monitoring, Adequate and sustained funding.</li> </ul> <p><b>About the species of Rhino</b></p> <ul style="list-style-type: none"> <li>● There are five species of rhino – white and black rhinos in Africa, and the greater one-horned, Javan and Sumatran rhino species in Asia.</li> <li>● <b>IUCN Red List Status:</b> <ul style="list-style-type: none"> <li>○ White Rhino: Near Threatened.</li> <li>○ Black Rhino: Critically endangered.</li> <li>○ Greater One Horned: Vulnerable.</li> <li>○ Javan: Critically Endangered</li> <li>○ Sumatran Rhino: Critically Endangered</li> </ul> </li> </ul> <p><b>Greater One-Horned Rhinoceros</b></p> <ul style="list-style-type: none"> <li>● Also known as Indian rhino, it is the largest of the rhino species.</li> <li>● India is home to the largest number of Greater One-Horned Rhinoceros in the world. At present, there are about 2,600 Indian rhinos in India, with more than 90% of the population concentrated in Assam’s Kaziranga National Park.</li> <li>● <b>Habitat:</b> The species is restricted to small habitats in Indo-Nepal terai and northern West Bengal and Assam. <ul style="list-style-type: none"> <li>○ In India, rhinos are mainly found in Kaziranga NP, Pobitora WLS, Orang NP, Manas NP in Assam, Jaldapara NP and Gorumara NP in West Bengal and Dudhwa TR in Uttar Pradesh.</li> </ul> </li> <li>● <b>Threats:</b> <ul style="list-style-type: none"> <li>○ Poaching for the horns</li> <li>○ Habitat loss</li> <li>○ Population density</li> <li>○ Decreasing Genetic diversity</li> </ul> </li> <li>● <b>Protection Status:</b> <ul style="list-style-type: none"> <li>○ IUCN Red List: Vulnerable.</li> <li>○ CITES: Appendix-I</li> <li>○ Wildlife Protection Act, 1972: Schedule I.</li> </ul> </li> </ul> <p><b>Conservation Efforts by India:</b></p> <ul style="list-style-type: none"> <li>● <b>New Delhi Declaration on Asian Rhinos:</b> India, Bhutan, Nepal, Indonesia and Malaysia have signed a declaration for the conservation and protection of the species.</li> <li>● <b>DNA profiles of all rhinos:</b> It will help in curbing poaching and gathering evidence in wildlife crimes involving rhinos.</li> <li>● <b>National Rhino Conservation Strategy:</b> It was launched in 2019 to conserve the greater one-horned rhinoceros.</li> </ul> |

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|   | <ul style="list-style-type: none"> <li>● <b>Indian Rhino Vision 2020:</b> To attain a wild population of at least 3,000 greater one-horned rhinos spread over seven protected areas in the Indian state of Assam by 2020.</li> </ul>  |
| <p><b>Arctic Sea Ice Decline</b></p>            | <p><b>Context</b> Recently, the Arctic sea ice reached its minimum extent, coming in at 4.72 million square miles.</p> <ul style="list-style-type: none"> <li>● It is the 12th lowest on record and the record minimum melting of the ice occurred in 2012.</li> <li>● The 'Last Ice Area' (LIA), located in the Arctic's Ice north of Greenland, has also started melting earlier than what the scientists had expected.</li> </ul> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● Sea ice cover has dropped by roughly half since the 1980s as a direct result of increased carbon dioxide from human activities.</li> <li>● At this stage of the melt season (summer), the sea ice pack is at its weakest and is highly responsive to the weather conditions of a given day or week. Subtle shifts can have big impacts.</li> </ul> <p><b>Factors Causing Rapid Melting of Ice</b></p> <ul style="list-style-type: none"> <li>● <b>Albedo Feedback Loop:</b> Ice is more reflective (has a higher albedo) than land or water surfaces.</li> <li>● <b>Counterclockwise Ice Circulation:</b> Cyclones entering the Arctic from Siberia generated counterclockwise winds and ice drifts which reduced the amount of sea ice moving out of the Arctic through the Fram Strait, east of Greenland. This likely contributed to the record low summer sea ice conditions observed in the Greenland Sea.</li> <li>● <b>Low Pressure System:</b> The low pressure system also increases cloudiness over the Arctic which can also trap heat lost from the surface.</li> </ul> |
| <p><b>Herbicide-Tolerant Rice Varieties</b></p> | <p><b>Context</b> Recently, the Indian Agricultural Research Institute (IARI) has developed the country's first-ever non-GM (genetically modified) herbicide-tolerant rice varieties (Pusa Basmati 1979 and Pusa Basmati 1985).</p> <ul style="list-style-type: none"> <li>● These varieties can be directly seeded and significantly save water and labour compared to conventional transplanting.</li> <li>● ICAR-IARI is a deemed university.</li> </ul> <p><b>About the New Varieties of Rice:</b></p> <ul style="list-style-type: none"> <li>● The new varieties contain a mutated AcetoLactate Synthase (ALS) gene making it possible for farmers to spray Imazethapyr, a broad-spectrum herbicide, to control weeds. <ul style="list-style-type: none"> <li>○ Imazethapyr, effective against a range of broadleaf, grassy and sedge weeds, can't be used on normal paddy, as the chemical does not distinguish between the crop and the invasive plants.</li> </ul> </li> <li>● The plants can now "tolerate" application of the herbicide, and hence it kills only the weeds.</li> <li>● It is important to note that, as there is no foreign gene involved in the process, the herbicide-tolerance is through mutation breeding. Thus, it is not a Genetically modified organism.</li> </ul>   |

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| <p><b>Hurricane Ida</b></p>            | <p><b>Context</b> Recently, Hurricane Ida made landfall in Louisiana, US. It is an extremely dangerous Category 4 storm and one of the most powerful storms ever to hit <b>the US</b>.</p> <p><b>Names in Different Regions of the World:</b></p> <ul style="list-style-type: none"> <li>● <b>Typhoons:</b> Tropical cyclones are known as Typhoons in the China Sea and Pacific Ocean.</li> <li>● <b>Hurricanes:</b> In the West Indian islands in the Caribbean Sea and Atlantic Ocean.</li> <li>● <b>Willy-willies:</b> In north-western Australia</li> <li>● <b>Tropical Cyclones:</b> In the Indian Ocean Region.</li> </ul> <p><b>Categorization of Hurricanes:</b></p> <ul style="list-style-type: none"> <li>● Hurricanes are categorized on the Saffir-Simpson Hurricane Wind Scale, which rates them on a scale of 1 to 5 based on wind speed.</li> <li>● Hurricanes that reach category three or higher are classified as major hurricanes.</li> </ul>  <p>The diagram illustrates the Saffir-Simpson Hurricane Wind Scale, which categorizes hurricanes from 1 to 5 based on their maximum sustained wind speeds and the potential for damage. Category 1 has the lowest wind speeds (74-95 mph) and causes some damage. Category 5 has the highest wind speeds (157 mph or higher) and causes catastrophic damage.</p> |
| <p><b>Baira Siul Power Station</b></p> | <p><b>Context:</b> The National Hydroelectric Power Corporation (NHPC) Ltd, has indigenously renovated &amp; modernized its 180 MW Baira Siul Power Station and commenced commercial operations.</p> <ul style="list-style-type: none"> <li>● The project is in <b>Chamba</b> in Himachal Pradesh.</li> <li>● The Baira Siul Power Station is NHPC's first power station which was under commercial operation since 1st April 1982 and had completed its useful life of 35 years.</li> <li>● The life of Baira Siul Power Station has now been extended by another 25 years.</li> </ul> <p><b>About NHPC</b></p> <ul style="list-style-type: none"> <li>● NHPC is enterprise of Central Government incorporated with an objective to plan, promote and organise an integrated and efficient development of hydroelectric power in all aspects.</li> <li>● <b>Established:</b> 1975</li> <li>● Besides, hydroelectric power the company has expanded its objects to include other sources of energy like Solar, Geothermal, Tidal, Wind etc.</li> <li>● At present, NHPC is a Mini Ratna Category-I Enterprise of the Central Government with an authorised share capital of Rs. 1,50,000 Million</li> </ul>  |
| <p><b>Brahmani River</b></p>           | <p><b>Context:</b> Environmentalists have expressed concern over the massive diversion of fresh water from the Brahmani river basin, which could pose a grave threat to the famous mangrove vegetation in Odisha.</p> <ul style="list-style-type: none"> <li>● The Talcher-Angul coal mines, steel and power plants as well as the Kalinganagar steel and power hub are drawing enormous quantities of fresh water from the Brahmani river.</li> </ul> <p><b>About:</b></p> <ul style="list-style-type: none"> <li>● The Brahmani is a major seasonal river in the Odisha state of eastern India.</li> <li>● The Brahmani is formed by the confluence of the Sankh and South Koel rivers.</li> <li>● Together with the river Baitarani, it forms a large delta before emptying into the Bay of Bengal at Dhamra.</li> </ul>  |

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|   | <ul style="list-style-type: none"> <li>• Bhitarkanika — a notified Ramsar wetland — is spread over 195 sq. km and is home to 62 mangrove species.</li> <li>• Proportionate fresh water flow from the Brahmani river basin and the Kharasrota river keep the salinity level of the water along the shore down.</li> </ul>   |
| <b>Place in news:</b><br><b>Qeqertaq</b><br><b>Avannarleq</b> | <ul style="list-style-type: none"> <li>• It is a tiny, uninhabited and previously unknown island discovered recently off the coast of <b>Greenland</b>.</li> <li>• Measuring 60×30 metres and with a peak of three metres above sea level, it has now become the new <b>northernmost piece of land on Earth</b>.</li> <li>• Before this, Oodaaq was marked as the Earth's northernmost terrain.</li> <li>• The discovery comes as a battle is looming among Arctic nations, the US, Russia, Canada, Denmark and Norway for the control of the North Pole and of the surrounding seabed, fishing rights and shipping routes exposed by melting ice due to climate change.</li> </ul>  |
| <b>Footprints of 3 Dinosaur Species:</b><br><b>Rajasthan</b>  | <p><b>Context</b> Recently, in a major discovery, footprints of three species of dinosaurs have been found in the Thar desert in Rajasthan's Jaisalmer district.</p> <ul style="list-style-type: none"> <li>• It proves the presence of the giant reptiles in the western part of the State.</li> </ul> <p><b>About the Discovery:</b></p> <ul style="list-style-type: none"> <li>• The footprints belong to three species of dinosaurs - Eubrontes cf. giganteus, Eubrontes glenrosensis and Gallator tenuis.</li> <li>• The footprints were 200 million years old.</li> <li>• The dinosaur species are considered to be of the theropod type, with the distinguishing features of hollow bones and feet with three digits (like fingers). <ul style="list-style-type: none"> <li>◦ Theropod includes all the flesh-eating dinosaurs.</li> </ul> </li> <li>• The 'Age of Dinosaurs' (the Mesozoic Era - 252-66 Million Years Ago) included three consecutive geologic time periods (the Triassic, Jurassic, and Cretaceous Periods). Different dinosaur species lived during each of these three periods.</li> </ul> <p><b>About Thar Desert</b></p> <ul style="list-style-type: none"> <li>• The name 'Thar' is derived from thul, the general term for the region's sand ridges. It is also called the 'Great Indian Desert'.</li> <li>• <b>Location:</b> Partly in Rajasthan state, northwestern India, and partly in Punjab and Sindh provinces, eastern Pakistan.</li> <li>• It is bordered by the irrigated Indus River plain to the west, the Punjab Plain to the north and northeast, the Aravalli Range to the southeast, and the Rann of Kachchh to the south.</li> <li>• It Presents an undulating surface, with high and low sand dunes separated by sandy plains and low barren hills, or bhakars.</li> <li>• <b>Barchan</b>, also spelled Barkhan, crescent-shaped sand dunes produced by the action of wind predominately from one direction are also present.</li> <li>• Several playas (saline lake beds), locally known as <b>dhands</b>, are scattered throughout the region.</li> <li>• The desert supports a relatively rich biodiversity with several large mammals, notably the blue bull, blackbuck, and Indian gazelle or chinkara.</li> </ul> |
| <b>Manipur Kukis</b>  | <ul style="list-style-type: none"> <li>• The Kuki tribe in Manipur on Monday observed the 28th anniversary of the massacre of Kuki civilians in Manipur, allegedly by an armed Naga group.</li> <li>• The Kuki people are an ethnic group native to the Mizo Hills (formerly Lushai), a mountainous region in the southeastern part of Mizoram in India.</li> <li>• The Kuki constitute one of several hill tribes within India, Bangladesh, and Myanmar.</li> <li>• In northeast India, they are present in all states except Arunachal Pradesh.</li> <li>• Some fifty tribes of Kuki peoples in India are recognised as scheduled tribes, based on the dialect spoken by that particular Kuki community as well as their region of origin.</li> </ul>  |
| <b>Vishnuonyx</b>   | <p><b>Context</b> Newly found fossils of Vishnuonyx have been found in the area of Hammerschmiede, which is a fossil site in Bavaria, Germany.</p>   |

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|  | <ul style="list-style-type: none"> <li>● Between 12.5 million and 14 million years ago, members of a genus of otters called Vishnuonyx lived in the major rivers of southern Asia.</li> </ul> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● Fossils of these now extinct otters were first discovered in sediments found in the foothills of the Himalayas.</li> <li>● Now, the newly found fossil indicates it had travelled as far as Germany.</li> <li>● The newly discovered fossils have been named Vishnuonyx neptuni, meaning ‘Neptune’s Vishnu’.</li> <li>● This is the first discovery of any member of the Vishnuonyx genus in Europe.</li> <li>● It is also its most northern and western record till date.</li> </ul> <p><b>About Vishnuonyx</b></p> <ul style="list-style-type: none"> <li>● Vishnuonyx were mid-sized predators that weighed, on average, 10-15 kg.</li> <li>● Before this, the genus was known only in Asia and Africa.</li> <li>● Vishnuonyx depended on water and could not travel long distances over land.</li> </ul> <p><b>How did it travel as far as Europe?</b></p> <ul style="list-style-type: none"> <li>● According to the researchers, its travels over 6,000 km were probably made possible by the geography of 12 million years ago, when the Alps were recently formed.</li> <li>● These Alps and the Iranian Elbrus Mountains were separated by a large ocean basin, which would have made it easier for the otters to cross it.</li> </ul>  |
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| <p><b>Pantanal wetland</b></p> | <p><b>Context</b> A long-standing drought followed by devastating wildfires have posed a threat to Pantanal jaguars.</p> <p><b>About Pantanal wetland</b></p> <ul style="list-style-type: none"> <li>● The Pantanal is located at the geographical centre of the South American continent.</li> <li>● It is a natural region encompassing the <b>world’s largest tropical wetland area, and the world’s largest flooded grasslands.</b></li> <li>● It is located mostly within the <b>Brazil</b>, but it extends into portions of <b>Bolivia</b> and <b>Paraguay</b>.</li> <li>● It constitutes an enormous internal river delta, in which several rivers flowing from the surrounding plateau merge, depositing their sediments and erosion residues.</li> <li>● The vegetation of the Pantanal, often referred to as the “Pantanal complex”, is a mixture of plant communities– moist tropical Amazonian rainforest plants, semiarid woodland plants, Brazilian cerrado savanna plants and plants of the Chaco savannas of Bolivia and Paraguay.</li> <li>● The <b>apple snail is a keystone species</b> in Pantanal’s ecosystem.</li> <li>● The Pantanal is home to one of the largest and healthiest jaguar (<i>Panthera onca</i>) populations on Earth.</li> <li>● Among the rarest animals to inhabit the wetland of the Pantanal are the marsh deer, the giant river otter, hyacinth macaw, the crowned solitary eagle, the maned wolf, the South American tapir and the giant anteater.</li> </ul> |
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| <p><b>Zojila tunnel work</b></p> | <p><b>Context</b> Minister for Road Transport and Highways recently reviewed the construction work at the Zojila tunnel which is likely to be ready by September 2026.</p> <p><b>About the Zojila tunnel</b></p> <ul style="list-style-type: none"> <li>● The tunnel will provide all-weather connectivity between Srinagar valley and Leh on NH-1 and will bring about an all-round economic and socio-cultural integration of Jammu and Kashmir.</li> <li>● It takes 3.5 hours to travel between Srinagar and Ladakh. The tunnel will reduce the travel time to 15 minutes</li> <li>● The 14.15-km tunnel will be Asia’s longest bi-directional tunnel</li> </ul> |
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| <p><b>V. O. Chidambaram Pillai</b></p>                  | <p><b>In News:</b> The Prime Minister, Shri Narendra Modi has remembered freedom fighter V. O. Chidambaram Pillai on his 150<sup>th</sup> birth anniversary.</p> <p><b>About V. O. Chidambaram Pillai</b></p> <ul style="list-style-type: none"> <li>• Born on September 5, 1872, Pillai is popularly known as ‘Kappalottiya Tamizhan’ or "The Tamil Helmsman"</li> <li>• He is best remembered for the venture he ran against tremendous odds, the <b>Swadeshi Steam Navigation Company</b>, to challenge the monopoly of the British in sea trade. He launched the first indigenous Indian shipping service between Tuticorin and Colombo with the Swadeshi Steam Navigation Company (SSNC), competing against British ships. Pillai’s ambitions were high—though services were restricted to Tuticorin and Colombo, Swadeshi aimed to “popularize the art of Navigation” among “Nations of the East”, to employ “Asiatics”, to open dockyards, and do whatever it could to revitalize India’s maritime traditions.</li> <li>• Tuticorin Port Trust, one of India's thirteen major ports, is named after him.</li> <li>• <b>Play on V. O. Chidambaram Pillai:</b> Desabhaktar Chidambaranar</li> <li>• <b>Film on his life:</b> Kappalottiya Tamizhan</li> </ul>   |
| <p><b>Parkash Purab of Sri Guru Granth Sahib Ji</b></p> | <p><b>In News:</b> The Prime Minister has greeted the people on the sacred occasion of the Parkash Purab of Sri Guru Granth Sahib Ji.</p> <ul style="list-style-type: none"> <li>• The occasion marks the completion of the holy book of Sikhs, Sri Guru Granth Sahib Ji, under the supervision of the fifth Guru Arjan Dev Ji in 1604 at Gurdwara Ramsar Sahib.</li> </ul> <p><b>About Parkash Purab of Sri Guru Granth Sahib Ji</b></p> <ul style="list-style-type: none"> <li>▪ The first Prakash Purab Utsav marked the installation of Guru Granth Sahib in Harmandir Sahib, also known as the Golden temple, in 1604.</li> <li>▪ After the death of Guru Gobind Singh, his hymns and other writings were compiled into a book known as the <b>Dasam Granth</b>.</li> </ul> <p><b>Kartarpur Sahib Corridor:</b> Most celebrated project of Sikhs of India and Pakistan in recent times</p> <ul style="list-style-type: none"> <li>• Facilitates pilgrims from India to visit the Gurdwara Kartarpur Sahib in Pakistan. The corridor is being built to connect Dera Baba Nanak in Gurdaspur with Gurdwara Darbar Sahib in Kartarpur, the final resting place of Sikhism founder Guru Nanak.</li> <li>• Indian pilgrims of all faiths and persons of Indian origin can use the corridor.</li> <li>• The <b>travel will be Visa Free</b>; Pilgrims need to carry only a valid passport</li> <li>• Pilgrims would be allowed to carry kirpans (dagger), one of the five articles of faith worn by Sikhs.</li> </ul> <p><b>Gatka:</b> A traditional Sikh martial art</p> |
| <p><b>Nukhai</b></p>                                    | <ul style="list-style-type: none"> <li>• Celebrated in: Western Odisha and adjoining areas of Simdega in Jharkhand.</li> <li>• It is an agricultural festival, observed to welcome the new rice of the season.</li> <li>• It is observed on the fifth day of the lunar fortnight of the month of Bhadrapada or Bhaadra (August–September), the day after the Ganesh Chaturthi festival.</li> <li>• People offer the newly harvested crop called Nabanha to their respective presiding deities, as a part of the rituals</li> </ul>   |
| <p><b>Subramania Bharati</b></p>                        | <p><b>Context:</b> PM pays tribute to Subramania Bharati on his 100th Punya Tithi</p> <p><b>About Subramania Bharati</b></p> <ul style="list-style-type: none"> <li>• A Tamil writer, poet, journalist, Indian independence activist, social reformer and polyglot</li> </ul>  |

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|   | <ul style="list-style-type: none"> <li>• Popularly known as "Mahakavi Bharathi" ("Great Poet Bharathi"), he was a pioneer of modern Tamil poetry and is considered one of the greatest Tamil literary figures of all time.</li> <li>• His numerous works included fiery songs kindling patriotism during the Indian Independence movement.</li> <li>• He fought for the emancipation of women, against child marriage, stood for reforming Brahminism and religion. He was also in solidarity with Dalits and Muslims.</li> </ul>  |
| <b>Acharya Vinoba Bhave</b>                   | <p><b>Context:</b> PM pays tributes to Acharya Vinoba Bhave on his Jayanti</p> <ul style="list-style-type: none"> <li>• An Indian advocate of nonviolence and human rights</li> <li>• Often called Acharya (Sanskrit for teacher), he is best known for the Bhoodan and Gramdaan Movement.</li> <li>• He is considered as a National Teacher of India and the spiritual successor of Mahatma Gandhi.</li> <li>• He was an eminent philosopher. The Gita has also been translated into Marathi language by him with the name as Geetai means mother Geeta</li> </ul>  |
| <b>Thamirabarani Civilisation: Tamil Nadu</b> | <p><b>Context</b> The Thamirabarani civilisation in Tamil Nadu is at least 3,200 years old, reveals carbon dating done on organic material retrieved from archeological excavations in Sivakalai, Thoothukudi district.</p> <ul style="list-style-type: none"> <li>• <b>Carbon Dating:</b> The determination of the age or date of organic matter from the relative proportions of the carbon isotopes carbon-12 and carbon-14 that it contains.</li> </ul> <p><b>About Thamirabarani River</b></p> <ul style="list-style-type: none"> <li>• The shortest river in the state (Tamil Nadu), the Thamirabarani starts in Pothigai hills of the Western Ghats in the Ambasamudram taluk, flows through Tirunelveli and Thoothukudi districts and empties at Korkai (Tirunelveli district) into the Gulf of Mannar (Bay of Bengal).</li> </ul> <p><b>Significance/Consequence of the Findings:</b></p> <ul style="list-style-type: none"> <li>• It could lead to evidence that there was a city civilisation (Porunai River (Thamirabarani) civilization) in south India as long back as 3,200 years ago, the later part of the Indus Valley Civilisation.</li> <li>• Also, archaeological excavations would be carried out in other States and countries in search of Tamil roots. <ul style="list-style-type: none"> <li>○ In the first phase, studies would be undertaken at the ancient port of Muziris (Pattanam) in Kerala, to establish the ancientness and culture of the Chera empire.</li> <li>○ Research would be conducted at Quseir al-Qadim and Pernica Anekke in Egypt, which were once part of the Roman empire, as well as in Khor Rori in Oman, to establish the Tamils' trade relations with these countries.</li> <li>○ Potsherds bearing Tamil scripts have been found in these countries.</li> </ul> </li> <li>• Studies would also be conducted in Southeast Asian countries, such as Indonesia, Thailand, Malaysia and Vietnam, where King Rajendra Chola had established supremacy.</li> </ul> <p><b>Do you know?</b></p> <ul style="list-style-type: none"> <li>• The three ruling houses of Tamil India, the Pandyas, Cheras, and Cholas, fought for supremacy of southern India and Sri Lanka.</li> <li>• These dynasties promoted early literature on the Indian subcontinent and built important Hindu temples.</li> <li>• Sangam literature, which was written over a period of six centuries (3rd BCE – 3rd CE) contains references to various Chola, Chera and Pandya kings.</li> </ul> |





**128th anniversary of the historic Chicago address of Swami Vivekananda**

**Context** On September 11, 1893, Swami Vivekananda delivered his famed speech at the ‘Parliament of the World’s Religions’, garnering a full two minute standing ovation and the moniker of ‘cyclonic monk of India’ .

- This year marked the 128th anniversary of the historic Chicago Address of Swami Vivekananda.

**What is the Significance of this event?**

- The Chicago address had dwelt at length on Hinduism and Indian culture, and his words continue to remain resonant till date.
- He became popular in the western world after his famous speech at the World’s Parliament of Religions.
- He was considered a major force in the revival of Hinduism in India and bringing it to the status of major world religion in the late 19th century.
- His address in the World “Parliament of Religions” at Chicago in 1893 drew the world’s attention to the ancient Indian philosophy of Vedanta.

**About Swami Vivekananda:**

- He was a true luminary, credited with enlightening the western world about Hinduism.
- He was an ardent disciple of Sri Ramakrishna Paramahansa and a major force in the revival of Hinduism in India.
- He pushed for national integration in colonial India, and his famous speech remains as the one that he gave in Chicago in 1893 (Parliament of the World Religions).
- In 1984 the Government of India declared that 12 January, the birthday of Swami Vivekananda, will be celebrated as National Youth Day.

**Battle of Saragarhi**

**Context:** September 12 marked the 124th anniversary of the Battle of Saragarhi.

- The Battle of Saragarhi was a last-stand battle fought before the Tirah Campaign between the British Raj and Afghan tribesmen.
- Saragarhi was the communication tower between Fort Lockhart and Fort Gulistan.

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|                                  | <ul style="list-style-type: none"> <li>● The two forts in the rugged North West Frontier Province (NWFP) were built by Maharaja Ranjit Singh but renamed by the British.</li> <li>● On 12 September 1897, an estimated 12,000 – 24,000 Orakzai and Afridi tribesmen attacked the outpost of Saragarhi, cutting off Fort Gulistan from Fort Lockhart.</li> <li>● The soldiers of 36th Sikh, led by Havildar Ishar Singh, fought till their last breath, killing 200 tribals and injuring 600.</li> <li>● In 2017, the Punjab government decided to observe Saragarhi Day on September 12 as a holiday.</li> </ul>  |
| <p><b>Cheraman Mosque</b></p>    | <p><b>Context:</b> The Cheraman Juma Masjid in Kerala, the oldest mosque in the Indian subcontinent that dates back to 629 AD, and the Holy Cross Church at Chendamangalam built by Jesuit priests in 1577 AD, were recently renovated under the Muziris Heritage Project.</p> <ul style="list-style-type: none"> <li>● The Government of Kerala has initiated the Muziris Heritage Project to reinstate the historical and cultural significance of the legendary port of Muziris.</li> <li>● The Muziris Heritage Project is one of the biggest conservation projects in India, where the state and the central governments have come together to conserve a rich culture that is as old as 3000 years or more.</li> <li>● The region is dotted with numerous monuments of a bygone era that conjure up a vast and vivid past.</li> <li>● The entire project is designed to involve and integrate the local community in all intended developmental initiatives.</li> </ul>   |
| <p><b>Shankhalipi script</b></p> | <p><b>Context:</b> Recently, Archeologists of Archaeological Survey of India (ASI) have found ‘Shankhalipi’ inscriptions on the stairs on an ancient temple dating back to the Gupta period in Uttar Pradesh’s Etah district.</p> <ul style="list-style-type: none"> <li>● Bilsarh, in Etah-Uttar Pradesh, where the remains were found has been a protected site from the colonial times and is a known Gupta period settlement.</li> </ul> <p><b>Key findings</b></p> <ul style="list-style-type: none"> <li>● The ‘shankhalipi’ inscriptions were deciphered by the archaeologists as saying, ‘<b>Sri Mahendraditya</b>’, the title of <b>Kumaragupta I</b> of the Gupta dynasty.</li> <li>● The discovery becomes significant since only two other structural temples from the Gupta age have been found so far — Dashavatara Temple (Deogarh) and Bhitargaon Temple (Kanpur Dehat).</li> </ul> <p><b>About the Shankhalipi script</b></p> <ul style="list-style-type: none"> <li>● This script is assumed to be Brahmi derivatives that look like conch shells or shankhas.</li> <li>● They are found in inscriptions across North-Central India and date to between the 4th and 8th centuries.</li> <li>● The inscriptions consist of a small number of characters, suggesting that the shell inscriptions are names or auspicious symbols or a combination of the two.</li> <li>● The script was discovered in 1836 on a brass trident in Uttarakhand’s Barahat by English scholar <b>James Prinsep</b>.</li> <li>● Prominent sites with shell inscriptions include the Mundeshwari Temple in Bihar, the Udayagiri Caves in Madhya Pradesh, Mansar in Maharashtra and some of the cave sites of Gujarat and Maharashtra.</li> <li>● The shell inscriptions are also <b>reported in Indonesia’s Java</b> and Borneo.</li> </ul> <p><b>Kumaragupta I of the Gupta dynasty</b></p> <ul style="list-style-type: none"> <li>● The Guptas were the first to build structural temples, distinctly different from the ancient rock-cut temples.</li> <li>● Kumaragupta I was the son of Chandragupta II and grandson of the Great Samudragupta of Gupta dynasty.</li> <li>● He built the world famous ancient Nalanda University.</li> <li>● Among the Gupta kings, he issued the largest varieties of coins.</li> </ul> |

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| <p><b>Ramdhari Singh Dinkar</b></p>                                 | <ul style="list-style-type: none"> <li>• Born at Simariya in Bihar in 1908, Dinkar's poetry was considered inspirational during the freedom struggle</li> <li>• Remerged as a poet of rebellion as a consequence of his nationalist poetry written in the days before Indian independence.</li> <li>• His poetry exuded veer rasa, and he has been hailed as a <b>Rashtrakavi</b> ('national poet') on account of his inspiring patriotic compositions.</li> <li>• To escape the wrath of the government, Dinkar's poems were published under the pseudonym "<b>Amitabh</b>"</li> <li>• Dinkar initially supported the revolutionary movement during the Indian independence struggle, but later became a <b>Gandhian</b>.</li> <li>• Was awarded the <b>Padma Bhushan in 1959</b></li> <li>• His <b>Kurukshetra</b> is a narrative poem based on the Santi Parva of the Mahābhārata.</li> <li>• <b>Krishna Ki Chaetavani</b> is another poem composed about events that led to the Kurukshetra War in the Mahābhārata. His <b>Samdheni</b> is a collection of poems reflecting the poet's social concern transcending the boundaries of the nation.</li> <li>• His <b>Rashmirathi</b> is considered one of the best versions of the Hindu epic Mahābhārata.</li> </ul>   |
| <p><b>Nataji Subhash Chandra Bose's contribution and legacy</b></p> | <p><b>In News:</b> Inauguration of the Digital Exhibition on Life and Contribution of Netaji Subhash Chandra Bose</p> <ul style="list-style-type: none"> <li>• Twice elected President of the Indian National Congress, (1938-Haripur and 1939-Tripuri).</li> <li>• Owing to political differences, he resigned from the Congress Presidentship in 1939 and organised the All India Forward Bloc a faction within the Congress in Bengal.</li> <li>• In Calcutta, Bose organised mass protests and was arrested. He was later put under house arrest from where he escaped.</li> </ul> <p><b>Azad Hind Fauj</b></p> <ul style="list-style-type: none"> <li>• Leader of Azad Hind Government</li> <li>• Head of State of this Provisional Indian Government-in-exile</li> </ul> <p><i>Bose was convinced that armed struggle was the only way to achieve independence for India. He had been a leader of the radical wing of the Indian National Congress in the late 1920s and 1930s, rising to become Congress president in 1938 and 1939 but was ousted following differences with Mahatma Gandhi and the Congress leadership.</i></p> <ul style="list-style-type: none"> <li>• Subhas Chandra Bose had escaped from India in 1941 and gone to Germany to work for India's Independence. In 1943, he came to Singapore to lead the Indian Independence league and rebuild the Indian National Army (Azad Hind Fauj) to make it an effective instrument for the freedom of India.</li> <li>• Netaji went to the Andaman which had been occupied by the Japanese and hoisted there the flag of India. In early 1944, three units of the Azad Hind Fauj (INA) took part in the attack on the north-eastern parts of India to oust the British from India.</li> <li>• The <b>Azad Hind Fauj</b>, with the slogan of 'Delhi Chalo' and the salutation Jai Hind was a source of inspiration to Indians, inside and outside the country. Netaji rallied together the Indians of all religions and regions, living in south-east Asia, for the cause of India's freedom.</li> <li>• A women's regiment of Azad Hind Fauj was formed, which was under the command of Captain Lakshmi Swaminathan. It was called the Rani Jhansi regiment. The Azad Hind Fauj became the symbol of unity and heroism to the people of India.</li> </ul> <p>Bose's death was seen as the end to the Azad Hind movement.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• <b>Netaji Subhas Chandra Bose Dweep:</b> Ross Island of Andaman &amp; Nicobar Island</li> </ul> |

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|                       | <ul style="list-style-type: none"><li>● Birthday of Netaji Subhas Chandra Bose to be celebrated as <b>Parakram Diwas</b></li></ul>   |
| <b>Kathaprasangam</b> | <ul style="list-style-type: none"><li>● Kathaprasangam (lyrical narrative or story telling performance) is a performing art of Kerala, India.</li><li>● It combines speaking, acting, and singing to present a story.</li><li>● Costumes, make-up, or settings are not used.</li><li>● The main artist, the Kaadhikan, tells the story, acts and sings with two or three accompanying instrumentalists.</li><li>● Themes are largely from classical and popular literature.</li><li>● It originated from an earlier art form Harikathakalakshepam.</li></ul> |



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| <p><b>Milky Sea Effect</b></p> <p><b>Context</b> New satellite technology Day/Night Band is being used by scientists to find glow-in-the-dark milky seas of marine lore.</p> | <p><b>About Milky Sea effect</b></p> <ul style="list-style-type: none"> <li>● The Milky Sea effect refers to an unusual marine phenomenon in the ocean in which a large amount of sea water appears to glow brightly (eerie blue glow) at night.</li> <li>● Also called mareel, the milky sea is caused by bioluminescent bacteria, billions of trillions of them, that live throughout the water column from the surface to the sea floor.</li> <li>● Some point out that Mareel is typically caused by Noctiluca scintillans (popularly known as “sea sparkle”), a dinoflagellate that glows when disturbed and is found in oceans throughout much of the world.</li> <li>● Bioluminescent bacteria are light-producing bacteria that are predominantly present in sea water, marine sediments, the surface of decomposing fish and in the gut of marine animals.</li> <li>● Stress, caused by the movement of the sea and waves, leads the plankton to emit light, or bioluminescence as a defence mechanism in a similar way to some fireflies.</li> <li>● Such occurrences glow brightly enough at night to be visible from satellites orbiting Earth.</li> <li>● In 2005, scientists announced that for the first time, they had obtained photographic evidence of this glow.</li> <li>● Between 1915 and 1993, 235 sightings of milky seas were documented, most of which are concentrated in the northwestern Indian Ocean and near Indonesia.</li> <li>● The luminescent glow is concentrated on the surface of the ocean and does not mix evenly throughout the water column.</li> </ul> |
| <p><b>Exercise Zapad 2021 In Russia</b></p>  | <p><b>In News:</b> A 200 personnel contingent of Indian Army will participate in Exercise ZAPAD 2021, a Multi Nation exercise being held at Nizhniy, Russia from 03 to 16 September 2021.</p> <p><b>About Exercise ZAPAD 2021:</b></p> <ul style="list-style-type: none"> <li>● ZAPAD 2021 is one of the <b>theatre levels exercises of Russian Armed Forces</b> and will focus primarily on <b>operations against terrorists</b>.</li> <li>● Over a dozen countries from Eurasian and South Asian Region will participate in this signature event.</li> <li>● The exercise aims to enhance military and strategic ties amongst the participating nations while they plan &amp; execute this exercise.</li> <li>● The Indian Contingent has been put through a strenuous training schedule which encompasses all facets of conventional operations including mechanised, airborne &amp; heliborne, counter terrorism, combat conditioning and firing.</li> <li>● The NAGA Battalion group participating in the exercise will feature an all Arms combined task force.</li> </ul>   |
| <p><b>Blue Straggler</b></p>   | <p><b>Context</b> Blue stragglers are a class of stars on open or globular clusters that stand out as they are bigger and bluer than the rest of the stars.</p> <ul style="list-style-type: none"> <li>● They have intrigued scientists who have for long probed their origin.</li> <li>● Carrying out the first-ever comprehensive analysis of blue stragglers, Indian researchers recently found that half of the blue stragglers in their sample are formed through mass transfer from a close binary companion star.</li> </ul> <p><b>What is Blue Straggler?</b></p> <ul style="list-style-type: none"> <li>● A bunch of stars born at the same time from the same cloud form a star cluster.</li> <li>● As time passes, each star evolves differently depending on its mass.</li> </ul>  |

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|                                     | <ul style="list-style-type: none"> <li>● The most massive and bright stars evolve and move off the main sequence creating a bend in their track, known as the turnoff.</li> <li>● Stars above this bend or brighter and hotter stars are not expected in a cluster, as they leave the main sequence to become red giants.</li> <li>● But in 1953, Allan Sandage found that some stars seem to be hotter than the turnoff of the parent cluster.</li> <li>● Initially, these blue stars, still straggling above the turnoff, were not part of these clusters.</li> <li>● However, later studies confirmed that these stars are indeed cluster members, and they were termed “Blue Stragglers”.</li> </ul> <p><b>Recent findings of the Indian researchers</b></p> <ul style="list-style-type: none"> <li>● The researchers utilised the Gaia telescope launched in 2013 by the European Space Agency with its excellent positional accuracy to select the blue stragglers in clusters</li> <li>● They found that among the clusters they scanned, 228 have a total of 868 blue stragglers.</li> <li>● This is the first-ever comprehensive analysis of blue stragglers.</li> <li>● It showed that these stars are primarily present in the older and massive star clusters.</li> <li>● And due to their large mass, they are segregated towards the centre of the clusters.</li> <li>● The researchers compared the mass of the blue stragglers to the mass of the turnoff stars (which are the most massive ‘normal’ stars in the cluster) and predicted the formation mechanisms.</li> <li>● <b>Significance of the recent findings:</b> The study will help improve understanding of these stellar systems to uncover exciting results in studies of large stellar populations, including galaxies.</li> </ul> |
| <p><b>TB Free India by 2025</b></p> | <p><b>In News:</b></p> <ul style="list-style-type: none"> <li>● Union minister of health and family welfare Shri Mansukh Mandaviya chairs High Level Meet with all States to review Public Health gains against Tuberculosis.</li> </ul> <p><b>Key takeaways from the meet:</b></p> <ul style="list-style-type: none"> <li>● The minister assured that the Union government is open to all suggestions from the States/UTs on Tuberculosis in its mission to fulfil Prime Minister’s dream of a TB Free India by 2025.</li> <li>● He also encouraged the States and UTs to provide suggestions on the Public Health Management of COVID and other programs and initiatives of the Union Health Ministry.</li> <li>● On the threat to the gains made against TB due to COVID-19, he spoke on the ramping up of COVID Vaccination in the recent days and also highlighted the importance of vaccinating all teachers by the 5th of September for which additional doses are being provided to the States.</li> <li>● He encouraged states to ensure that COVID protocols are continued to be followed and no laxity in shown due to improved situation in the country.</li> <li>● He emphasised on encouraging the common people to join us in this mission for eradicating TB. It has to be made a people’s initiative.</li> </ul> <p><b>TB and COVID-19:</b></p> <ul style="list-style-type: none"> <li>● The World Health Organization (WHO) is advising Member States that are leading the response to the unfolding COVID-19 pandemic.</li> <li>● The WHO Global TB Programme, along with WHO regional and country offices, has developed an information note, in collaboration with stakeholders.</li> </ul>   |

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|                     | <ul style="list-style-type: none"> <li>• This note is intended to assist national TB programmes and health personnel to urgently maintain continuity of essential services for people affected with TB during the COVID-19 pandemic, driven by innovative people-centred approaches, as well as maximizing joint support to tackle both diseases.</li> <li>• It is important that the progress made in TB prevention and care is not reversed by the COVID19 pandemic. Finding and treating people with TB remain the fundamental pillars of TB prevention and care and those would require maintained attention.</li> </ul>   |
| <b>DefExpo-2022</b> | <p><b>In News:</b></p> <ul style="list-style-type: none"> <li>• Raksha Mantri Shri Rajnath Singh and Gujarat Chief Minister Shri Vijay Rupani jointly reviewed the preparations of DefExpo-2022, at Kevadia, Gujarat on September 02, 2021.</li> <li>• The 12th edition of DefExpo, which is India’s flagship event showcasing the land, naval, air as well as homeland security systems, will be held in Gandhinagar, Gujarat between March 10-13, 2022.</li> <li>• The Gujarat Government aims to utilise the opportunity to further its aerospace &amp; defence vision and seek foreign investments.</li> <li>• In February 2021, India was the first country to conduct a hybrid aerospace exhibition, Aero India-2021 at Bengaluru, in compliance with strict COVID-19 protocols. The event, under the aegis of Department of Defence Production, Ministry of Defence, had witnessed tremendous global response.</li> </ul> <p><b>DefExpo-2022</b></p> <ul style="list-style-type: none"> <li>• The DefExpo, the premier event in the international aerospace and defence calendar, has witnessed year-on-year growth, both in the quantity and quality of participation.</li> <li>• The aim of DefExpo-2022 is to build upon the vision to achieve ‘Aatmanirbharta’ in defence and reach USD five billion defence exports target by 2024.</li> <li>• The objective is to make India a major destination of land, naval, air &amp; homeland security systems and defence engineering.</li> <li>• Keeping with future warfare in mind, the event aims to recognise the impact of disruptive technologies on conflicts and its consequent impact on the equipment and platforms required.</li> <li>• The DefExpo-2022 will be organised keeping with the COVID-19 protocols and aims to ensure maximum international and domestic participation.</li> <li>• The events planned include Conclave, Hybrid events, live demonstrations &amp; business seminars.</li> </ul> |
| <b>Mu Variant</b>   | <p><b>Context:</b> WHO has classified yet another SARS-CoV-2 variant “B.1.621” as a variant of interest (VOI) and given it the label “Mu”.</p> <p><b>About</b></p> <ul style="list-style-type: none"> <li>• The variant was first identified in Colombia in January, 2021.</li> <li>• The global prevalence of the Mu variant among sequenced cases has declined and is currently below 0.1%. However, prevalence in Colombia (39%) and Ecuador (13%) has consistently increased.</li> <li>• Larger outbreaks were reported from countries in <b>South America and Europe</b>.</li> <li>• Cases have also been reported in the UK, US and Hong Kong.</li> </ul> <p><b>Classes of SARS-CoV-2 variants</b></p> <p><b>Variant of Interest</b></p> <ul style="list-style-type: none"> <li>• A variant with specific genetic markers that have been associated with changes to receptor binding which affect its diagnosis and are expected to cause unique outbreak clusters.</li> <li>• It is known for its predicted increase in transmissibility.</li> </ul>  |



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|                              | <ul style="list-style-type: none"> <li>• It is classified based on factors such as genetic changes that are predicted or known to affect virus characteristics such as transmissibility, disease severity, immune escape etc.</li> <li>• It represents a lower level of concern than a variant of concern (VOC).</li> </ul> <p><b>Variant of Concern</b></p> <ul style="list-style-type: none"> <li>• A variant for which there is evidence of an increase in transmissibility, more severe disease (e.g., increased hospitalizations or deaths).</li> <li>• It is known for its significant reduction in neutralization by antibodies generated during previous infection or vaccination, reduced effectiveness of treatments or vaccines, or diagnostic detection failures.</li> <li>• Example – Alpha, Beta and Delta variants of SARS-CoV-2.</li> </ul>   |
| <p><b>Hansa aircraft</b></p> | <p><b>In News:</b> Hansa New Generation (NG) aircraft successfully make its maiden flight.</p> <p><b>Hansa New Generation (NG) aircraft:</b></p> <ul style="list-style-type: none"> <li>• Hansa New Generation (NG) aircraft is an aircraft designed and developed by CSIR-NAL.</li> <li>• The unique features of Hansa-NG are glass cockpit with cabin comfort, high, efficient digitally controlled engine, electrically-operated flaps, long endurance, low acquisition, and low operating cost.</li> <li>• CSIR-NAL has already identified a private partner and series production will start soon.</li> </ul> <p><b>About NAL</b></p> <ul style="list-style-type: none"> <li>• National Aerospace Laboratories (NAL), is India's first &amp; largest aerospace firm.</li> <li>• It was established by the Council of Scientific and Industrial Research (CSIR) at Delhi in 1959 and its headquarters was later moved to Bangalore in 1960.</li> <li>• It is the only government aerospace R&amp;D laboratory in the country's civilian sector.</li> <li>• The firm closely operates with HAL, DRDO and ISRO and has the prime responsibility of developing civilian aircraft in India.</li> <li>• The CSIR-NAL mandate is to develop aerospace technologies with strong science content, design and build small and medium-sized civil aircraft, and support all national aerospace programmes.</li> </ul> |
| <p><b>Nipah Virus</b></p>    | <p><b>Context:</b> After a gap of over three years, a case of the zoonotic Nipah virus infection was reported in Kerala, with the death of a 12-year-old boy at a private hospital.</p> <p><b>About Nipah Virus</b></p> <ul style="list-style-type: none"> <li>• The first outbreaks of the Nipah virus among humans was reported from Malaysia (1998) and Singapore (1999).</li> <li>• The virus takes its <b>name from the village in Malaysia</b> where the person in whom the virus was first isolated died of the disease.</li> <li>• It is a <b>zoonotic virus</b>, meaning it has been transmitted from animals to human beings.</li> <li>• <b>Fruit bats</b>, commonly known as flying fox, are considered to be a natural reservoir of the virus. Fruit bats are known to transmit this virus to other animals like pigs, and also dogs, cats, goats, horses and sheep.</li> <li>• Humans get infected mainly through direct contact with these animals. The virus can also be passed on <b>through food contaminated</b> by saliva or urine of these infected animals or directly from person-to-person.</li> <li>• Symptoms include <b>acute encephalitis</b> and <b>respiratory illnesses</b>.</li> <li>• The Nipah virus is known to spread far more slowly than SARS-CoV-2. However, it is its ability to kill that is the biggest concern.</li> </ul>  |
| <p><b>Inspiration4</b></p>   | <p><b>Context:</b> SpaceX announced that 'Inspiration4', its first all-civilian, non-governmental spaceflight, is on track for launch on September 15.</p> <p><b>About Inspiration4</b></p>   |

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|  | <ul style="list-style-type: none"> <li>• Inspiration4 is the world’s first <b>all-civilian mission</b> to orbit.</li> <li>• The flight will be <b>privately operated by SpaceX</b> (US Private Space Company) using a previously-flown Crew Dragon capsule launched to low Earth orbit.</li> <li>• Inspiration4 will blast off from NASA's <b>Kennedy Space Center in Florida</b> on September 15.</li> <li>• The mission involves <b>circling the Earth for three days</b>, and then splashing down into the Atlantic Ocean.</li> <li>• Inspiration4 will <b>orbit the Earth at 575km</b>, higher than the International Space Station (408km) and the Hubble space telescope (547km).</li> <li>• This will be the farthest distance travelled by a crewed mission since 2009, when astronauts last went to repair the Hubble.</li> <li>• The mission will raise awareness and funds for St. Jude Children’s Research Hospital in US.</li> </ul> <p><b>Do You Know?</b></p> <ul style="list-style-type: none"> <li>• SpaceX company's <b>Ax-1 mission</b>, also planned for the end of 2021, hosts a crew of four private astronauts paying \$55 million each for an eight-day trip to the ISS.</li> <li>• In 2018, Elon Musk also announced Japanese billionaire Yusaku Maezawa will take a ride <b>around the moon on SpaceX's new rocket system Starship</b>, which is under development.</li> <li>• Falcon 9 is a reusable, two-stage rocket designed and manufactured by SpaceX for the reliable and safe transport of people and payloads into Earth orbit and beyond.</li> </ul> |
| <p><b>SIMBEX</b></p>                             | <p><b>In News:</b> The 28th edition of Singapore-India Maritime Bilateral Exercise (SIMBEX) was conducted from 02 to 04 Sep 21.</p> <p><b>About SIMBEX</b></p> <ul style="list-style-type: none"> <li>• Initiated in 1994</li> <li>• Indian Navy’s longest uninterrupted bilateral maritime exercise with any foreign navy i.e., Singapore</li> </ul> <p><b>Significance of bilateral defence ties between both countries</b></p> <ul style="list-style-type: none"> <li>• Sustained the continuity of this significant engagement despite the challenges of the ongoing pandemic</li> <li>• Despite these constraints during the planning stages, both navies could achieve seamless and safe execution of several challenging evolutions including live weapon firing and advanced naval warfare serials, including anti-submarine, anti-air and anti-surface warfare drills.</li> <li>• The scale and complexity of the drills is ample testimony to the interoperability achieved between both Navies.</li> </ul>  |
| <p><b>e-ILP platform launched in Manipur</b></p> | <p><b>Context</b> Manipur Chief Minister N Biren Singh recently launched electronic Inner Line Permit (ILP) counters</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>• Imphal, Jiribam and Mao Centers have been inaugurated.</li> <li>• Under the portal, a person from outside the state can apply online for ILP and get the permit from issuing centres after onsite verification.</li> <li>• The <b>e-ILP tracking system</b> has been developed to mend the loopholes in the procedures adopted to issue the permit and its tracking system.</li> <li>• It has a <b>comprehensive dashboard system</b> that would actively show information such as number of people entering the state on a particular date and time and graphical break-up based presentation of people visiting through different entry gates.</li> <li>• The system is also enabled with automated generation of a defaulted list of people who have overstayed beyond the permitted number of days as per the permit.</li> </ul>   |

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|   | <ul style="list-style-type: none"> <li>● The ILP system came into effect in Manipur on January 1, 2020.</li> </ul> <p><b>What is Inner Line Permit system?</b></p> <ul style="list-style-type: none"> <li>● ILP is an official travel document issued to allow inward travel of an Indian citizen into a protected area for a limited period.</li> <li>● It is obligatory for Indian citizens from outside those states to obtain a permit for entering into the protected state.</li> <li>● Currently, Protected Areas are located in the following States: <ul style="list-style-type: none"> <li>○ Whole of Arunachal Pradesh</li> <li>○ Parts of Himachal Pradesh</li> <li>○ Parts of Jammu &amp; Kashmir</li> <li>○ Whole of Manipur</li> <li>○ Whole of Mizoram</li> <li>○ Whole of Nagaland</li> <li>○ Parts of Rajasthan</li> <li>○ Whole of Sikkim (partly in Protected Area and partly in Restricted Area)</li> <li>○ Parts of Uttarakhand</li> </ul> </li> <li>● Any person is entitled to renew his permit every six months if he is not a native in these states despite the fact that he/she is a long-term resident.</li> <li>● It also regulates the movement to certain areas located near the international borders of India.</li> <li>● It is issued by the concerned states coming under the protection of ILP.</li> </ul>   |
| <p><b>AUSINDEX</b></p>                                      | <p><b>In News: Indian Navy Task Group is participating in the 4th edition of AUSINDEX by Royal Australian Navy (RAN).</b></p> <p><b>About AUSINDEX</b></p> <ul style="list-style-type: none"> <li>● Commenced in 2015 as a bilateral IN-RAN maritime exercise, AUSINDEX has grown in complexity over the years <ul style="list-style-type: none"> <li>○ The 3rd edition of the exercise, held in 2019 in the Bay of Bengal, included anti-submarine drills for the first time.</li> </ul> </li> <li>● The exercise will provide an opportunity for both Navies to <b>further bolster interoperability, gain from best practices</b> and develop a common understanding of procedures for Maritime Security Operations.</li> <li>● The conduct of this exercise despite COVID restrictions is also a testimony of existing <b>synergy between the participating Navies.</b></li> <li>● This exercise is aligned with the '2020 Comprehensive Strategic Partnership' between the two nations and aims to further consolidate shared commitment to regional and global security challenges promoting peace, security and stability in the Indo-Pacific region.</li> <li>● This edition of AUSINDEX includes complex surface, sub-surface and air operations between ships, submarines, helicopters and Long Range Maritime Patrol Aircraft of the participating Navies.</li> <li>● The participating Indian Naval Ships Shivalik and Kadmatt are the latest indigenously designed and built Guided Missile Stealth Frigate and Anti-Submarine Corvette respectively.</li> </ul> |
| <p><b>Poshan Vatika for alleviation of malnutrition</b></p> | <p><b>In News: The Ministry of Ayush and Ministry of Women and Child Development jointly organised a webinar on the importance of 'Poshan Vatika' (Nutri Garden) for alleviation of malnutrition.</b></p> <p><b>About POSHAN Vatika</b></p> <ul style="list-style-type: none"> <li>● Rural areas have ample space and establishing a Nutri garden/Poshan Vatikas is far simpler as farm families are involved in agriculture.</li> <li>● Plantation of nutritional and herbal trees under PoshanVatika would reduce external dependency and make communities Atmanirbhar for their nutritional security.</li> </ul>  |

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|                                       | <ul style="list-style-type: none"> <li>• The Ministry of Ayush will collaborate with 3,000 Aanganwadis to take forward the campaign of establishing Nutri Garden and will also decide the nutritional and herbal trees that will be planted there.</li> <li>• Plants such as Moringa, Guava, Banana and Tulsi are great candidates to plant in a Poshan Vatika as they deal with problems of malnutrition in women and children.</li> </ul> <p><b>Significance of Poshan Vatika</b></p> <ul style="list-style-type: none"> <li>• <b>Poshan Abhiyaan</b> aims to encourage convergence among various Ministries to tackle the problem of malnutrition. Aanganwaadi covers 50% of the people who are poor and don't get proper nutrition while Poshan Abhiyaan covers the other 50% who might not be poor but need information about proper nutrition</li> <li>• Can play an important role in enhancing dietary diversity by providing micronutrients through constant supply of fruits and vegetables sufficient to meet the family's requirements, which can prove to be a sustainable model for providing food security and diversity to combat malnutrition at the household or community level.</li> </ul>  |
| <p><b>C-295 aircraft deal</b></p>     | <p><b>Context</b> The Cabinet Committee on Security approved the procurement of 56 C-295 MW transport aircraft from M/s Airbus Defence and Space S.A., Spain, giving a big boost to the Indian Air Force.</p> <ul style="list-style-type: none"> <li>• This is the first project of its kind in which a military aircraft will be manufactured in India under technology transfer by a private company and is expected to cost close to \$3billion.</li> </ul> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>• The C-295MW transport aircraft is a transport carrier that has a 5-10 tonne capacity with a rear ramp door for quick reaction and para-dropping of troops and cargo.</li> <li>• The transport aircraft will gradually replace the ageing Avro fleet of the IAF. The IAF has 56 Avros procured in the 1960s and they are in urgent need of replacement.</li> <li>• All 56 aircraft will be installed with indigenous Electronic Warfare Suite.</li> <li>• The project will give a boost to the aerospace ecosystem in India wherein several MSMEs spread over the country will be involved in manufacturing of parts of the aircraft.</li> <li>• The programme is in line with the "Atmanirbhar Bharat" and will augment domestic aviation manufacturing resulting in reduced import dependence and expected increase in exports.</li> <li>• The programme will also lead to employment generation in the aerospace ecosystem</li> </ul> |
| <p><b>NATGRID to go live soon</b></p> | <p><b>Context</b> The Indian Prime Minister is soon expected to launch the National Intelligence Grid or NATGRID that aims to provide a "cutting-edge technology to enhance India's counter-terror capabilities".</p> <ul style="list-style-type: none"> <li>• The final "synchronisation and testing" of the ambitious electronic database is being carried out so that it can go live.</li> </ul> <p><b>What is NATGRID?</b></p> <ul style="list-style-type: none"> <li>• NATGRID is an online database for collating scattered pieces of information from more than 20 organisations in the field of telecom, tax records, bank, immigration, etc. to enable the generation of intelligence inputs.</li> <li>• NATGRID is a post Mumbai 26/11 attack measure.</li> <li>• It aims to mitigate a vital deficiency — lack of real time information, which was considered to be one of the major hurdles in detecting US terror suspect David Headley's movement across the country during his multiple visits between 2006 and 2009.</li> <li>• NATGRID will utilise technologies like Big Data and analytics to study and analyse the data from various intelligence and enforcement agencies</li> <li>• At least 10 central agencies like IB, R&amp;AW and others will have access to the data for counter-terror investigations.</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>● It will also have access to the Crime and Criminal Tracking Network and Systems, including FIRs, across 14,000 police stations in India.</li> <li>● Unlike the NCTC or the NIA which are central agencies, the NATGRID is essentially a tool that enables security agencies to locate and obtain relevant information on terror suspects from pooled data sets of various organizations and services in the country.</li> <li>● It will help identify, capture and prosecute terrorists and help preempt terror plots. <ul style="list-style-type: none"> <li>○ The National Investigation Agency (NIA) and the National Counter Terrorism Centre (NCTC) are two organisations established in the aftermath of the Mumbai attacks of 2008.</li> </ul> </li> <li>● The data recovery centre for NATGRID is at Bengaluru</li> </ul> <p><b>Do you know?</b></p> <ul style="list-style-type: none"> <li>● NATGRID is exempted from the Right to Information Act, 2005 under sub-section (2) of Section 24.</li> <li>● The project was supposed to go live by December 31 2020 but was postponed due to COVID-19</li> </ul>   |
| <p><b>Findings of Chandrayaan-2</b></p>      | <p><b>Context</b> The Orbiter and other instruments of Chandrayaan-2 mission have, in two years, gathered a wealth of new information that has added to our knowledge about the Moon and its environment.</p> <p><b>What happened to Chandrayaan-2?</b></p> <ul style="list-style-type: none"> <li>● Chandrayaan-2, India's second mission to the Moon, had failed to make a soft-landing on the lunar surface.</li> <li>● The lander and rover malfunctioned in the final moments and crash-landed, getting destroyed in the process.</li> </ul> <p><b>Why is this mission still relevant?</b></p> <ul style="list-style-type: none"> <li>● Despite the failure, the mission's orbiter and other parts have been functioning normally, gathering information.</li> <li>● Recently, the ISRO released the information gathered by the scientific payloads till now, some of which were still to be analysed and assessed.</li> </ul> <p><b>Key information gathered from Chandrayaan-2</b></p> <ul style="list-style-type: none"> <li>● <b>Presence of water molecules on moon</b> which is the most precise information about water till date.</li> <li>● <b>Presence of Minor elements:</b> Chromium, manganese and Sodium have been detected for the first time through remote sensing.</li> <li>● <b>Information about solar flares:</b> 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.</li> </ul> <p><b>More about the Chandrayaan-2 Mission</b></p> <ul style="list-style-type: none"> <li>● Scientists used the Solar X-ray Monitor (XSM) onboard Chandrayaan-2 in September 2019 to study the Sun.</li> <li>● <b>Primary objective of Chandrayaan 2:</b> To demonstrate the ability to soft-land on the lunar surface and operate a robotic rover on the surface.</li> <li>● The mission consisted of an Orbiter of the Moon, Vikram (after Vikram Sarabhai) – the lander and Pragyan (wisdom) – the rover, all equipped with scientific instruments to study the moon.</li> </ul> |
| <p><b>Saline Gargle RT-PCR technique</b></p> | <p><b>In News:</b> In a notable step forward in India's fight against COVID-19, Nagpur-based National Environmental Engineering Research Institute (NEERI) has transferred the know-how of indigenously developed Saline Gargle RT-PCR technique, used for testing COVID-19 samples.</p> <ul style="list-style-type: none"> <li>● The Saline Gargle RT-PCR technology is simple, fast, cost-effective, patient-friendly and comfortable</li> <li>● It also provides instant test results and is well-suited for rural and tribal areas, given minimal infrastructure requirements.</li> </ul>   |

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|   | <ul style="list-style-type: none"> <li>The transfer of knowhow would enable the innovation to be commercialized and licensed to all capable parties, including private, government and various rural development schemes and departments. This will lead to commercial production in the form of easily usable compact kits in the light of the prevailing pandemic situation and probable third wave of COVID-19.</li> </ul>  |
| <p><b>India–Africa Defence Dialogue</b></p> | <p><b>In News:</b> India has proposed to institutionalise the India Africa Defence Dialogue during successive DefExpos to be held once every two years.</p> <ul style="list-style-type: none"> <li>Institutionalisation of the India Africa Defence Dialogue will help building on the existing partnerships between African countries &amp; India and to explore new areas of convergence for mutual engagements including areas like capacity building, training, cyber security, maritime security and counter terrorism.</li> <li>Manohar Parrikar Institute for Defence Studies and Analyses to be knowledge partner</li> <li>Raksha Mantri to host Defence Ministers of African nations in next India–Africa Defence Dialogue on sidelines of DefExpo 2022</li> <li><b>Background:</b> India and Africa share a close and historical relationship. The foundation of India–Africa defence relations are based on the two guiding principles namely ‘SAGAR’, Security and Growth for All in the Region’ and ‘Vasudhaiva Kutumbakam’, The World is One Family.</li> <li><b>Note: ‘Lucknow Declaration’:</b> A Joint Declaration between India and Africa was adopted after conclusion of first-ever India Africa Defence Ministers Conclave (IADMC)</li> </ul> |
| <p><b>PEACEFUL mission, 2021</b></p>        | <p><b>Context:</b> Indian Military Contingent Participated in the Exercise SCO Peaceful Mission 2021 recently.</p> <p><b>About Peaceful mission</b></p> <ul style="list-style-type: none"> <li>Joint Counter Terrorism Exercise PEACEFUL MISSION is a Multilateral Exercise, which is conducted biennially as part of military diplomacy between Shanghai Cooperation Organisation’s (SCO) member states.</li> <li>It is the 6th edition of Exercise PEACEFUL MISSION.</li> <li><b>Hosted by:</b> Russia in the Orenburg Region of South West Russia</li> <li><b>Aim of the exercise</b> is to foster close relations between SCO member states and to enhance abilities of the military leaders to command multi-national military contingents.</li> <li>The Indian contingent was inducted to the exercise area by two IL-76 aircrafts.</li> <li>The scope of the exercise includes professional interaction, mutual understanding of drills &amp; procedures, establishment of joint command &amp; control structures and elimination of terrorist threats.</li> </ul>  |
| <p><b>REX MKII</b></p>                      | <p><b>Context</b> Recently Israel Aerospace Industries (IAI) has unveiled a remote-controlled armed robot REX MKII.</p> <p><b>About REX MKII</b></p> <ul style="list-style-type: none"> <li>The army robot is capable of patrolling battle zones, tracking infiltrators, and opening fire on enemy targets.</li> <li>It is operated by an electronic tablet and can be equipped with two machine guns, cameras and sensors.</li> <li>It shall provide logistical assistance to troops by carrying ammunition supplies, critical medical equipment, water, and food, as well as evacuating injured personnel on stretchers.</li> <li>The system can also gather intelligence through a situation-awareness system</li> <li>The unmanned vehicle is the latest addition to the world of drone technology, which is rapidly reshaping the modern battlefield.</li> <li>These semi-autonomous machines allow armies to protect their soldiers, while critics fear this marks another dangerous step toward robots making life-or-death decisions.</li> </ul>   |

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| <p><b>Helina Missile</b></p>                    | <p><b>Context</b> The helicopter-launched Nag Anti-Tank Guided Missile (ATGM), Helina, being developed indigenously, has completed all trials.</p> <p><b>About Helina</b></p> <ul style="list-style-type: none"> <li>● Helina is a third-generation, Lock on Before Launch (LOBL) fire and forget class anti-tank guided missile (ATGM) system.</li> <li>● It has all- weather day and night operational capabilities.</li> <li>● It can defeat battle tanks with conventional and explosive reactive armour (ERA).</li> <li>● It can engage targets both in direct hit mode as well as top attack mode.</li> </ul> <p><b>About Nag Missile</b></p> <ul style="list-style-type: none"> <li>● Nag is a third-generation, fire-and-forget, anti-tank guided missile developed by DRDO to support both mechanized infantry and airborne forces of the Indian Army.</li> <li>● It is an all-weather condition with day and night capabilities and with a minimum range of 500m and a <b>maximum range of 4 km</b>.</li> <li>● Nag can be <b>launched from land and air-based platforms</b>. The land version is currently available for integration on the Nag missile carrier (NAMICA).</li> <li>● DRDO has developed nag Missiles under the Integrated Guided Missile Development Program. The five missiles (P-A-T-N-A) developed under this program are: <ul style="list-style-type: none"> <li>○ <b>Prithvi</b>: Short-range surface to surface ballistic missile.</li> <li>○ <b>Agni</b>: Ballistic missiles with different ranges, i.e., Agni (I, II, III, IV, V).</li> <li>○ <b>Trishul</b>: Short-range low-level surface to air missile.</li> <li>○ <b>Nag</b>: 3rd generation anti-tank missile.</li> <li>○ <b>Akash</b>: Medium range surface to air missile.</li> </ul> </li> </ul> |
| <p><b>New Study on Ninth Planet</b></p>         | <p><b>Part of:</b> Prelims and GS III - Awareness in space</p> <p><b>Context:</b> In the continued search for the hypothetical ninth planet in our Solar System, Michael Brown, the astronomer who led the demotion of Pluto to a dwarf planet in 2006, has co-written a new study that claims to have narrowed the region the potential new planet could be located.</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● The study proposes "Planet Nine" exists beyond Neptune and is six times the mass of Earth.</li> <li>● The new study also includes a "treasure map" of the planet's likely orbit that the scientists said lasts around 7,400 Earth years and is closer to the Sun than the 2016 study found.</li> <li>● A closer orbit to the Sun would make the planet brighter and easier to see.</li> <li>● Planet Nine would probably be a cold gas giant like Neptune, the farthest known planet in a Solar System from the Sun.</li> <li>● Neptune has a nonsolid surface made up mostly of hydrogen, helium, and methane, according to NASA.</li> </ul>   |
| <p><b>COVID-19 vaccine export to resume</b></p> | <p><b>Context</b> India will resume the export of COVID-19 vaccines under its 'Vaccine Maitri' programme to fulfil the commitment towards COVAX (COVID-19 Vaccines Global Access).</p> <p><b>What is COVAX (COVID-19 Vaccines Global Access)?</b></p> <ul style="list-style-type: none"> <li>● The COVAX program is led by the vaccine alliance GAVI, WHO and the Coalition for Epidemic Preparedness Innovations (CEPI) in partnership with UNICEF, vaccine manufacturers and the World Bank, among others.</li> <li>● Aim: To ensure equitable distribution of COVID-19 vaccines globally</li> <li>● It is supposed to be the largest vaccine procurement and supply operation in history.</li> <li>● The program wants to vaccinate roughly 20 percent of the population in the 92 Advance Market Commitment (AMC) countries, which include middle and lower-income nations that cannot afford to pay for COVID-19 vaccines.</li> </ul>   |

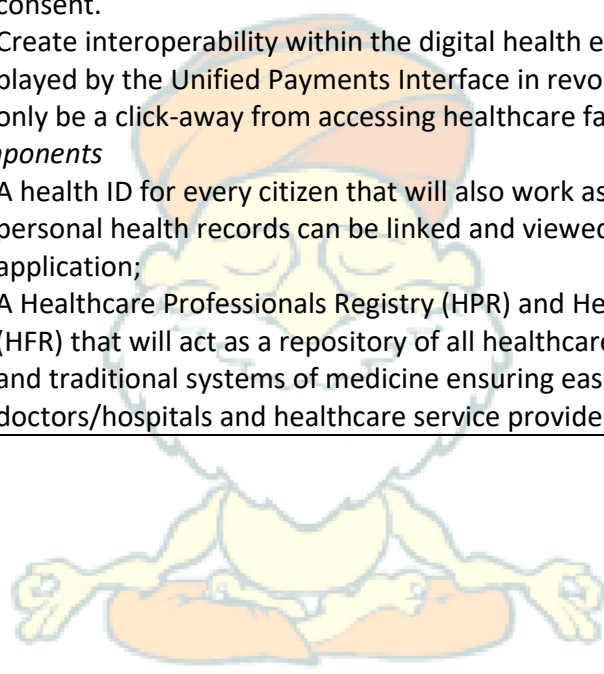
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|                                     | <ul style="list-style-type: none"> <li>● Countries with a Gross National Income (GNI) per capita of less than US \$4000 and some other countries eligible under the World Bank International Development Association (IDA) shall be given top priority.</li> </ul> <p><b>What is Gavi, the Vaccine Alliance?</b></p> <ul style="list-style-type: none"> <li>● It was Created in 2000.</li> <li>● Gavi is an international organisation - a global Vaccine Alliance, bringing together public and private sectors with the shared goal of creating equal access to new and underused vaccines for children living in the world's poorest countries.</li> <li>● Its core partners include the WHO, UNICEF, the World Bank and the Bill &amp; Melinda Gates Foundation.</li> </ul>   |
| <b>EXERCISE 'SAMUDRA SHAKTI'</b>    | <p><b>In News:</b> Indian Navy and Indonesian Navy Participate in Exercise 'Samudra Shakti'.</p> <ul style="list-style-type: none"> <li>● To strengthen the bilateral relationship</li> <li>● Enhance mutual understanding and interoperability in maritime operations between the two navies</li> <li>● Provide an appropriate platform to share best practices and develop a common understanding of Maritime Security Operations.</li> </ul> <p><b>Note: Sunda Strait-</b> the strait between the Indonesian islands of Java and Sumatra. It connects the Java Sea to the Indian Ocean.</p>  |
| <b>EXERCISE SURYA KIRAN</b>         | <p><b>In News:</b> Indo-Nepal Joint Military Training Exercise Surya Kiran begins at Pithoragarh (UK)</p> <p>An Infantry Battalion each from the Indian Army and the Nepali Army will be training together to develop inter-operability and share their experience of counter terrorism operations and disaster relief operations.</p>  |
| <b>Global Innovation Index 2021</b> | <ul style="list-style-type: none"> <li>● India has climbed 2 spots and has been ranked <b>46th</b> by the <b>World Intellectual Property Organization</b> in the Global Innovation Index 2021 rankings.</li> <li>● India has been on a rising trajectory, over the past several years in the Global Innovation Index (GII), from a rank of 81 in 2015 to 46 in 2021.</li> </ul> <p><b>Global Innovation Index (GII):</b></p> <ul style="list-style-type: none"> <li>● The GI provides new data and analysis on the state of global innovation, and allows readers and policy-makers to benchmark the innovation ecosystem performance of more than 130 economies.</li> <li>● This year, a novel new feature, the <i>Global Innovation Tracker</i>, gives a snapshot on the pulse of global innovation, including throughout the Covid-19 pandemic. As the effects of the COVID-19 pandemic continue to be felt around the world, the 2021 GI assesses the impact of the crisis on global innovation performance.</li> </ul>   |
| <b>Dark energy</b>                  | <p><b>Context</b> Recently, an international team of researchers made the first recognized direct detection of dark energy.</p> <p><b>XENON1T experiment and key findings-</b></p> <ul style="list-style-type: none"> <li>● The XENON1T experiment is the world's most sensitive dark matter experiment and was operated deep underground at the INFN Laboratori Nazionali del Gran Sasso in Italy.</li> <li>● The finding also suggests that experiments like XENON1T, which are designed to detect dark matter, could also be used to detect dark energy.</li> </ul> <p><b>What is Dark energy?</b></p> <ul style="list-style-type: none"> <li>● Dark energy is an unknown form of energy that affects the universe on the largest scales.</li> <li>● The first observational evidence for its existence came from measurements of supernovae, which showed that the universe does not expand at a constant rate and rather, the expansion of the universe is accelerating.</li> </ul> <p><b>What is dark matter?</b></p> <ul style="list-style-type: none"> <li>● First, it is dark, meaning that it is not in the form of stars and planets that we see.</li> </ul> |



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|   | <ul style="list-style-type: none"> <li>• Observations show that there is far too little visible matter in the universe to make up the 27% required by the observations.</li> <li>• Second, it is not in the form of dark clouds of normal matter, matter made up of particles called baryons.</li> <li>• Third, dark matter is not antimatter, because we do not see the unique gamma rays that are produced when antimatter annihilates with matter.</li> </ul> <p><b>Are Both Dark matter and Dark energy the same?</b></p> <ul style="list-style-type: none"> <li>• About 27% of the universe is dark matter and 68% is dark energy.</li> <li>• While dark matter attracts and holds galaxies together, dark energy repels and causes the expansion of the universe.</li> <li>• Despite both components being invisible, we know a lot more about dark matter, since its existence was suggested as early as the 1920s, while dark energy wasn't discovered until 1998.</li> </ul>   |
| <p><b>Indo-US Health Dialogue 2021</b></p>      | <p><b>In News:</b> The two-day Dialogue will be leveraged as a platform to deliberate upon multiple ongoing collaborations in the health sector between the two countries.</p> <ul style="list-style-type: none"> <li>• The issues planned for deliberations in this round also encompass areas of concern pertaining to strengthening of epidemiological research and surveillance, vaccine development, One Health, zoonotic and vector-borne diseases, health systems and health policies etc.</li> <li>• An MoU between the Ministry of Health and Family Welfare of the Republic of India and the Department of Health and Human Services of the United States of America, in the field of health sector has been finalized, with major areas of cooperation covering issues like Health Safety and Security; Communicable Diseases &amp; Non-Communicable Diseases; Health Systems; and Health Policy.</li> <li>• There is a need to focus on these emerging areas to prevent and control infectious diseases relying on well-designed and validated scientific approaches and collaboration between countries to aid in advance scientific discovery and management of global health threats.</li> <li>• Public and private sector should work together and combine its strengths in fighting the inequities of the health systems through innovations.</li> </ul> |
| <p><b>Defence Acquisition Council (DAC)</b></p> | <p><b>Context</b> The Defence Acquisition Council (DAC), chaired by Defence Minister accorded approval to capital acquisition proposals of the three Services estimated at approximately Rs. 13,165 crore.</p> <ul style="list-style-type: none"> <li>• The key proposals include helicopters, guided munitions and rocket ammunition.</li> </ul> <p><b>What is Defence Acquisition Council?</b></p> <ul style="list-style-type: none"> <li>• The Defence Acquisition Council (DAC) is the highest decision-making body in the Defence Ministry for deciding on new policies and capital acquisitions for the three services (Army, Navy and Air Force) and the Indian Coast Guard.</li> <li>• The Minister of Defence is the Chairman of the Council.</li> <li>• It was formed, after the Group of Ministers recommendations on 'Reforming the National Security System', in 2001, post Kargil War (1999).</li> </ul>  |
| <p><b>Hypersonic missile</b></p>                | <p><b>Context</b> North Korea has successfully tested a new hypersonic glide missile.</p> <p><b>What is a hypersonic missile?</b></p> <ul style="list-style-type: none"> <li>• Hypersonics are defined as being able to travel at velocities of at least five times the speed of sound -- Mach 5, or more than 6,100 kilometres (3,800 miles) per hour.</li> <li>• They can also manoeuvre in mid-flight, making them much harder to track and intercept than traditional projectiles.</li> <li>• By cutting flight times, they also reduce the opportunity to respond.</li> <li>• Depending on the design, they can be capable of carrying nuclear warheads or conventional only, and have the potential to alter the strategic balance.</li> </ul> <p><b>Which countries possess them?</b></p>  |

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|   | <ul style="list-style-type: none"> <li>● Russia, USA and China</li> <li>● Russia is generally seen as the world leader in technology so far, developing a range of new hypersonic weapons that</li> <li>● In July it successfully tested the <b>Zircon</b>, a ship-launched hypersonic missile travelling at seven times the speed of sound.</li> <li>● It already has <b>Avangard</b> hypersonic glide vehicles and the air-launched <b>Kinzhal</b> (Dagger) missiles in its arsenal.</li> </ul>  |
| <p><b>Nipah antibodies found in bat samples in Kerala</b></p>   | <p><b>Context</b> Nipah virus antibodies (IgG antibodies) were detected in bat samples collected by the National Institute of Virology (NIV), Pune, from Kodyathoor and Thamarassery in Kozhikode district (Kerala) near the panchayat where a Nipah infection was confirmed last month.</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>● A sample belonging to the Pteropus species, collected from Thamarassery, was found to have Nipah antibodies, while the same was detected in another sample from the Rousettus species collected from Kodyathoor.</li> <li>● Given the current evidence, it would be logical to conclude that the Nipah outbreak in Kozhikode did originate from bats, even though the route of virus transmission from bats to humans is still unknown.</li> <li>● Meanwhile, the State is past the 21-day incubation period since the lone case of Nipah was reported at Kozhikode on September 4, during which time there were no fresh cases.</li> <li>● If no more cases of Nipah surface in another 21 days' time, it would be safe to declare that the outbreak has been completely brought under control.</li> </ul> <p><b>What is Nipah?</b></p> <ul style="list-style-type: none"> <li>● It is a zoonotic virus, meaning it has been transmitted from animals to human beings.</li> <li>● Fruit bats, commonly known as flying fox, are considered to be a natural reservoir of the virus.</li> <li>● <b>Transmission:</b> Humans get infected mainly through direct contact with these animals. The virus can also be passed on through food contaminated by saliva or urine of these infected animals or directly from person-to-person.</li> <li>● <b>Symptoms</b> include acute encephalitis and respiratory illnesses.</li> <li>● The Nipah virus is known to spread far more slowly than SARS-CoV-2. However, it is its ability to kill that is the biggest concern.</li> </ul> |
| <p><b>Probe shows use of toxic material in firecrackers</b></p> | <p><b>Context</b> The Supreme Court said a preliminary enquiry by the CBI into the firecracker industry, including in Tamil Nadu, revealed rampant violation of its ban on use of toxic ingredients like barium and its salts.</p> <p><b>Background</b></p> <ul style="list-style-type: none"> <li>● In an order in March 2020, the court ordered the CBI Joint Director in Chennai to conduct a "detailed" probe .</li> <li>● The CBI was directed to examine the allegations of violation of the court ban in 2018.</li> </ul> <p><b>Key findings of the probe</b></p> <ul style="list-style-type: none"> <li>● A chemical analysis of the samples of finished and semi-finished firecrackers and raw materials taken from the manufacturers showed barium content.</li> <li>● The court stated that loose quantities of barium were purchased from the market.</li> <li>● Firecracker covers did not show the manufacture or expiry dates.</li> </ul> <p><b>What is barium?</b></p> <ul style="list-style-type: none"> <li>● Barium is a chemical element having atomic number 56.</li> <li>● It is a soft, silvery alkaline earth metal.</li> <li>● Because of its high chemical reactivity, barium is never found in nature as a free element.</li> <li>● <b>Applications:</b></li> </ul>   |

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|   | <ul style="list-style-type: none"> <li>○ As a component of high-temperature superconductors and electroceramics</li> <li>○ Added to steel and cast iron to reduce the size of carbon grains</li> <li>○ Added to fireworks to impart a green color.</li> <li>○ As X-ray radiocontrast agents for imaging the human gastrointestinal tract.</li> <li>○ As rodenticides.</li> </ul> <ul style="list-style-type: none"> <li>● <b>Harmful effects:</b> <ul style="list-style-type: none"> <li>○ Soluble barium compounds are poisonous.</li> <li>○ In higher doses, they affect the nervous system, causing cardiac irregularities, tremors, weakness, anxiety, etc.</li> </ul> </li> </ul> <p>However, Barium is not carcinogenic and does not bioaccumulate.</p>  |
| <p><b>Ayushman Bharat Digital Mission</b></p> | <p><b>Context:</b> Pradhan Mantri Digital Health Mission has been launched.</p> <ul style="list-style-type: none"> <li>• Will create a seamless online platform through the provision of a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems while ensuring the security, confidentiality and privacy of health-related personal information.</li> <li>• Enable access and exchange of longitudinal health records of citizens with their consent.</li> <li>• Create interoperability within the digital health ecosystem, similar to the role played by the Unified Payments Interface in revolutionizing payments. Citizens will only be a click-away from accessing healthcare facilities.</li> </ul> <p><i>Key components</i></p> <ul style="list-style-type: none"> <li>• A health ID for every citizen that will also work as their health account, to which personal health records can be linked and viewed with the help of a mobile application;</li> <li>• A Healthcare Professionals Registry (HPR) and Healthcare Facilities Registries (HFR) that will act as a repository of all healthcare providers across both modern and traditional systems of medicine ensuring ease of doing business for doctors/hospitals and healthcare service providers.</li> </ul> |



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| <p><b>ILO</b></p>                             | <p><b>Context</b> In a report on the state of social protection globally, the UN’s International Labour Organization said that 4.1 billion people were living without any social safety net of any kind</p> <ul style="list-style-type: none"> <li>● Over half of all people in the world have no social protections,</li> <li>● Social protection includes access to health care and income security measures related especially to old age, unemployment, sickness, disability, work injury, maternity or the loss of the main breadwinner in a family, as well as extra support for families with children.</li> <li>● In 2020, only 46.9% of the global population benefitted from at least one such protection, according to the report</li> </ul> <p><b>About International Labour Organization</b></p> <ul style="list-style-type: none"> <li>● It is the only tripartite U.N. agency.             <ul style="list-style-type: none"> <li>○ Tripartite principle means The negotiations within the organization are held between the representatives of governments, trade unions, and member-states’ employers.</li> </ul> </li> <li>● It brings together governments, employers and workers of 187 member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men.</li> <li>● Established in 1919 by the Treaty of Versailles as an affiliated agency of the League of Nations.</li> <li>● Became the first affiliated specialized agency of the United Nations in 1946.</li> <li>● <b>Headquarters:</b> Geneva, Switzerland</li> <li>● <b>Founding Mission:</b> social justice is essential to universal and lasting peace.</li> <li>● Promotes internationally recognized human and labour rights.</li> </ul>                |
| <p><b>Logistics agreement with Russia</b></p> | <p><b>Context:</b> India is all set to conclude the bilateral logistics agreement with Russia soon while the agreement with the U.K. is in the final stages of conclusion.</p> <p><b>Key Takeaways</b></p> <ul style="list-style-type: none"> <li>● The Reciprocal Exchange of Logistics Agreement (RELOS) is likely to be signed by India next two months</li> <li>● The agreement is an administrative arrangements facilitating access to military facilities for exchange of fuel and provisions on mutual agreement</li> <li>● This cooperation simplifies logistical support and increases operational turnaround of the military when operating away from India.</li> <li>● India has signed similar logistics agreements with all Quad countries, France, Singapore and South Korea beginning with LEMOA with the U.S in 2016.</li> </ul> <p><b>About LEMOA: The Logistics Exchange Memorandum of Agreement</b></p> <ul style="list-style-type: none"> <li>● It was signed between India and the US in August 2016.</li> <li>● It allows the military of each country to <b>replenish from the other’s bases:</b> access supplies, spare parts and services from the other country’s land facilities, air bases, and ports, which can then be reimbursed.</li> <li>● This is extremely <b>useful for Navy-to-Navy cooperation</b>, since the US and India are cooperating closely in the Indo-Pacific.</li> <li>● To put this simple words, it is like going to a friend’s garage and workshop to refuel one’s car and getting repairs done. But, by doing this, one is also exposing one’s car and technology to the friend, and that requires trust.</li> <li>● If signing LEMOA needed trust, its application enhances the trust. It took almost a decade to negotiate LEMOA.</li> </ul> |

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| <p><b>CSCs and Passport Services</b></p>        | <p><b>Context</b> The Common Services Centres (CSC) has received approvals to manage and operate Passport Seva Kendra kiosks in rural areas.</p> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>• The village-level entrepreneurs (VLEs), who operate the CSCs, will be entrusted with collecting documents, photographs and other details necessary for the passport process as well as the initial non-police verification.</li> <li>• A nominal fee of up to Rs 100 could be charged for the same.</li> <li>• The pilot for the programme was launched at a few CSCs in Haryana and Uttar Pradesh.</li> <li>• Full-fledged services will be rolled out nationwide soon</li> </ul> <p><b>What is CSC?</b></p> <ul style="list-style-type: none"> <li>• The CSC is a special purpose vehicle of the Ministry of Electronics and Information Technology (MeitY).</li> <li>• CSCs are physical facilities for delivering Government of India e-Services to rural and remote locations where availability of computers and Internet was negligible or mostly absent.</li> <li>• They are multiple-services-single-point models for providing facilities for multiple transactions at a single geographical location.</li> <li>• <b>Current function of CSCs</b> <ul style="list-style-type: none"> <li>○ At present, CSCs are allowed only to fill and upload application forms for others, pay an applicable fee on an applicant's behalf, and schedule an appointment for them.</li> </ul> </li> <li>• It has over the past three years tied up with partners, both in the public and private sector, across domains by leveraging their presence across the country.</li> <li>• They have done tie-ups with domestic and multinational corporations as well such as Tata, PepsiCo, Unibic foods, etc.</li> <li>• During lockdown, VLEs also opened up Grameen e-store for easy delivery of essential and non-essential items in villages, gram panchayats and other rural areas.</li> </ul> |
| <p><b>UAE's Green Visa</b></p>                  | <p><b>Context</b> The United Arab Emirates has announced a new class of visas intended to ease the restrictions faced by foreigners in pursuing employment opportunities in the country, referred to as "green visa".</p> <p><b>Key features of the new visa</b></p> <ul style="list-style-type: none"> <li>• Under the green visa, foreigners will be allowed to work in the UAE without being sponsored by an employer.</li> <li>• The green visa will enable visa holders to sponsor their parents.</li> <li>• It will increase the cap on the age of children who can be sponsored by the holder from 18 to 25.</li> <li>• The program will also allow the holder a grace period of up to three months to look for a new job if they lose their old one.</li> </ul>  |
| <p><b>India, Australia to hold 2+2 meet</b></p> | <p><b>Context</b> India and Australia will hold the inaugural '2+2' Ministerial meeting in New Delhi.</p> <ul style="list-style-type: none"> <li>• The meeting will be part of Australia's engagements with regional partners as the Ministers will visit Indonesia, India, South Korea and the United States for Indo-Pacific consultations.</li> <li>• These inaugural 2+2 discussions are a cornerstone of the Australia-India Comprehensive Strategic Partnership, which is founded on a shared commitment to a secure, stable and prosperous Indo-Pacific region.</li> <li>• The discussion will cover economic issues, cyber security, climate change, critical technology and supply chains.</li> <li>• The defence cooperation related meeting will also be held with the Indian Defence minister.</li> </ul> <p><b>Bilateral economic and trade relationship between India and Australia</b></p>  |

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|  | <ul style="list-style-type: none"> <li>• The India-Australia economic relationship has grown significantly in recent years.</li> <li>• India's growing economic profile and commercial relevance to the Australian economy is recognized, both at the federal and state level in Australia.</li> <li>• India's exports to Australia stood approximately at US\$ 4.6 billion (A\$6.1 bn) in 2016 while India's import from Australia during the same period stood at US\$ 11 billion (A\$14.6 bn).</li> <li>• India's main exports to Australia are Passenger Motor Vehicle &amp; machinery, Pearls, Gems and Jewellery, Medicaments and Refined Petroleum while India's major imports are Coal, Non-monetary Gold, Copper, Wool, Fertilizers and Education related services.</li> </ul>  |
| <p><b>Revamped U.S.-India Strategic Clean Energy Partnership (SCEP) launched</b></p> | <p><b>Context</b> Indian Minister of Petroleum and Natural Gas co-chaired a virtual Ministerial meeting with the U.S. Secretary of Energy to launch the revamped U.S.-India Strategic Clean Energy Partnership (SCEP).</p> <ul style="list-style-type: none"> <li>• The SCEP was launched in accordance with the U.S.-India Climate and Clean Energy Agenda 2030 Partnership announced by the Indian Prime Minister and USA's President at the Leaders' Summit on Climate held in April 2021.</li> </ul> <p><b>Key takeaways from the meeting</b></p> <ul style="list-style-type: none"> <li>• The revitalized SCEP emphasises on electrification and decarbonization of processes and end uses, scaling up and accelerating deployment of emerging clean energy technologies, and finding solutions for hard-to-decarbonize sectors.</li> <li>• Under the SCEP, both countries agreed to collaborate across five pillars — Power and Energy Efficiency; Renewable Energy; Responsible Oil and Gas; Sustainable Growth; and Emerging Fuels. <ul style="list-style-type: none"> <li>◦ Emerging fuels were newly added to the list of areas of cooperation</li> </ul> </li> <li>• <b>Climate Action and Finance Mobilization Dialogue under the Agenda 2030 Partnership</b> will also be launched on September 13 that builds upon the U.S. and India's bilateral energy dialogue that accelerated energy security and innovation.</li> <li>• The two countries agreed to continue cutting edge research and development through the longstanding <b>U.S.-India Partnership to Advance Clean Energy-Research (PACE-R)</b>, prioritizing research on emerging clean energy technologies.</li> <li>• They will also continue to advance innovation in civil nuclear power as a net-zero solution through different collaborative programmes, including the <b>Civil Nuclear Energy Working Group</b>.</li> <li>• The private sector and other stakeholders across the technical areas shall be engaged to help deploy clean technologies.</li> <li>• <b>India-U.S. Task Force on Biofuels</b> was also announced to build cooperation in the biofuels sector.</li> <li>• The electric grid in India shall be strengthened to support large-scale integration of renewables.</li> <li>• Gas Task Force shall be rechristened to India-U.S. Low Emissions Gas Task Force, which would continue to forge collaboration between the U.S. and Indian companies on innovative projects to support India's vision of a gas-based economy.</li> </ul> <p><b>What are Emerging Fuels?</b></p> <ul style="list-style-type: none"> <li>• Emerging fuels are alternative fuels that are under development or already in use.</li> <li>• <b>Benefits:</b> These fuels can increase energy security, reduce emissions, improve vehicle performance, and stimulate the economy.</li> <li>• Examples include Biobutanol (Butyl Alcohol), Biofuels, Methanol, etc.</li> </ul> |
| <p><b>UN World Tourism Organization (UNWTO) award</b></p>                            | <p><b>Context</b> Ladhpora Khas, a village in Madhya Pradesh's Niwari district, has been nominated by The Union Ministry of Tourism in the 'Best Tourism Village' category for the United Nations World Tourism Organization (UNWTO) Award.</p> <ul style="list-style-type: none"> <li>• Ladhpora Khas village is located near tourist town Orchha.</li> </ul> <p><b>About the 'Rural Tourism Project'</b></p>   |

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|  | <ul style="list-style-type: none"> <li>● The 'Rural Tourism Project' has been started in villages across Madhya Pradesh, including in Ladhpora Khas.</li> <li>● <b>Objective:</b> Giving shape to the concept of village tourism by adding new dimensions.</li> <li>● In the next five years, 100 villages will be developed from the point of view of rural tourism.</li> <li>● Among these, suitable sites will be selected and developed around tourist places, including Orchha, Khajuraho, Mandu, Sanchi, Pachmarhi, Tamia, Panna National Park, Bandhavgarh National Park, Sanjay Dubri National Park, Pench and Kanha National Park.</li> <li>● MP Tourism Board is also providing training to develop tourism-related products with community participation</li> <li>● <b>Significance:</b> Rural tourism shall provide an opportunity to local people to learn about the interests and needs of tourists while maintaining the importance of local culture and tradition. <ul style="list-style-type: none"> <li>○ The local community will directly benefit from the development of tourism in their area through job creation.</li> </ul> </li> </ul> <p><b>What is the United Nations World Tourism Organization (UNWTO)?</b></p> <ul style="list-style-type: none"> <li>● United Nations World Tourism Organization (UNWTO) is the United Nations specialized agency entrusted with the promotion of responsible, sustainable and universally accessible tourism, having</li> <li>● Its headquarters is in Madrid, Spain.</li> <li>● It encourages the implementation of the Global Code of Ethics for Tourism to maximize the contribution of tourism to socio-economic development, while minimizing its possible negative impacts.</li> </ul> |
| <p><b>Climate Action and Finance Mobilization Dialogue (CAFMD)</b></p> | <p><b>In News:</b> India and the United States of America (USA) has launched the “Climate Action and Finance Mobilization Dialogue (CAFMD)”. The CAFMD is one of the two tracks of the India-U.S. Climate and Clean Energy Agenda 2030 partnership launched at the Leaders' Summit on Climate in April 2021, by Prime Minister Shri Narendra Modi and US President Mr. Joseph Biden.</p> <ul style="list-style-type: none"> <li>● India and the USA, will engage for a constructive engagement under the “India-US Climate and Clean Energy Agenda 2030 Partnership” .These platforms provide greater opportunities for working together for climate actions and emphasized that India stands committed to working with the US on Clean Energy.</li> <li>● The dialogue will not only strengthen India-US bilateral cooperation on climate and environment but will also help to demonstrate how the world can align swift climate action with inclusive and resilient economic development, taking into account national circumstances and sustainable development priorities.</li> <li>● Lauded India’s leadership role in demonstrating how economic development and clean energy can go hand in hand and stated that urgent Global Climate Action is the need of the hour.</li> <li>● The launch was preceded by a bilateral meet where both sides discussed at length a wide range of climate issues relating to COP26, Climate Ambition, Climate Finance, Global Climate Initiatives including International Solar Alliance (ISA), Agriculture Innovation Mission for Climate (AIM4C).</li> </ul>   |
| <p><b>India – UAE CEPA</b></p>   | <p><b>In News:</b> Negotiations have been formally launched on the India-United Arab Emirates Comprehensive Economic Partnership Agreement (CEPA).</p> <ul style="list-style-type: none"> <li>● Aimed at improving bilateral economic relations, including expanding the existing trade and investment relationship</li> <li>● Will create new jobs, raise living standards, and provide wider social and economic opportunities in both nations.</li> </ul>  |

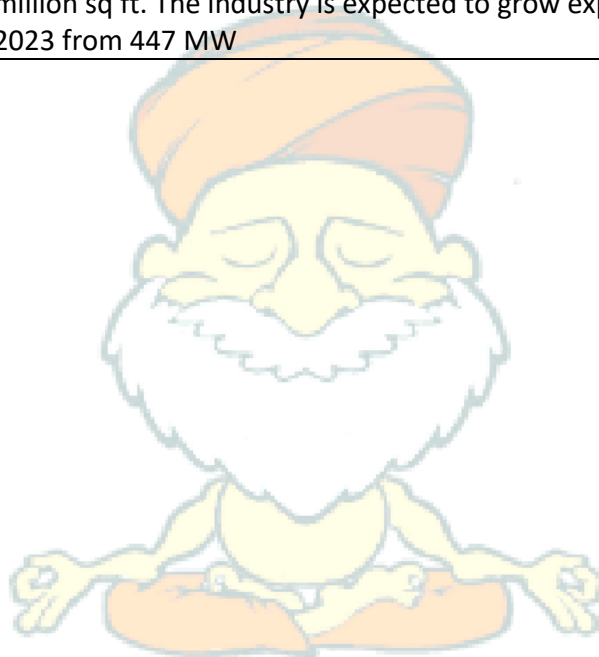
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|  | <ul style="list-style-type: none"> <li>• A new strategic economic agreement is expected to increase bilateral trade in goods to USD 100 billion within five years of the signed agreement and increase trade in services to USD 15 billion.</li> <li>• To strengthen the rules-based, transparent, non-discriminatory, open, and inclusive multilateral trading system embodied by the World Trade Organization.</li> <li>• Also agreed to work towards a balanced and inclusive outcome at the 12th WTO Ministerial Conference (MC12) in Geneva, Switzerland.</li> </ul> <p><b>Relations between UAE &amp; India</b></p> <ul style="list-style-type: none"> <li>• India's third-largest trading partner with bilateral trade in 2019/2020 valued at USD 59 billion</li> <li>• India's second-largest export destination after the US, with exports valued at approximately USD 29 billion in 2019-2020.</li> <li>• Eighth-largest investor in India, having invested USD 11 billion between April 2000 and March 2021, while investment by Indian companies in the UAE is estimated to be over USD 85 billion.</li> <li>• India was the UAE's second-largest trading partner in 2019, with bilateral non-oil trade valued at USD 41 billion.</li> <li>• India's major exports to the UAE include petroleum products, precious metals, stones, gems and jewellery, minerals, food items such as cereals, sugar, fruits and vegetables, tea, meat, and seafood, textiles, engineering and machinery products, and chemicals.</li> <li>• India's top imports from the UAE include petroleum and petroleum products, precious metals, stones, gems and jewellery, minerals, chemicals and wood and wood products. India imported USD 10.9 billion of crude oil from the UAE in 2019-2020.</li> </ul> |
| <p><b>India, Australia sign 'Terms of Reference'</b></p>                           | <p><b>Context</b> The Indian Navy and the Australian Navy have signed the 'Terms of Reference' (ToR) for the conduct of the navy to navy talks under the framework of the 'Joint Guidance for the India-Australia Navy to Navy Relationship' document, signed by the two Navy Chiefs in August.</p> <ul style="list-style-type: none"> <li>• This is the first such document signed by the Indian Navy with any country.</li> </ul> <p><b>Key takeaways</b></p> <ul style="list-style-type: none"> <li>• The document would be pivotal in consolidating the shared commitment to promoting peace, security, stability and prosperity in the Indo-Pacific region</li> <li>• The document provided flexibility for the implementation of separate agreements based on the specific outcomes of the talks.</li> <li>• The highlights of the document included close cooperation in regional and multilateral fora, including Indian Ocean Naval Symposium (IONS), Western Pacific Naval Symposium (WPNS) and Indian Ocean Rim Association (IORA).</li> </ul>   |
| <p><b>India's Energy Status Report at US India Strategic Partnership Forum</b></p> | <p><b>Vision:</b> Energy independence by 2047</p> <p><b>India has</b></p> <ul style="list-style-type: none"> <li>• Set an ambitious target of having 175 GW capacity of RE by 2022 and 450 GW RE capacity by 2030</li> <li>• Reached 100 GW in Installed Solar and Wind Capacity and after adding Hydro capacity also, the total installed renewable capacity is 146 MW</li> <li>• 63 GW of renewable capacity is under construction which makes India one of the fastest growing economies in terms of renewable capacity addition.</li> </ul> <p>Would be conducting competitive bids for green hydrogen in next 3-4 months to pave the road for viable usage of hydrogen as a fuel.</p>  |
| <p><b>India-ASEAN Connectivity Partnerships</b></p>                                | <p><b>In News:</b> Union Minister for Ports, Shipping &amp; Waterways and AYUSH Shri Sarbananda Sonowal has underlined the importance of cross-border connectivity among India and developing nations of South-East Asia.</p> <p><b>On connectivity</b></p>   |



- Extension of the Trilateral Highway to Cambodia, Laos and Vietnam will enable greater connectivity and economic integration of India's northeast with its eastern neighbours.
- India has helped construct two key stretches of the 1,360-km trilateral highway in Myanmar, but work on several other sections and the upgrade of nearly 70 bridges has been held up by a variety of factors. This highway will allow **access to markets across the ASEAN region and boost people-to-people ties.**
- Emphasised upon setting up of **National Transport Facilitation Committees (NTFCs)** to facilitate cross-border transportation and trade. The physical connectivity will enable small and medium-sized enterprises in the border areas to explore new business opportunities.

***On digital and data connectivity***

- India and ASEAN are fast-growing consumer markets - important for two regions to explore ways to enhance digital connectivity.
- The Government of India has been making efforts to turn India into a “Global Data Hub” through various policies and reforms. India’s data centre industry is expected to add 560 MW during 2021-23 leading to a real estate requirement of 6 million sq ft. The industry is expected to grow exponentially to reach 1,007 MW by 2023 from 447 MW



## Monoculture in Punjab

**Context:** Amidst the ongoing farmers' protests are also questions that are being raised on the sustainability of paddy-wheat cultivation, especially in Punjab.

**TABLE 1: CROP-WISE PERCENTAGE SHARE OF TOTAL PLANTED AREA IN PUNJAB**

|             | 1960-61 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2018-19 |
|-------------|---------|---------|---------|---------|---------|---------|
| Wheat       | 27.3    | 40.5    | 41.6    | 43.6    | 43.1    | 44.9    |
| Paddy       | 4.8     | 6.9     | 17.5    | 26.9    | 31.3    | 39.6    |
| Pulses      | 19.1    | 7.3     | 5.0     | 1.9     | 0.7     | 0.4     |
| Cotton      | 9.4     | 7.0     | 9.6     | 9.3     | 7.6     | 5.1     |
| Maize       | 6.9     | 9.8     | 5.6     | 2.5     | 2.1     | 1.4     |
| Oilseeds    | 3.9     | 5.2     | 3.7     | 1.5     | 1.1     | 0.5     |
| Bajra       | 2.7     | 3.7     | 1.0     | 0.2     | 0.1     | 0       |
| Sugarcane   | 2.8     | 2.3     | 1.0     | 1.3     | 1.8     | 1.2     |
| Barley      | 1.4     | 1.0     | 0.9     | 0.5     | 0.3     | 0.1     |
| Vegetables  | 1.2     | 0.9     | 1.1     | 0.7     | 1.3     | 3.3     |
| Fruits      | 0.6     | 0.6     | 0.4     | 0.8     | 0.5     | 1.1     |
| Other crops | 17.7    | 14.8    | 12.6    | 10.8    | 10.1    | 2.4     |

Source: Punjab Economic Survey 2019-20

### What is the extent of paddy-wheat monoculture in Punjab?

- Punjab's gross cropped area in 2018-19 was estimated at 78.30 lakh hectares (lh).
- Out of that, 35.20 lh was sown under wheat and another 31.03 lh under paddy, adding up to **84.6% of the total area** planted to all crops.
  - That ratio was just over **32% in 1960-61** and 47.4% in 1970-71.
- This has been at **the expense of pulses** (after 1960-61), maize, bajra and oilseeds (after 1970-71) and cotton (after 1990-91)
- Wheat replaced chana, masur, mustard and sunflower, while cotton, maize, groundnut and sugarcane area got diverted to paddy.
- The only crops that have registered some acreage expansions are vegetables (especially potato and pea) and fruits (kinnow), but they hardly amount to any diversification

### Why is monoculture such a problem?

- Growing the same crops year after year on the same land increases **vulnerability to pest and disease attacks**.
- The more the **crop and genetic diversity**, the more difficult it is for insects and pathogens to infect.

- Wheat and paddy cannot also, unlike pulses and legumes, **fix nitrogen** from the atmosphere.
- Their continuous cultivation without any crop rotation, then, leads to **depletion of soil nutrients**. As a result, crops will have to increasingly **depend on chemical fertilisers and pesticides**.
- In Punjab's case, the issue isn't as much with wheat, which is naturally adapted to its soil and agro-climatic conditions.
  - Wheat is a cool season crop that can be grown only in regions – particularly north of the Vindhyas – where day temperatures are within early 30°C range through March (temperature sensitive)
- Its cultivation in Punjab is also desirable from a national food security standpoint.
- Punjab's wheat yields – at 5 tonnes-plus per hectare, as against the national average of 3.4-3.5 tonnes – are far too high to make any reduction in its cultivation area.

### So, it is basically paddy that needs fixing?

Yes, there are two reasons for it.

- The first has to do with **paddy being a warm season crop** not very sensitive to high temperature stress. It can be grown in much of eastern, central and southern India, where water is sufficiently available.
- Punjab contributed 10.88 mt of rice (milled paddy) out of total Central pool procurement of 52 mt in 2019-20. Probably half of this rice of Punjab can, instead, be procured from eastern Uttar Pradesh, Bihar, West Bengal or Assam.
- The second has to do with **water usage**. Farmers usually irrigate wheat five times. In paddy, 30 irrigations or more are given.
- Punjab's groundwater table has been declining by 0.5 m/annum on an average – largely due to paddy cultivation and the state's policy of supplying free power for irrigation.
- This has encouraged farmers to grow long-duration (160 days) water-guzzling paddy varieties like Pusa-44.

- Long duration meant that nursery-raising happened in April last week and transplanting by mid-May. But being peak summer time, it also translated into very high water requirement.
- Crops were then harvested from October leaving ample time for planting of the next wheat crop (by mid-November).
- Before Pusa-44's release in 1993, Punjab farmers were mostly cultivating PR-106, which required less water and was short duration(145 days).

#### Has the Punjab government done anything to address this?

- The one significant step that it took was enacting the Punjab Preservation of Subsoil Water Act in 2009, that prohibited any nursery-sowing and transplanting of paddy before May 15 and June 15, respectively.
- Therefore, **transplanting of Pusa-44 was permitted only after the monsoon rains arrived in mid-June.** This was done to address the water requirements.
- As a result, harvesting was pushed to October-end, leaving a narrow time window for sowing wheat before the November 15 deadline.
- Farmers, then, had **no option other than burning the paddy stubble** left behind after harvesting.
- Simply put, groundwater conservation in Punjab ended up causing **air pollution in Delhi.**

#### Has there been any way to avoid this trade-off?

- One thing that scientists at the Punjab Agriculture University (PAU), Ludhiana have done is **breed shorter-duration paddy varieties.** These take between 13 and 37 days less time to mature than Pusa-44, while yielding almost the same (see table 2).
- **PR-126**, a variety released in 2017, has a mere 123 days duration (inclusive of 30 days post nursery-raising) and its yield is 30 quintals per acre.
- In 2012, 39% of Punjab's non-basmati paddy area was under Pusa-44. That was down to 20% in 2021, while the share of shorter-duration varieties, mainly PR-121 and PR-126, has crossed 71%.
- While Pusa-44 requires around 31 irrigations, it is only 23 in PR-126 and 26 in PR-121. There would be further 3-4 irrigation savings if farmers adopt direct seeding of paddy, as opposed to transplanting in flooded fields.
  - A single irrigation consumes roughly 2 lakh litres of water per acre.

#### Way forward

- A sensible strategy could be to limit Punjab's paddy area and ensure planting of only shorter-duration varieties.
- Further water savings can be induced through metering of electricity and direct seeding of paddy

## It's Time to Build BRICS Better

**Context:** The 13th BRICS summit (Brazil, Russia, India, China and South Africa) is set to be held on September 9 in digital format under India's chairmanship.

- India held the chair in 2012 and 2016 too.

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

#### Successes of BRICS

- It tried to serve as a bridge between the Global North and Global South.
- It actively championed for multipolarity in world (against dominance of US)

- It developed a common perspective on a wide range of global and regional issues (Ex: Climate Change & Trade)
- It established the New Development Bank.
- It created a financial stability net in the form of Contingency Reserve Arrangement.
- It is on the verge of setting up a Vaccine Research and Development Virtual Centre.

#### Challenges of the grouping

- India aligning with US and Russia-China coming together in geopolitics.
- India-China relations at the lowest since China's aggression in Ladakh in 2020.

- Serious internal challenges preoccupying both Brazil and South Africa (Political instability).
- Inadequate trade and investment ties among its member states and China's centrality & dominance of intra-BRICS trade flows.
- BRICS countries have not done enough to assist the Global South to win their optimal support for their agenda.

#### As the current chair, India has outlined four priorities

- Though not a new goal, India wants BRICS to pursue **reform of multilateral institutions** ranging from the UN, World Bank, IMF, WTO and WHO.
- **Combat terrorism** by crafting the BRICS Counter Terrorism Action Plan containing specific measures to fight radicalisation,

terrorist financing and misuse of the Internet by terrorist groups

- Promoting **technological and digital solutions** for the Sustainable Development Goals
- Expanding **people-to-people cooperation** among BRICS countries in the post-COVID era where travel restrictions are lifted.

#### Conclusion

- The idea of BRICS – a common pursuit of shared interests by the five emerging economies from four continents – is fundamentally sound and relevant.
- The governments have invested huge political capital in pushing the BRICS experiment forward. Therefore, the strains in the grouping needs to be addressed to keep alive the relevance of it.

## Mumbai Climate Action Plan

**Context:** The Brihanmumbai Municipal Corporation (BMC) is drafting a Mumbai Climate Action Plan (MCAP) in a bid to tackle climate challenges. It recently launched a website for the same.

#### Do You Know?

- Mumbai joined C40 Cities group in December 2020.
- There are 97 cities across the world connected in C40 Cities, who are pushed to develop and implement climate action plans to address climate change by reducing greenhouse gas emission significantly.

#### What is the Mumbai Climate Action Plan?

- Amid warnings of climate change leading to extreme weather events in the city, the civic body has started preparing the Mumbai Climate Action Plan (MCAP).
- It will look at climate resilience with mitigation and adaptation strategies by focusing on six areas —
  - Sustainable waste management
  - Urban greening and biodiversity
  - Urban flooding and water resource management
  - Building energy efficiency
  - Air quality
  - Sustainable mobility

- The plan is expected to be ready by November ahead of the United Nations Climate Change (COP26) conference.

#### Why does Mumbai need a climate action plan?

- As per a study conducted by the World Resource Institute (WRI) India on Mumbai's vulnerability assessment, the city will face **two major climate challenges**—
  - Rise in temperature
  - Extreme rain events which will lead to flooding.
- IPCC has warned that at least 12 Indian coastal cities including Mumbai will face **sea rise of 0.1 metres to 0.3 metres** in next three decades due to climate change.
- In February 2020, a report from McKinsey India stated that by 2050, Mumbai will see a **25% increase in the intensity of flash floods** and a 0.5 metre rise in sea level, which will affect two to three million people living within 1-km from the coastline.
- Since 2007, the city has seen a **constant rise in temperature mainly due to concretization, lack of green cover** and housing density. The average rise in temperature is up to 1 degree Celsius in these 14 years.
- City has witnessed increase in the number of **extremely heavy rainfall events**. Mumbai has seen, on an average, six heavy (64.5 – 115.5

mm), five very heavy (115.6 – 204.4 mm) and four extremely heavy (> 204.5 mm) rain events per year.

- Mumbai's climate action plan will help set a vision and implement strategies to fight these climate challenges with mitigation and adaptation steps

#### What is the greenhouse gas emission of the city?

- The data show that Mumbai's greenhouse gas emission was **34.3 million tonnes in 2019**.
  - 71% came from the energy sector which is mainly based on coal.
  - 24% is from transport,
  - Remaining 5% from solid waste management.
- As per the data, 95 per cent of Mumbai's electricity is coal-based and needs to be

shifted to renewable energy to bring down emissions.

#### How does BMC plan to tackle the climate challenges?

- To minimise the impact of climate change, the MCAP will focus on reduction of greenhouse gas emission by sectors, and consumption patterns, for the near term (2030), medium term (2040) and long-term (2050).
- To better adapt to increasing climate risks so as to make "climate resilient Mumbai", following steps will be taken
  - Vulnerability assessment
  - Increasing community resilience capacities in vulnerable neighborhoods
  - Building climate resilient infrastructure
  - Nurturing robust natural systems

## On weeding out 'fake journalists'

**Context:** The Madras High Court has directed the State government to constitute a body named the Press Council of Tamil Nadu (PCTN) within three months to protect the interests of genuine journalists and weed out fake journalists

#### What was the case about?

- The original case was initiated by a man claiming to be a journalist whereby he alleged against the special team investigating theft of idols from various temples.
- This case was disposed of with a direction to the Idol Wing CID to proceed with the investigation in accordance with the law.
- As there was suspicion over the petitioner's credentials, the Bench has proceeded to address the larger problem of fake journalists.

#### Do You Know?

- As of now, the **Press Council of India** performs the watchdog role about public complaints, but without any substantive enforcement powers.
- Accreditation and dealing with journalist bodies are now the functions of the respective governments.
- 'Newspapers, books and printing presses' are in the Concurrent List.

#### What will be the composition of PCTN?

- It will be headed by a retired judge of either the Supreme Court or the High Court.
- Experienced and reputed journalists, both working and retired, retired civil servants and Indian Police Service (IPS) officers must be its members.

#### What are the Powers & Functions of PCTN?

- The council shall have sole authority to **recognise press clubs and journalists' associations** or unions in the State of Tamil Nadu
- It shall not allow or recognise the formation or continuation of unions or associations based on caste, community or State boundaries.
- The council **shall conduct and approve elections** to these clubs, unions and associations. If elections are not held under the directive of Council, then such organisation will be brought under PCTN control.
- It would also have the authority to decide on the number of journalists' associations that could be permitted in each city or town.
- Journalists' associations should **disclose their sources of income and obtain the council's permission** before conducting State conferences and meetings

- The PCTN shall have the power to **identify fake journalists** and lodge complaints against them to the jurisdictional police.
- Members of the public can send their **complaints regarding fake journalists** to the welfare board, which will inquire and initiate criminal action against such fake journalists, because they are a menace and a threat to the civil society,
- It shall also regulate the **distribution of identity and accreditation cards**, which enables them to obtain certain benefits (ex: Bus & rail passes, welfare measures etc)

#### Why such a body was required?

- Fake journalists generally indulge in **illegal and unethical practices** such as blackmailing industrialists, businessmen, government

officials and politicians for their unjust enrichment.

- Also, they run letter-pad publications, or even print some copies of unknown journals, and **work for vested interests**, but seek benefits of journalists.
- Having a body like PCTN will help weed out such fake journalists and thus enhance the **integrity of the Journalism.**

#### What are the associated concerns?

- Such a body is being created by judicial direction while disposing of public interest litigation somewhat **unrelated to the case** at hand.
- Creating such body is normally done by law and after wider consultations, thus it can be considered as **Judicial Overreach.**

## US Exit from Afghanistan & South East Asia

**Context:** Several Southeast Asian governments were forced to hurriedly evacuate their citizens from Afghanistan as the result of US decisions, and there are concerns that a surge of Islamic extremism in Afghanistan could increase the threat of terrorist attacks in Southeast Asia.

#### Evolving US Policy towards South East Asia

- In the decades after the end of the Vietnam War, US interest in Southeast Asia was typified in foreign policy circles as a form of “benign neglect.”
- However, with the rise of the region’s economies, as well as the threat of a more assertive China, Southeast Asia became a key region for Washington, marked by the so-called pivot to Asia policy from the Obama administration in 2011.
- The United States is a key economic and security partner of most Southeast Asian governments and has a treaty alliance with Thailand and the Philippines, as well as close defense ties to Singapore and Vietnam.
- Washington has taken the side of Vietnam, Malaysia and Indonesia in their disputes with China over territory in the South China Sea.

#### What is the concern now?

- The hasty withdrawal from Afghanistan has forced some S.E.Asian countries to question

**whether US will come to their defense if a violent conflict broke out** with China.

- However, Southeast Asian governments are aware that US interests in their region are vastly different from what the US has tried to achieve elsewhere.
- While US intervention in countries like Afghanistan revolved around anti-terrorism efforts and nation-building, in Southeast Asia, US’s interests **focus on improving already close relations with stable states.**
- Moreover, the US in Afghanistan tasked itself with providing much of the country’s security, as well as bankrolling a weak and impoverished state.
- Southeast Asia is home to some of the world’s fastest-growing economies, from which **American businesses can profit.** The Southeast Asian bloc is America’s fourth-largest trading partner, according to US government data.

#### Will Southeast Asia now get more US attention?

- Many Southeast Asian governments expressed confusion during the last years of the Trump administration, especially after he seemingly neglected the region by not sending a senior official to the ASEAN summit in 2019.
- The Biden administration came to office stating that it intended to **recalibrate from**

**Central Asia and the Middle East to the Indo-Pacific.** Withdrawing from Afghanistan was part of this plan, except that it was very poorly executed.

- What matters most for Southeast Asian governments will be how quickly the United States moves to reinforce the message that the Indo-Pacific lies at the heart of American foreign policy.
- Vice President of US, Kamala Harris has said that “US partnerships in Singapore, in Southeast Asia, and throughout the Indo-Pacific are a top priority for it”.

- It is the fact that Southeast Asia is a key area in **USA’s rivalry with China.**
- From the US perspective, it is unrealistic to leave Southeast Asia, with its geographical, economic, historical and social connections, which are now compounded by the competition with China

### Conclusion

Southeast Asia wants the US and China to compete for their attention, but countries in the region resent being forced to choose between the two.

## Hydro onslaught the Himalayas cannot take

**Context:** The affidavit filed recently by Union Ministry of Environment in an ongoing matter in the Supreme Court has recommended the construction of seven partially constructed hydroelectric projects in the Uttarakhand Himalaya.

### Expert Committees on Hydro Projects in Himalayas

- After the **Kedarnath tragedy of 2013**, under guidance of SC, an expert body (EB-I) was constituted to investigate whether the increasing number of hydro-power projects in Uttarakhand was linked to the disaster.
- In its findings, EB-I said there was a “direct and indirect impact” of these dams in intensifying the disaster.
- Later, Union Government formed committee after committee until it got **approval for these projects with some design changes.**

### Concerns/ Criticisms

- **Short-Term gains long-term loss:** Dam lobby who promote hydro projects as green energy, wants to go ahead with such projects for short-term monetary gains despite the dire warnings of climate change threats and environmental challenges.
- **Questions over sustainability of the dams:** Hydropower solely relies on the excess availability of water. Retreating glaciers and the alternating phases of floods and drought will impact the seasonal flows of rivers.
- **Existence of sediment hotspot paraglacial zones,** which at the time of a cloud burst, contributes huge amounts of debris and silt in

the river, thereby increasing the river volume & endangering dams.

- **Social Displacement:** Hydro projects are capital intensive ventures that negatively impact local communities and their livelihoods.
- **Intensifies Natural Disasters:** The proliferation of the hydroelectric projects in these eco-sensitive Himalayan regions accelerate the intensity of flash floods, avalanches, and landslides. Ex: Rishi Ganga tragedy and the disasters of 2012 (flashfloods) was aggravated by dams.
- **Sinking of mountain slopes:** The construction and maintenance of an extensive network of underground tunnels carrying water to the powerhouses contribute to the failure of mountain slopes.
- **Economic Feasibility issues:** By the time they are constructed, the cost of electricity generated will also be phenomenally high and would have no buyers.

### Way Forward

- It is high time the MoEFCC formulated a written position on climate change adaptation with respect to the hydropower sector, after a thorough public discourse.
- Considering the environmental and cultural significance of these areas, it is imperative that the Government declares the upper reaches of the Ganga as eco-sensitive zones. It must allow the river to flow unfettered and free.

## Space Junk Threat

**Context:** In March, a Chinese military satellite (Yunhai 1-02) appeared to spontaneously disintegrate in orbit, leaving a trail of debris high above the Earth.

- Recently it was understood that the satellite disintegrated due to its collision with a piece of junk leftover from a 1996 Russian rocket launch.
- It was the first major smash-up in Earth orbit since 2009.

### What is Space Junk?

- It is the dead and unwanted craft left behind in the finite space of Earth orbit.
- More than 100 million pieces of space junk are now orbiting the Earth.
- Although the vast majority are the size of sand grains or smaller, at least 26,000 hunks are big enough to destroy a satellite.

### What is the major concern with Space Junk?

- Due to cost-saving advances in rocket and satellite technologies, more countries and companies are preparing to launch more stuff into orbit than ever before.
  - About 4,000 operational satellites are now in orbit; in the years ahead, that number could rise to more than 100,000.
- As more entities seek to access orbit for scientific and commercial purposes, the likelihood and risk of a collision is growing fast.
- Each collision would in turn produce debris that made further collisions more likely.
- The result could be a belt of space junk so dense that it would make certain **low-Earth orbits unusable**.
- Space junk could also **affect their research operations** (including the threat posed to astronauts aboard the International Space Station).
- As Earth orbit becomes an increasingly important arena for **military rivalry**, there's also the risk that collisions could be misinterpreted as something other than an accident.
- Understanding the criticality of the issue, **NASA set up an Orbital Debris Program Office (ODPO)** to deal with the problem.

### What was the outcome of ODPO?

- In 1995, the agency issued the world's first set of debris-mitigation guidelines. Among other things, it proposed that satellites be designed to re-enter Earth's atmosphere within 25 years of mission completion.
- Other spacefaring countries and the United Nations followed with their own guidelines.
- **But urgency and compliance were lacking**, partly because the world had not yet experienced a destructive collision between spacecraft and debris until 2007.
  - In 2007, China launched a ballistic missile at one of its old weather satellites, producing the largest cloud of space debris ever tracked.
  - Later in 2009, a non-functional Russian communications orbiter collided with a functioning one operated by Iridium Satellite, producing almost 2,000 pieces of debris measuring at least 4 inches in diameter.
  - Since then, the situation has only gotten more precarious

### So what can be done?

- Collaboration between nations to tackle the issue of space junk, is required.
- The **1967 Outer Space Treaty**, negotiated during an earlier space race with little input from China, **needs to be updated**.
- In particular, provisions that grant countries permanent property rights to their objects in space may complicate efforts to clean up debris.
- Next, Nasa should fund research into **debris-removal technologies**—such as those recently demonstrated by Astroscale, a Japanese startup, which hold promise— and consider partnerships with companies developing them.
- The US should also seek to expand the **Artemis Accords**, a framework for space cooperation that includes (so far) 11 other countries.
- As more nations join, debris-mitigation protocols, such as a requirement to specify which country has responsibility for end-of-mission planning, should become routine.



## Conclusion

Nations should help to make space a place where countries and companies collaborate, not collide.

## The key to revitalising India's reservation system

**Context:** Introducing reservations for OBCs in the All India Quota of National Eligibility cum Entrance Test (NEET) examinations.

### Why Reservations?

- In **deeply unequal and oppressive social order** of Indian Society, some sort of state support (like reservations) is needed to promote inclusive development.
- Through reservations, marginalised groups — which have suffered generations of oppression and humiliation — would be able to **find place in the power sharing** and decision-making processes.

However, reservation has not translated into an equalisation of life chances for many groups in our heterogeneous society.

### Issues

- **Intra-Group Demands:** There is now a strong demand to revise the policy, from those who have not been able to enjoy the benefits of reservations from within the marginalised sections
- **Asymmetrical distribution of reservation:** 97% of central OBC quota benefits go to just under 25% of its castes. As many as 983 OBC

communities — 37% of the total — have zero representation in both central government jobs and admissions to central universities. (G.Rohini Commission report)

- **Insufficiency of Data:** There is hardly any legible data on the socio-economic conditions of varied social groups at State & local level. Also, we do not know what liberalisation has done to castes which remained tied to more traditional sources of income.

### Way Forward:

There is a need for an institution alike the **Equal Opportunities Commission of the USA** or UK which can undertake the following:

- Make a **deprivation index** by using the data from the socio-economic-based census of different communities and rank them to make policies specific to each deprived community.
- Undertake an **audit on performance** of employers and educational institutions on non-discrimination and equal opportunity provided.
- Issue **codes of good practice** in different sectors.

## Foreign Policy Doctrine of Biden

**Context:** The Afghanistan war has formally ended. Its end has led to a new foreign policy doctrine for the US. In his recent speech **US President Biden** laid out the principal components of the doctrine.

### What are the criticisms of Biden Afghan Policy?

- When Biden decided to withdraw US military from Afghanistan, he did it abruptly without providing preparing the Afghan Military and Afghan Government.
- The frustration was about how the **military withdrawal was executed**, not about the withdrawal per se.
- Critics argue that US had the option of keeping a small force in Afghanistan and maintaining

**air support for the Afghan National Army.** It would have at least kept the stand-off going, and not handed a victory to the Taliban.

- Also, the Afghanistan intervention was a NATO-supported military enterprise. It is not clear that Biden **consulted European allies** before deciding to withdraw. Biden's unilateral withdrawal doesn't sit well with his support for multilateralism.
- Thousands of **Afghan allies were left behind** in a situation all too vulnerable to the Taliban's aggression. This is bound to create great uneasiness in Taiwan and Japan.
- **Taiwan's** security functions under an American umbrella. Given the US withdrawal

from Afghanistan and its tiredness with war, there are doubts in Taiwan whether US will provide firm support to it in the face of Chinese aggression.

#### What are the key Components of the new Doctrine?

- **Containing China and Russia** will be the focus of US foreign policy under him.
- **Cyber security** is a new mode of warfare and must be given prime attention.
- **America's counter-terrorism project** will not be pursued via soldiers on the ground. Instead, "over the horizon" capabilities, meaning satellites and unmanned drones, will be the predominant instruments.
- **External military deployment** will not have the purpose of Nation-making or democracy-building. It at all it is deployed, it will have clear and achievable goals strictly limited to **security**, not extending to larger politics.

- Security will not include counter-insurgency, meaning long-term military involvement in a civil war.
- **Democracy and human rights** will continue to be key drivers of foreign policy, but economic tools and diplomacy will be the main methods for achieving such goals. Countries cannot be forced to be free & democratic via military means.

#### How is the doctrine different from that of previous President Donal Trump?

- For Donald Trump, bringing the US military back home, withdrawal from alliances and unilateralism were important goals.
- The Present President Biden would **strengthen alliances**, but bring the armed force back from areas where they have ceased to serve "vital national interest".
- This implies that American military deployment in **Japan and South Korea** will continue, for these are aimed at balancing China.

### Taliban and China

**Context:** China is filling the power vacuum created by abrupt US withdrawal from Afghanistan & Taliban taking over the country.

profit. Therefore, Taliban support is necessary for China.

#### Do You Know?

- Since 2001, the U.S. has spent \$2.26 trillion in Afghanistan, out of which \$1.53 trillion was spent on defence.
- The Afghan economy did not flourish, with 90% of its population still living below poverty line, with less than \$2 a day.

#### What are the intentions of China's investment strategy in BRI (more particularly in CPEC)?

- The **cost of production is lower** in this region and therefore Chinese firms could gain by shifting their production bases from China to these regions.
- Investing in these regions meant access to **bigger markets** for Chinese firms
- It also enables more **uniform regional development** for China (western underdeveloped part of China can emerge as economic hub)
- Chinese firms could **evade high-tariff & non-tariff measures** targeted at Chinese goods when they begin exporting from here.
- Investing in Africa and Asia has also reduced some of China's **energy requirements**, enabling China to access cheaper foreign energy (oil and power) and minerals.

#### China and Taliban

- The return of the Taliban is seen as a **victory of Chinese diplomacy** and a failure for the USA. China (also, Russia) have kept their embassies running in Kabul while the western embassies have disappeared.
- Afghanistan **has rare-earth metals** and huge deposits of copper. The Chinese are interested in these resources as they have the technology to excavate them.
- Also, China is engaging with the Taliban, to ensure **success of Belt & Road Initiative (BRI)**. This being a huge investment requires many years of successful operation to yield

#### Challenges for China

- No businesses can flourish in the presence of terrorism. With Taliban gaining power, there is

concern of **resurgence of terrorist groups** such as al Qaeda, Daesh, and the Islamic State.

- Taliban is also known to have a soft corner for the **East Turkestan Islamic Movement** — a militant group active in the Uighur province of China (Muslim majority province).
- There are doubts on the **economic capability to repay** Chinese granted loans or projects. Pakistan is unable to repay a China-funded energy project, built under the BRI.
- The Taliban ruling groups are far from united, making it impossible to make any reliable domestic and international policy predictions.

This doesn't fit with the stable autocracy like China.

- **Rebellions, factional wars**, will be the likely events in Taliban-controlled Afghanistan. These issues will spread to Kazakhstan, Turkmenistan, Turkey, and other essential rings in the BRI chain. Hence, the cash flow into the BRI will constantly face a risk of interruption

### Conclusion

In a game of chess, the U.S. move of vacating Afghanistan may in fact prove costly for China.

## Significance of Millet Farming

**Context:** UN General Assembly adopted a resolution declaring 2023 the International Year of Millets, as proposed by India to the Food and Agriculture Organization (FAO).

### About Millets

- Millets are **coarse grains** and a repository of protein, fibre, vitamins and minerals.
- They include jowar (sorghum), ragi (finger millet), korra (foxtail millet), arke (kodo millet), sama (little millet), bajra (pearl millet), chena/barr (proso millet) and sanwa (barnyard millet).
- Millets were one of the oldest foods known to humans. But they were discarded in favour of wheat and rice with urbanization and industrialization
- India is their largest global producer, with a 41% market share, and a compound annual growth rate of 4.5% is projected for the global millet market in the coming decade.

### What are the advantages with Millets?

#### 1. Climate Resilience

- Being hardy crops, they can withstand extreme temperatures, floods and droughts.
- They also help mitigate the effects of climate change through their low carbon footprint of 3,218-kg CO<sub>2</sub> equivalent per hectare, as compared to wheat and rice, with 3,968kg and 3,401kg, respectively, on the same measure.

#### 2. Restoration of ecosystems and sustainability:

- Land degradation has been a major problem in India, causing massive economic losses year after year. Drought-tolerant crops, like millets,

with low dependence on chemical inputs would put far less pressure on ecosystems.

- The inter-cropping of millets with other crops is especially beneficial because the fibrous roots of millet plants help in improving soil quality, keep water run-off in check and aid soil conservation in erosion-prone areas, thereby restoring natural ecosystems.

#### 3. Biofuel and Ethanol Blending

- In June 2021, government set a target of achieving 20% ethanol blending with petrol by 2025.
- Most bio-ethanol in India is produced using sugar molasses and maize.
- However, a study conducted among farmers in Madhya Pradesh showed that bio-ethanol can be created using **sorghum (jowar) and pearl millet (bajra)**, and that this fuel could bring down carbon emissions by about half.
- Estimates also suggest that millets can deliver greater returns than maize, while using 40% less energy in processing. Millets also offer a significant cost advantage over maize as a feedstock for bio-ethanol production.

#### 4. A cultural connection:

- The cultivation of millets is deep-rooted in Indian culture.
- Organizations like Deccan Development Society have formed women's collectives in Telangana and are promoting millets through a culture-centric approach.
- Such **crop sensitization** has filtered into urban settings too. In 2018, the #LetsMilletCampaign

in Bengaluru saw the use of millets in dishes such as risotto and pizza by restaurateurs.

#### 5. Helps address Sustainable DGs:

- Millets can play a role in India's sustainability policy interventions. Contemporary research developments have shed light on the influence of millets on energy optimization, climate resilience and ecosystem restoration.
- Millet farming has led to women's empowerment, too. The Odisha Millet Mission, for example, saw 7.2 million women emerge as 'agripreneurs'.

#### What are the concerns with Millets growth?

- A rise in incomes and urbanization has reduced the demand for millets
- Inadequate government policies.
- Unjust pricing for farmers due to intermediaries.

- Lack of input subsidies and price incentives.
- Procurement and subsidised supply of rice & wheat through the PDS has made farmers shift from millets to these crops.
- Millets being used for various purposes other than for consumption.

#### Way Forward

- Incentivizing the adoption of inter-cropping with millets (two or more crops planted side by side) and providing crop insurance and support for storage facilities will foster income and food security.
- Brimming with potential, millets can act as a vital cog in the country's sustainable development wheel if backed by policies that promote their production, incentivize farmers and strengthen market linkages.

## Semi-Conductor Shortage

**Context:** The global shortage of semiconductor chips has started making its effect felt in the small and medium-sized enterprises (SME) sector in India.

- As Original Equipment Manufacturers (OEM) slow down production, smaller players are being impacted as their business orders & hence the revenues drying up.

#### Reasons for Semiconductor Shortage

- **Rise in Covid-19 cases** in supplying countries, especially those in Asia, led to disruption of production (shutdown of factories) thereby causing the current shortage.
- An atrocious winter storm in Texas shutdown semiconductor factories, and a fire at a plant in Japan caused similar delays.
- Also, relatively low margins of **Substrate manufacturing** have led to its underinvestment and added to the pain of a global chip shortage
  - Substrates connect chips to the circuit boards that hold them in personal computers and other devices.
  - Made up of thin copper wire sandwiched in resin, substrates help transmit user instructions to a computer's chips and relay the answers.
  - They are necessary because the ultrathin wiring that comes out of chips can't

tolerate a direct soldered connection to a circuit board

- Substrate Manufacturing is therefore seen as a backwater of the global chip supply chain.
- Supplies of substrates is very tight and small disruption in this underinvested sector is causing big worries to chip manufacturers
- The chief executives of Intel and IBM have both said recently that the chip shortage could last two years.

#### Semiconductor chips and Automobile sector

- Semiconductor chips are integral parts of the power train, chassis, safety systems, advanced driver assistance systems, and other parts of automobiles.
- They are used more in passenger vehicles compared to commercial vehicles or two-wheelers
- The move to electric vehicles has led to increased demand of chips. For example, a Ford Focus typically uses roughly 300 chips, whereas one of Ford's new electric vehicles can have up to 3,000 chips
- With supply of semiconductor chips slowing down, the production in automobile sector is also adversely impacted.

### Consequences of chip shortage on automobile sector:

- Due to longer lead time — the time between when the order is placed and the shipment is delivered — the automobile sector has been forced to cut down on its production.
- The slowing down of production by big automotive players has led to reduction in new orders being placed to MSME vendors (who supply parts)
- The MSMEs who are vendors and sub-vendors of the automobile industry are now working just 8 hours instead of the 12 hours they normally do. This has not only affected their earning but is also making them to migrate to other sectors.
- While the local MSME industrial sector was slowly coming back to normal after the second wave of Covid-19, the **recovery has been hampered** by the high price of raw material and low orders.

### What is being done to address the situation?

- Firms like Samsung, Tata Group are sinking huge investments into semi-conductor production
- The US, Europe and China have committed billions in subsidy to on-shoring production.
- Long-term supply contracts are being signed by automakers

### How can India play its role?

- Since, chip fabrication is capital-intensive (an average sized facility costs \$7-10 billion) with long gestation and rapid technology, it is difficult for India to strive for self-sufficiency on chip fabrication.
- But, government-owned semi-conductor facilities already operated by ISRO and DRDO can be expanded and upgraded
- Government can attract global manufacturers by showcasing skilled talent pool in R&D, low labour costs, large market and policy support (Production-linked incentive scheme)

## A Reality Check for Higher Education Dreams

**Context:** The UGC will soon implement its two recent regulations — the [Academic Bank of Credits](#) and Multiple Entry and Exit.

### Significance of these two regulations

- Promotes flexibility of curriculum framework
- Promotes interdisciplinary and academic mobility for students across higher education institutions.
- Facilitates students to choose their own learning path to attain a degree, diploma or certification with multiple entry-multiple exit options.
- Education will be student-centric learning, customised for each student's strengths, needs, skills, and interests.
- Addresses the criticism that Indian education is too structured, rigid and expensive
- Helps in student retention & increasing enrolment. Students tend to drop out because of lack of relevance & unable to sustain their interest.

The regulations are, therefore, being showcased as star recommendations of NEP and game-changers for

higher education. At theoretical level these look good, but there are challenges in making it a reality.

### Concerns

- **Maturity of Student:** A young student of 15 or 16 may not be in a position to meaningfully select the best courses or combination of courses to suit her aptitude.
- **Nomenclature of Degree:** Even if she selects the courses, she may not be able to tailor her degrees as she wishes. This is because the control over the nomenclature of the degree rests solely with the UGC.
- **Not a full-fledged flexibility:** Regarding flexibility in the choice of subjects, if 50 per cent of the curriculum must be carried out within the degree-granting institute, then there is actually little flexibility left for the student
- **Previous Experience:** A similar concept of a "Meta University" was attempted in 2012 that failed to take off despite a UGC regulation, primarily due to the silo mentality and lack of coordination among institutions.
  - National Skill Qualification Framework (NSQF) has similar enabling provisions

(multiple entry & Exit) for vocational education but has nothing tangible to show for it.

- **Limited Options:** If flexibility with quality were the basis, government shouldn't limit courses only to those available on SWAYAM, NPTEL, V-Lab, etc, for credit transfer and credit accumulation. Foreign Credits can also be tapped into.
- **Employability Factor:** If a student chooses to drop a year or two into a degree programme, the issue of his employability remains unresolved. Similar argument was used while pulling down Delhi University's Five-Year UG Programme in 2014.
- **Bureaucracy Constraints:** Given the challenges a student faces in getting migration certificate or transcript due to bureaucratic

processes, there are apprehensions with smooth implementation of these initiatives.

- **Training Manpower:** The faculty will need to be reoriented to become guides and mentors, from just teachers.
- **Funds:** Implementation of these initiatives requires funds both for IT infrastructure & manpower (teachers). However, the total central education budget has been falling constantly by 4.14 per cent in 2014-15, 3.4 per cent in 2019-20.

### Way Ahead

Great commitment will be required from every stakeholder, from the Centre and UGC to VCs, faculty and non-faculty staff to make these innovative ideas a success.

## What India must do to expand higher education enrolment

**Context:** According to the All India Survey of Higher Education (AISHE) 2019-20, the gross enrolment ratio (GER) in higher or tertiary education increased to 27.1% (38.5 million), from 26.3% (37.4 million) in the preceding year.

- This indicates that the remaining 72.9% of the population in the 18-23 age group is not enrolled in higher education institutions (HEIs).

### NEP and HEI Enrolment Target

- The National Education Policy (NEP) 2020 sets the target of 50% GER by 2035.
- To achieve this target, GER is required to grow at 3.53% per annum.
- The target is attainable given that the compounded growth rate of GER between 2011-12 and 2019-20 was 3.58%.

Increasing Higher education enrolment requires a multipronged, multi-tiered strategy.

- **Improving the transition ratio** from secondary to higher secondary, and then, to HEI is required. For Ex: In 2018-19, the net enrolment ratio at higher secondary level was only 30.8%, which limits the possibility of an increase in HEI.
- **Geography is also critical to HEI.** For instance, college density remains highly concentrated in urban areas. Policy intervention to expand

HEIs to the hinterland along with increasing the enrolment capacity is urgent.

- **Policy that Favour Larger HEIs:** Earlier, the Radhakrishnan University Education Commission (1949) and Kothari Commission (1964-66) favoured small, high-quality HEIs. This is in sharp contrast with the policy of China, USA & Europe.
  - In 2016, India's 51,649 HEIs had 35.7 million students, when China's 2,596 institutions had 41.8 million students.
  - Larger HEIs with high enrolment are easier to manage and more resource-friendly.
- **Expanding Open Learning:** The share of distance and open learning in India has remained stagnant at around 11% for many years. Massive online open courses (MOOCs) through SWAYAM provide an avenue but only 10.7% of Indian households have access to a computer, with only 23.8% to the internet
- **Improving Teacher Shortage & Quality:** India needs 3.3 million more teachers in HEIs to improve the teacher-student ratio, from 1:28 to an ideal 1:15. This requires efforts to help get the best minds to choose teaching as a profession by ensuring a steady and significant career trajectory.
  - India can learn from the education systems in countries such as Finland and

South Korea, where teaching is a coveted profession.

- **Improving Employability:** Various surveys have found that graduates lack both the technical and communication skills required for skilled work. Vocational courses by HEIs in collaboration with local employers, can help improve these levels
- **More Scholarships:** The financial support given through scholarships is currently inadequate. The transition from “mass education” to “universal education” is through financial support to the most vulnerable.

## Two decades of 9/11

The events of 9/11 marked both an end of old as well as an inception of new geo-strategic currents.

### Implications

- **On Terrorism:** India was facing Pakistan-sponsored terrorist insurgency in Kashmir since 1989. The Islamic terror wave wasn't treated with seriousness at international level as the West underplayed the issue. But 9/11 forced the end to this weak response and exposed the ideological extremism that was the driving these terror forces.
- **Misuse to curb Civil Liberties:** 9/11 became the pretext to start two wars (Afghanistan & Iraq), put in motion the perpetual war machine by USA in West Asia region, legitimise unaccountable exercise of executive power, institute the surveillance state that adversely impacted Civil Liberties of citizens. This weakened the US's geopolitical credibility and authority.
- **On US-Pak relations:** Pakistan remained an important (& untrustworthy) US ally for the war on terror that commenced in the aftermath of the 9/11 attacks.
  - In 2011, Osama bin Laden was eliminated by US forces on Pakistani soil, not far from the Pakistan Army's officer training academy.
- **On US-India relations:** 9/11 was an important catalyst in bringing India and the US closer, as there was common problem of terrorism emanating from India's western neighbourhood. Later, on the rise of China has brought India & USA much closer
- **Unipolar to Bipolar:** The two decades since 9/11 have seen the world shift from unipolarity, with China emerging as the new

### Conclusion

- India's GER has steadily increased over the last few years. This growth has also seen a substantial increase in the GER of Women, SCs & STs. This growth must continue. The future, therefore, lies in empowering subgroups, which will thereby accelerate GER.
- This must go hand in glove with India's efforts to strengthen the policy of greater social inclusion proposed by NEP 2020.

pole challenging the US-led world order. The pandemic-induced economic and health crisis only accelerated those trends.

### How has India's tackling of terrorism changed over the years?

- Even in the aftermath of the heinous 26/11 Mumbai terror attacks in 2008, India chose to exercise “strategic restraint”. This was because the government was concerned that escalating it to a war level can derail the economic growth without yielding much tangible benefits.
  - Instead, it adopted a strategy to put international pressure on Pakistan to take action against terror groups
- However, in the recent years there has been a change in approach with single party coming to power that has ensured Political stability & given the democratic heft needed to take strong actions.
- Also, India's economy has achieved high growth and acquired heft. This has made India to expand its military and diplomatic options in the fight against cross-border terrorism, which the rest of the world has also recognised as a grave issue.
  - For example, after the 2016 Uri attack and 2019 Pulwama attack, India proceeded with conviction and confidence to assert itself and stand up for its interests, taking military actions that have reset the strategic calculus.
- Today, economic growth is attracting countries who want to invest in and trade with India, adding arrows to democratic India's diplomatic basket.

- **Liberalisation and Economic reforms** that boost growth isn't necessary only for poverty alleviation and achieving prosperity, but arguably it is now the principal strategy for national security.

## Conclusion

## Account Aggregator: New Framework to Share Financial Data

**Context:** On September 2, the RBI launched the account aggregator framework aimed at making financial data more easily accessible.

- Under it, a number of fin-tech entities have been **granted the licence by RBI** to operate as account aggregators.
- Eight large banks have also agreed to share various financial data about their customers with account aggregators.

### How will an account aggregator work?

- The framework will allow financial data to be exchanged between the holders of data and its users.
- The RBI has allowed a number of companies like PhonePe to act as account aggregators to facilitate this process.
- Account aggregators will act as intermediaries who will collect data from one financial entity and exchange it with another.
- For example, a bank which is processing a loan application from a potential borrower may want to access a variety of financial data about the borrower. The lending bank can access details of the borrower's savings, past loan repayment record, mutual fund holdings and insurance holdings through an account aggregator.
- The borrower, however, will have to grant consent for the sharing of his data with the lending bank.

### What are its benefits?

- At the moment, the various **financial data of an individual is scattered** across the databases of several financial institutions. So a person's savings and loans data may be with a bank, his investments data may be with a mutual fund, while his insurance data may be with another financial entity.
- Under the account aggregator framework, all this data can be easily collated and shared

The victory of the Taliban on the 20th anniversary of 9/11 will likely create new unknown problems. However, the world should be cautious enough to make sure that terrorism doesn't rise its ugly head again.

through account aggregators with the consent of the individual.

- Proponents of the framework believe that the **easier availability of data** will have significant benefits for the economy.
- The framework will help financial **institutions make better assessment of the creditworthiness** of individuals, and thus make better loan decisions.
- Even though mechanisms such as CIBIL already exist to assess the creditworthiness of individual borrowers, their scope is limited.
- An individual's PAN number, for instance, captures only a limited number of transactions which are of value higher than a certain minimum threshold amount.
- It is said the framework will offer a wider array of data to financial firms, making them more willing to serve creditworthy populations that they earlier ignored.
- Account aggregators can also **make life easier for creditworthy customers** by allowing them to share their financial data digitally with ease.
- The availability of wider financial data may also help financial institutions **offer better products tailored to the needs** of individual customers.

### What are the safeguards provided?

- The issue of the security of the financial data of individuals will be a looming concern going forward, given the **risk of data theft**.
- To protect the privacy of individuals, account aggregators are supposed to receive and **share financial data in an encrypted form**.
- The RBI has also said the **data ownership will reside with individuals**.

### What happens next?

- More financial firms are expected to get on board the framework given the benefits of accessing data.



- Over time, financial institutions may also mandate data from account aggregators as a condition for individuals to receive loans and other services.
- Some believe an **individual's PAN number may be a better way to access** his financial data as it serves as a common link between multiple accounts maintained by an individual.
- The eventual success of the framework, however, will depend on multiple factors. The extent to which financial firms desire extensive, micro-level financial data from their customers and the **enthusiasm among customers to share their data** will also play a crucial role.

## Permafrost and Pandemic

**Context:** The latest IPCC report has warned that increasing global warming will result in reductions in Arctic permafrost which is expected to release greenhouse gases like methane and carbon dioxide.

### What is Permafrost?

- It is defined as ground (soil, rock and any included ice or organic material) that remains at or below zero degree Celsius for at least two consecutive years.
- Permafrost is spread across an area of over 23 million square kilometers, covering about 15% of the land area of the globe.

### What will be the immediate effects as permafrost melts due to increasing global temperatures?

- **Physical Infrastructure in Danger:** The first impacts that are very rapid will affect countries where roads or buildings were constructed on permafrost.
  - The Russian railways are an example.
  - In the northwest of Canada, there is a short section of the road where it has been necessary to chill the ground (costing \$4 million for 500m) to make the foundation of the road colder than it is, in order to preserve the permafrost.
- **Greenhouse Gas Emission:** If the Permafrost ground begins to thaw (melt), the organic materials frozen will become available for microbiota to break down. In some environments, the biota will release carbon dioxide and methane.

### What is the potential of GHG emission from Permafrost thaw?

- The total quantity of carbon that is now buried in the permafrost is estimated at about **1500 billion tonnes** and the top three meters of the ground has about 1000 billion tonnes.

- The world currently emits into the atmosphere, approximately 10 billion tonnes of carbon a year.
- So, if the permafrost thaws and releases even only one per cent of the frozen carbon in any one year, it **can nullify the measures taken by world** to control industrial emissions.

### So, do we need more studies to understand these emissions that can happen?

- Yes, we do. The majority of the effort so far has been on estimating how much carbon is in the permafrost. That's where the scientific effort has been.
- Currently, there is some evidence, that some permafrost regions have changed from being a carbon storehouse to being places that are net emitters of carbon.
- Another thing, which is to be studied is the **increase in the number of forest fires**. In 2021 Russia witnessed a forest fire whose total area was the size of Portugal.
- Usually, after a fire, we expect the forest to grow back in the next 50 years to 60 years. This restores the carbon stock in the ecosystem.
- **But in the tundra**, the peat is where the organic material is and this takes a very long time to accumulate. So if we burn peat and release it into the atmosphere, then it will **take centuries to restore that carbon stock** at ground level. So that's another problem which has to be looked into.

### Can thawing Permafrost release new bacteria or viruses? Can it cause another pandemic?

- The answer is that permafrost has many secrets. Recently, mammoths were found in the permafrost in Russia.
- And some of these mammoth carcasses when they begin to degrade again may reveal bacteria that were frozen thousands of years

ago. These bacteria & viruses may cause surprises

- When the permafrost was formed thousands of years ago, there weren't many humans who lived in that region which was necessarily very

cold. However, the **environment now is so much more suitable** than during the Ice Age for not just human life, but also **the evolution or development of viruses and bacteria.**

## Internet Shutdowns

**Context:** In January, 2020, the Supreme Court in *Anuradha Bhasin vs Union of India* case, held that access to information via the Internet is a fundamental right under the Indian Constitution.

- It held that any restriction on Internet access by the Government must be temporary, limited in scope, lawful, necessary and proportionate.
- Also, Government's orders restricting Internet access are subject to review by Courts.
- The expectation was that the Internet suspension will be ordered in only those exceptional situations where there is a public emergency or a threat to public safety

### Criticisms of Internet Shutdowns

- **SC directions sidelined:** Government has not done enough to give statutory recognition to direction in Anuradha Bhasin case. In fact, the year following the SC decision, India saw more instances of Internet shutdown than the year preceding it.
- **Non-Publication of orders:** The internet suspension orders by authorities are not uploaded on the government's websites, as was mandated by SC in Anuradha Bhasin case.

- **Hurdles in Judicial recourse:** Unless these orders are published, aggrieved citizens cannot approach the court of law.
- **Trust deficit:** Restrictions without publicly disclosed reasons create a trust deficit & undermines public confidence in the Government.
- **Lack of awareness:** The experience with Section 66A of IT Act has shown that if SC decisions are not statutorily recognised, the officials enforce the law incorrectly simply because of a lack of awareness.
- **Economic Loss:** In 2020, the Indian economy suffered losses to the tune of \$2.8 billion due to 129 separate instances of Internet suspension, which affected 10.3 million individuals.
- **Wide-ranging Impact:** The harm — economic, psychological, social, and journalistic — caused by such suspensions is more than any benefits of such suspension.

### Conclusions

More faithful compliance with the Supreme Court guidelines on the part of the government is needed to rid ourselves of the tag of the "internet shutdown capital" of the world and fulfil Digital India's potential

## Local Reservation and its implementation

**Context:** Recently, Jharkhand assembly passed the Jharkhand State Employment of Local Candidates Bill, 2021 becoming the third state in the country, after Andhra Pradesh and Haryana, to pass a law which promises reservations for locals in private jobs.

Jharkhand law accords 75% reservation to locals in jobs, with the condition that this will apply to those who earn ₹40,000 or below.

### Why local reservation?

- The idea of local reservation is driven by issues of scarcity of employment, and the need for

governments to satisfy their domestic electorate

### What is the government's rationale in bringing such laws?

- **Needs such policies to achieve substantial equality:** With public sector jobs constituting only a minuscule proportion of all jobs, legislators have talked about extending the legal protections to the private sector to really achieve the constitutional mandate of equality for all citizens

- **Legitimate Right to ask Private Sector to share Burden:** Since private industries use public infrastructure in many ways (infrastructure, subsidised land & credit, etc) the state has a legitimate right to require them to comply with the reservation policy.
- **Similar Reservation in Education was upheld:** A similar argument was made in requiring private schools to comply with the Right to Education Act, which the Supreme Court also upheld.
- **Similar Affirmative Action in other countries:** In the US, although there is no statutory requirement for employers to have quotas, courts can order monetary damages and injunctive relief for victims of discrimination (US Civil Rights Act of 1964 prohibits employment discrimination on the basis of race, colour, national origin, religion, and sex). The Employment Equity Act in Canada also protects minority groups, especially aboriginals from discrimination in federally regulated industries, even in the private sector.

### States announce reservations for locals, but fail to implement it

While it has gained political traction, reservations for locals has met with both legal challenges and industry resistance, and has been barely implemented in any state

### The Andhra story

- The Andhra Pradesh Employment of Local Candidates in the Industries and Factories Act was passed in the state assembly first, on July 17, 2019.
- The law mandates 75% reservation for locals in both existing and upcoming industries
- The law has provisions that a company be exempted if it writes to the government that it

requires specialised manpower not available locally, but this will require an examination by the state industries department.

- The government has also asked industries what skill sets they need, so that they can train people and supply the requirements as well.
- Industry is unhappy as it **imposes restraints on them** and that there are **no sops and no rebates for investors**.
- The law has been challenged on the grounds that it violates **Article 16(2) and 16(3)** of the constitution.
- The law continues to be operative, although in an ineffective manner, as there is no stay from the Judiciary, which is yet to give final verdict.

### The debate in Haryana

- Haryana government passed a law which provides for 75% reservation in private sector jobs to those having a resident certificate (domicile).
- The law will be applicable for a period of 10 years.
- Legal experts say that the new law would not withstand judicial scrutiny. This is because preference in jobs to the local candidates domiciled in Haryana was in contravention of Article 14 and Article 19(1)(g) of the Constitution.
- India is one national and there is only one citizenship. To regard a person as an outsider merely because he is not resident of one state goes against the essential integrity of the nation.

### Conclusion

Though the responsibility is with district collectors, no strict implementation is done due to paucity of the staff with the industries/labour departments. This clearly shows that these reservations have barely taken off the ground.

## Telecom Relief Package: 4-year moratorium on AGR dues

**Context:** Recently, the Union Cabinet approved relief measures for telecom sector which include the following:

- **Four-year moratorium** on payment of statutory dues by telecom companies, both AGR and spectrum charges

- **Simplified Definition of AGR:** The definition of AGR has been rationalised by excluding non-telecom revenue of telecom companies on a prospective basis (from now onwards)
  - Telecom operators are required to pay licence fees and spectrum charges in

the form of 'revenue share' to the government

- The revenue amount used to calculate this revenue share is termed as Adjusted Gross Revenue or AGR
- **Relaxation in FDI:** 100 per cent FDI in telecom via the automatic route has been approved (earlier 49%)
- **Charges Rationalised:** The regime of heavy interest, penalty and interest on penalty on payment of licence fees, spectrum charges and all kinds of charges has been rationalised.
- **Reduced Interest:** The Centre will do annual compounding of interest instead of the monthly compounding. The interest would be charged at a 'reasonable' rate of MCLR plus 2%.
  - MCLR refers to the lowest lending rate banks are permitted to offer — the marginal cost of funds-based lending rate.
- **Long periods of spectrum usage:** Spectrum auctions will be held in the last quarter of every financial year. Spectrum auction will be done for 30 years, instead of 20 years. After completing 10-years lock-in period, the buyer will have the option to surrender by paying surrender charges.
- **Ease of doing business:** Spectrum sharing has been completely allowed and made free. Also, shifting between prepaid, post-paid to not require fresh KYC

#### What is the background of these reforms?

- In October 2019, the [Supreme Court had ordered telecom operators to pay Rs 1.47 lakh crore to the Department of Telecommunications](#) as pending AGR-dues
- However, in September 2020, the Supreme Court had granted 10 years to the telecom companies to clear their AGR dues of around Rs 1.47 lakh crore to the Centre.
- These AGR dues (along with disruption caused Jio's entry) had impacted the cash flow of various telcos that had wider impact on the Telecom sector itself. There were fears about a duopoly emerging with just two major telecom players — Bharti Airtel and Reliance Jio.
- However, the government was keen on ensuring that there were more players in the

sector and customer retaining choices. Competition in the sector will always lead to better prices and better technology.

#### Significance

- **Relief to multiple Telcos:** The package provides relief for debt-ridden Vodafone Idea which still owes roughly Rs 50,000 crore to the government as AGR dues. It also provides relief to Tata group (dues of Rs. 12,601 crores) and Aircel (Rs. 12,389 crores).
- **Relief for the cash-strapped telecom sector.:** Moratorium on AGR dues provides an annual cash flow relief of around ₹14,000 crore for the industry while the moratorium on spectrum dues gives another ₹32,000 crore of annual cash flow relief as a whole.
- The reform package, therefore, provides telcos the flexibility to manage their cash flows better and boosts growth in the telecoms industry
- **Safeguards Banking Health:** Banking sector's exposure to the telecom players is significant at over Rs 1 lakh crore. The telecom package comes as a relief to the banks as it prevents the possibility of default by vulnerable telcos (Vodafone). This would help in stabilising and reducing the non-performing assets in the sector.
- **Boost to Digital future:** These fresh reforms will further boost telcos efforts to invest in future digital technologies and preparing the infrastructure for India's digital economy.

#### Concerns

- **Past Dues remain:** The change in definition of AGR that will reduce the burden on telcos, applies only prospectively, so those past dues remain payable.
- **Temporary Measure:** While it provides time to put their house in order, the telcos' overall liability does not come down and ultimately they will have to raise tariffs to generate sufficient cash flows. AGR dues will have to be paid with interest.
- **Unfulfilled Demands:** A long-standing demand for the government's intervention in setting telecom floor tariffs, as it has done in the civil aviation sector to protect competition, did not find a place in the relief package

## IDEA – ‘India Digital Ecosystem for Agriculture’

**Context:** Recently, Government has launched an initiative called **India Digital Ecosystem for Agriculture (IDEA)** that would place the farmer in the centre of the agriculture ecosystem leveraging open digital technologies

### Key Features of IDEA

- It will incorporate a **National Farmers Database**, a sort of ‘super Aadhaar’ for farmers.
- The database will include **farmers’ digitised land records**, and cross-linked with the Aadhaar database so as to create a unique FID, or a farmers’ ID.
  - More than 8.5 crore farmers’ data having been incorporated into the national database by Sep 2021.
- On top of that, it will pull **information from running schemes** like the PM Kisan, soil health cards, the national crop insurance scheme PM Fasal Bima Yojna, and so on.
- The database is being built by **Microsoft** under the aegis of the Department of Agriculture & Farmers’ Welfare (DoAFW)
- This database will enable anyone with access to it to
  - uniquely identify a landholder
  - know the extent of his holding
  - the state of the soil
  - cropping patterns and average yields
  - and other such information at a granular level.

### What is the larger objective of IDEA?

- **Agri-Stack:** The creation of the FID is only one part of the grand IDEA. The plan is to create the agriculture equivalent of the ‘India Stack’ — a set of APIs (Application Programming Interface). These apps enables stakeholders to offer proactive and personalised services to farmers and improve the efficiency of the agriculture sector.
- **Innovation through Collaborations:** This Agricultural India Stack will allow governments, businesses, start-ups and

developers to utilise an unique digital Infrastructure to solve India’s hard problems towards presence-less, paperless, and cashless service delivery.

- **Governance Delivery:** The FID — would enable ‘single sign-on’ for access to all government services offered to farmers.
- **Evidence based policy making:** Such database for the agriculture sector, enables authorities to deliver seamless credit and insurance services, information related to seeds, fertilisers, pesticides, market information and price forecasts etc, driven by big data and analytics and powered by information technology.
- The ‘agrystack’, the government is hoping, will help eventually achieve the goal of **doubling farmers’ income**.

### Challenges

- India has more than **14 crore working farms** making the digitisation process challenging.
- **India’s land records** in general and rural, agricultural land records in particular, are complex & not having common standards.
- Nearly about 12% of agricultural households operated on leased land — in other words, they are **tenant farmers**. However, there is no legal recognition of land tenancy agreements in India, with most such agreements tending to be informal and verbal in nature. In such case, FID will exclude these farmers from receiving benefits, as they won’t figure in database at all.
- Then there is problem of **women farmers** as vast majority of land titles continue to be held by men.
- There is a concern that the agrystack is the precursor to a **complete privatisation** of government services extended to agriculture.
- There is also the big concern over **data privacy**. Giving away this kind of sensitive, financial and landholding information in the absence of a data privacy law raises multiple concerns over potential misuse.

## Bad Bank: NARCL-IDRCL

**Context:** Following up the Union Budget announcement, government has incorporated “**National Asset Reconstruction Company Limited**” (**NARCL**) under the Companies Act.

- It will acquire stressed assets worth about Rs 2 lakh crore from various commercial banks in different phases.
- Another entity — **India Debt Resolution Company Ltd (IDRCL)**, which has also been set up — will then try to sell the stressed assets in the market.
- The NARCL-IDRCL structure is the **new bad bank**.
- To make it work, the government has provided Rs 30,600 crore to be used as a guarantee.

### What is a bad bank?

- In every country, commercial banks accept deposits and extend loans.
- The **deposits are a bank’s “liability”** because that is the money it has taken from a common man, and it will have to return that money when the depositor asks for it.
- Moreover, in the interim, it has to pay the depositor an interest rate on those deposits.
- In contrast, the **loans that banks give out are their “assets”** because this is where the banks earn interest and this is money that the borrower has to return to the bank.
- The whole business model is premised on the idea that a bank will earn more money from extending loans to borrowers than what it would have to pay back to the depositors.
- A loan can turn bad when the borrower is unable to repay it back. In such case two things happen.
  - One, the concerned bank becomes less profitable because it has to use some of its profits from other loans to make up for the loss on the bad loans.
  - Two, it becomes more risk-averse. In other words, its officials hesitate from extending loans.
- If such “bad loans” in a bank rise alarmingly, the bank could close down.
- When several banks in an economy face high levels of bad loans and all at the same time, it will threaten the stability of the whole economy.
- From the taxpayer’s perspective, the most worrisome fact was that an overwhelming

**proportion of bad loans was with the public sector banks (PSB)**, which were owned by the government and hence by the Indian public.

- To keep such PSBs in business, the government was forced to recapitalise them — that is, use taxpayers’ money to improve the financial health of PSBs so that they could carry on with the business of lending and funding economic activity.
- Despite recapitalisation, the problem of bad loans did not subside. Therefore, it was argued by many that the government needs to create a bad bank — that is, an entity where all the **bad loans from all the banks can be parked**

### Why was Bad Bank needed?

Advantage of having bad bank was

- Relieving the commercial banks of their “stressed assets” and allowing them to focus on resuming normal banking operations, especially lending.
- While commercial banks resume lending, the so-called bad bank, or a bank of bad loans, would try to sell these “assets” in the market.

### How will the NARCL-IDRCL work?

- The NARCL will first purchase bad loans from banks. It will pay 15% of the agreed price in cash and the remaining 85% will be in the form of “Security Receipts”.
- When the assets are sold, with the help of IDRCL, the commercial banks will be paid back the rest.
- If the bad bank is unable to sell the bad loan, or has to sell it at a loss, then the government guarantee will be invoked and the difference between what the commercial bank was supposed to get and what the bad bank was able to raise will be paid from the Rs 30,600 crore that has been provided by the government

### Will a bad bank resolve matters?

- From the perspective of a commercial bank saddled with high bad loans, it will help. That’s because such a bank will get rid of all its toxic assets, which were eating up its profits, in one quick move.
- When the recovery money is paid back, it will further improve the bank’s position. Meanwhile, it can start lending again.

- From the perspective of the government and the taxpayer, the situation is a little more complex. After all the money for security receipts is coming from the taxpayers' pocket.
- Lastly, the plan of bailing out commercial banks will collapse if the bad bank is unable to sell such impaired assets in the market.

### Conclusion

While recapitalisation and such guarantees are often designated as “reforms”, they are band aids at best. The only sustainable solution is to improve the lending operation in PSBs.

## E-Shram

**Context:** On August 26, 2021, the Ministry of Labour and Employment (MOLE) launched the E-Shram.

- It is the web portal for creating a National Database of Unorganized Workers (NDUW), which will be seeded with Aadhaar.
- It seeks to register an estimated 398-400 million unorganised workers and to issue an E-Shram card containing a 12-digit unique number.
- Registered workers will be eligible for Rs 2 Lakh on death or permanent disability and Rs 1 lakh on partial disability.

### Issues

- **Tedious Process:** Given the gigantic nature of registering each worker, it will be a long-drawn process.
- **Data Security issues:** Given the mega-size of the database, there is potential for its misuses especially in the absence of Data Protection legislation. The Union government would have to share data with State governments whose data security capacities vary.
- **Definitional issues:** By excluding workers covered by EPF and ESI, lakhs of contract and fixed-term contract workers will be excluded from the universe of UW.
- **Ever-changing identities:** Unorganised may have complex and ever-changing identities

where they move between formal and informal sectors.

- **Gig workers** - Gig workers are included by the Labour ministry while they are excluded by the other three Labour Codes creating legal confusions over the classification of gig/platform workers.
- **Federal Challenges:** Union chalks out the plan but states have to implement it. Differences in state capacities can create hurdles in the implementation.
- **Corruption** – Middle service agencies such as Internet providers might charge exorbitant charges to register and print the E-Shram cards.

### Way Ahead

- Involvement of surveillance agencies is crucial to address the issues of corruption.
- Government must publish statistics at the national and regional levels of the registrations to assess the registration system's efficiency.
- Triple linkage of One-Nation-One-Ration Card , E-Shram Card (especially bank account seeded) and the Election Commission Card can be done, for efficient and leakage-less delivery.

## AUKUS

**Context:** On September 15, the heads of government of Australia, the UK and US announced the formation of a trilateral security pact, to be known as **AUKUS**.

### Key aspects of AUKUS

- The AUKUS pact will be providing Australia with the technology and capability to deploy **nuclear-powered submarines** (i.e. submarines run by nuclear power).

- It will mean at least eight nuclear powered submarines are built in Australia, and will be the first time the UK and US have shared nuclear capabilities with another nation.
- These submarines will potentially be fully equipped with advanced U.S. weapons such as the Mark-48 torpedoes, the Harpoon anti-ship

missiles and the Tomahawk cruise missiles.

- The US and Britain would also share, with Australia, intelligence and **advanced technologies** in areas like artificial intelligence, cyber-warfare, quantum computing etc.

### Significance of AUKUS

- **Australia is set to play a more robust role** in ensuring peace and stability in the Indo-Pacific. Australia will now have a more meaningful **naval deterrence of its own** to protect its sovereign interests.
- The AUKUS pact is also an assertion of the **relevance of the U.S.-Australia Security Treaty**.
- The AUKUS submarine deal, that enhances capabilities of Australian Navy, is an example of **strategic defence collaboration**, and a game-changer in the maritime security architecture of the Indo-Pacific.
- The trilateral security partnership shows that **Australia now assess China through the strategic lens**, overcoming its earlier purely economic considerations with China.
- AUKUS provides a **fresh opportunity to the United Kingdom to reinsert itself** more directly into the Indo-Pacific.
  - UK is already a member of the Five Eyes (FVEY), an intelligence-sharing alliance built on Anglo-Saxon solidarity (Australia, Canada, New Zealand, the U.K., and the U.S.).
- Australia's nuclear submarines would help create a **new balance of power in the Indo-Pacific**, especially in tandem with the U.S. and the U.K.

### Limitations

- China has strongly criticised AUKUS and the submarine deal as promoting instability and stoking an **arms race in the Indo-Pacific region**.
- **Angry France:** Since 2016 France has been in negotiations with Australia to build a fleet of 12 conventional diesel-electric submarines (\$90bn deal). The announcement of AUKUS has seen Australia cancel its contract with France resulting in the loss of investment and job opportunities for France.
  - France says it feels “betrayed” and took the unprecedented step of withdrawing its US ambassadors
- The **Quad is not a security arrangement** though there is a widespread feeling that without stronger security underpinnings it would play a limited role in dealing with the real challenge of China's militarisation.
- The **Malabar exercise is not a naval alliance**, even though the habit of cooperation is geared to facilitate communication and interoperability in times of need.

### Conclusion

- France is an important part of the regional security calculus. The setback may incentivise France to focus afresh on partners such as India.
- While preparing to fight its own battles, India will need to seek external balancing. If realpolitik so demands, it has to strike new partnerships — wherever there is convergence of interests.

## Federal Reserve's stance and India

**Context:** Recently, US central bank (Federal Reserve) has reiterated that it would maintain an 'accommodative stance' until inflation and employment targets had been met.

### What is accommodative stance?

- An accommodative stance means that there is room for lowering interest rates in the future to revive growth and demand in the economy.
- Accommodative monetary policy, also known as loose credit or easy monetary policy, occurs when a central bank attempts to expand the

overall money supply to boost the economy when growth is slowing (as measured by GDP).

- The policy is implemented to allow the money supply to rise in line with national income and the demand for money.

### What did the Federal Reserve say?

- US Fed outlined the risks to economic outlook due to pandemic and said it would continue to “maintain an accommodative stance of monetary policy” until it achieves an inflation moderately above 2 per cent.



- The Federal Open Market Committee (FOMC), which sets US monetary policy, has decided to keep the target range for the federal funds rate (equivalent to India's Repo rate) at **0 to 0.25 per cent**

#### What did the Fed say on the infusion of liquidity?

- The Fed had said in earlier (July 2021) that it would moderate (slowdown) the pace of asset purchases.
  - Purchasing bonds/asset by Central Bank means infusion of money supply into the market i.e. increase in liquidity. The Fed currently purchases treasury securities of at least \$80 billion, and mortgage-backed securities of at least \$40 billion per month.
  - Excess liquidity in US market has been channelized worldwide into other emerging markets as well.
  - Low interest rates & high liquidity in the US will ensure continued fund flows from foreign portfolio investors (FPIs) into Indian equities. FPI flows into Indian equities amounted to Rs 2,083 crore in August 2021.
  - Slowdown in asset purchases (also known as **tapering**) means slowing of liquidity infusion by US Fed.
- In its recent meeting, US Federal Reserve indicated that the tapering (slowing down) of its bond purchase programme would be gradual and spread into the middle of 2022.

#### What does the Fed's decision mean?

- Asset purchases could decline by \$15 billion per month, and an end to asset purchases by mid-2022 will strengthen the case for raising rates in 2023.
- This is seen as a sign of strength that the US economic recovery is on the right path.
- Analysts say the tapering (slowdown of bond purchases) is likely to be calibrated, and non-disruptive for financial markets — which means foreign investors are unlikely to suddenly exit India.
- US putting stringent conditions with respect to inflation and employment for a rate increase & tapering means that there is predictability in Fed's functioning.

#### What is the future outlook?

- There is a consensus among participants that domestic markets, like that in India, will ride more on local factors going forward.
- There is hope that faster vaccination will result in a milder third wave of Covid if it strikes, and that the economy will witness further reopening and faster consumption-driven growth.
- Consumption is expected to increase closer to Diwali, and credit growth will see a pick-up over the next two months

## Cybersecurity & Banks

**Context:** With increasing emphasis being laid on digitisation for financial institutions, there has been a monumental increase in cybersecurity threats as well.

- Therefore, the need for stringent cybersecurity measures for digital banking is now more pressing than ever.

#### The threats

- **Malware:** Digital transactions are generally conducted on end-to-end user devices such as mobiles, computers, etc. If devices being used for access are infected with malware, then they end up posing a serious security risk to the bank's cybersecurity network, whenever they connect with it.
- **Third-party services:** Numerous banks employ the services of third-party vendors, to be able to serve their customers in a better manner.

However, if the vendors do not take active cybersecurity measures, then the bank can end up facing the repercussions.

- **Spoofing:** Cybercriminals try impersonating a bank's URL with a website that is quite similar to the original one and has similar functions as well. Whenever a user enters his or her login to tensions into the fake website, the credentials are then stolen by the criminals.
- **Phishing:** Attempting to obtain sensitive information such as credit card details, etc. for fraudulent activities, by disguising oneself as an authentic, trustworthy entity via electronic communication
- **Unencrypted data:** It is imperative that whatever data that is stored on the computers, or servers of banks, needs to be encrypted fully, which ensures that even in the

event of data being stolen, it cannot be used by cybercriminals.

### The challenges

- **Lack of awareness:** There aren't a lot of firms that end up investing in training and enhancing overall awareness related to cybersecurity amongst people.
- **Increased use of social media:** Many a time, customers who are not well-versed with cybersecurity measures, end up putting the data for anyone to see.
- **Inadequate budget and lack of management:** Cybersecurity is often neglected in budget allocations, where the firm does not realise

the monumental impact that these threats can have.

### The solutions

- **Integrated security:** In a sector as regulated as BFSI, integrated security is the future.
- **Machine learning and big data analytics:** These are essential for leveraging cyber resilience.
- **Updated antivirus and anti-malware applications** offer the best protection from attacks that can be potentially disastrous
- **Endpoint protection:** Financial institutions need to invest in technologies that can enhance the endpoint protection.

## Peace Process for Naga Accord Stuck

**Context:** R N Ravi (who was earlier also the Governor of Nagaland) has resigned as interlocutor for the Naga peace talks.

- Naga sources have said the NSCN(IM) views Ravi's removal as Governor of Nagaland and interlocutor as a victory.

### What is the Naga peace process?

- It refers to ongoing talks between the Indian government and Naga insurgent groups, in particular the NSCN(IM), since 1997 with the aim to sign a Naga Peace Accord.
- The Naga insurgency, rooted in **Naga nationalism**, is one of the oldest insurgencies in the country.
- The Naga-inhabited areas of the Northeast never considered themselves part of British India, and on August 14, 1947, the **Naga National Council (NNC)** led by **Angami Zapu Phizo** declared independence for Nagaland.
- Phizo formed an underground Naga Federal Government (NFG) and a Naga Federal Army (NFA) in 1952, in response to which the Centre sent in the Army and **enacted the Armed Forces (Special) Powers Act**, or AFSPA.
- After years of talks, the **Shillong Accord was signed in 1976** with underground groups of Nagaland, but it was rejected by many top NNC leaders on the ground that it did not address the issue of Naga sovereignty.
- Five years later, Isak Chishi Swu, Thuingaleng Muivah, and S S Khaplang split from the NNC and formed the **National Socialist Council of**

**Nagaland (NSCN)** to continue the armed struggle

- In 1988, the NSCN split again into **NSCN(IM)** led by Isak and Muivah and **NSCN(K)** led by Khaplang.
- In 1997, the NSCN(IM) entered into a ceasefire with the Indian government, which gave rise to hope for a final settlement.

### What has happened since?

- There have been nearly 100 rounds of talks. In August 2015, the NSCN(IM) group signed a **framework agreement with the Indian government** for the Naga Peace Accord. Ravi was appointed interlocutor to take the talks to their conclusion.
- But while both the government and Naga groups said the talks successfully concluded on the government's deadline of October 31, 2019, **no accord was signed**.
- Relations between Ravi and the NSCN(IM) unravelled after the talks concluded. In January 2020, the government had IB special director Akshay Mishra step in and continue the engagement.

### How did things go wrong?

- Things started to go bad after Ravi realised that the NSCN(IM) and the Indian government **differed in their understanding of the framework agreement**. The group was **insistent on a Naga constitution**, and was pushing for a **Greater Nagalim** stretching

beyond the boundaries of the present Nagaland state.

- In November 2017, Ravi signed an agreement with seven groups who had come together under the banner of the Naga National Political Groups (NNPGs), which did not include the NSCN (IM).
- The NSCN (IM), which considers itself the principal representative of Naga aspirations, has been a rival of many of the NNPG groups. In a letter to Prime Minister Narendra Modi in 2020, the IM **accused Ravi of attempting to “segregate the Naga civil society”**.
- After becoming Nagaland Governor in 2019, Ravi expressed uneasiness at the delay in concluding the deal. He accused NSCN (IM) for delaying the settlement by raising the contentious symbolic issues of separate Naga national flag and constitution.
- Ravi wrote a scathing letter to Nagaland Chief Minister Neiphiu Rio, calling the **NSCN(IM) an “armed gang”**, and accused it of running a “parallel government” and engaging in extortion.
- Ravi’s open criticism made the NSCN(IM) publicly harden its position. It demanded that the **Naga flag and Naga constitution were non-negotiable**.
- NSCN(IM) claimed the framework agreement included the idea of unification of all Naga inhabited areas in Assam, Arunachal Pradesh, and Manipur. It accused Ravi of twisting the document by deleting key words that suggested Nagaland would co-exist with India as a sovereign.
- The counter by Ravi that “any misadventure to disintegrate the nation shall not be tolerated” angered NSCN(IM) and called for his ouster as Governor & interlocutor.

**Amid all this, what are the real issues?**

## Mandatory Registration of Marriages

**Context:** Recently, Rajasthan amended the Compulsory Registration of Marriages Act, 2009, which provides for mandatory registration of marriages, including child marriages.

**What is the new amendment about?**

- The Naga issue is very complex, and the NSCN(IM) is in a delicate position. It is led by a Tangkhul from Manipur, for whom it is difficult to abandon the demand for a **Greater Nagalim**. But India cannot accept that demand, and a middle path has to be found, which may take some time,
- On the other hand, Naga flag and Naga constitution which is one of the core demands of NSCN(IM) cannot be accepted by Indian Government given the abrogation of Article 370 in August 2019.
- The enthusiasm with which the framework agreement in 2015 was announced led to unreasonable expectations of a final Accord.

**What is the way forward?**

- The government has roped in former **IB officer Akshaya Kumar Mishra** as the new pointsperson for talks. Mishra, who sources say could be formally appointed the new interlocutor, is known to be a quiet worker, and has been talking to Naga groups since January 2020.
- It is important to understand that there cannot be an accord without the NSCN(IM) because it continues to get young recruits and wields considerable influence in the region.
- The idea is to slowly bring NSCN(IM) to accept what India can give.
- Some demands that need ironing out include
  - Bicameral Assembly with at least 40 nominated members representing different tribes;
  - Absorption of cadres as local armed forces or in the Indian paramilitary;
  - Setting up of autonomous councils in Naga-dominated areas of neighbouring states;
  - Use of the Naga flag for at least customary events.

- It was alleged by opposition that it justifies child marriage for the state giving certificates to minor kids.
- But the government argues that the bill doesn't make the marriage legal and the District Collector can take action against them.
  - According to the National Family Health Survey-4 data collected in 2015-16, 16.2% of the girls aged 15 to 19 years were married before the age of 18 in the State,

**Many claim that registration of child marriages will encourage/legitimise child marriage. Is this true?**

- Registration of child marriages is **not meant to legitimise them**. Every minor still has the right to get his or her marriage annulled upon becoming major.
- The government has contended that the amended provisions will **only streamline the registration process**, without changing the status of nuptial ties of minors.
- The registration signals that marriage has taken place, **secures a status for the girl** especially the legal rights of the underage party
- It may even help in **prosecution of those solemnising child marriages** and implement provisions relating to maintenance and residence of the girl whose marriage is invalidated later.
- Also, by a Supreme Court order in *Seema vs. Ashwini Kumar, 2006*, all marriages including child marriages have to be registered, and this is not a new development. SC has stated that the reason for 'registering' a child marriage, or

any marriage, is **to ensure the rights of the bride**.

- Supreme Court observed that even though registration itself could not be proof of a valid marriage as such, it would have **great evidentiary value** in the matters of custody of children, right of children born from the wedlock of the two persons whose marriage is registered and the age of parties to the marriage.
- Therefore, registration does offer advantage to the girl as it **secures her matrimonial rights** making it possible for her to claim these rights in a court of law

**Legality of Child Marriage in India**

- The **Prohibition of Child Marriage Act, 2006** is enacted for the prohibition of solemnisation of child marriages.
- A male who has not completed 21 years of age and a female who has not completed 18 years of age is a 'child' for the purpose of this Act.
- Under the law, **child marriages are not void, but only voidable** at the instance of one of the parties, who may approach the court for nullifying the marriage within two years of attaining majority.

**Conclusion**

As a fallout of this controversy, Parliament ought to consider the Law Commission's recommendation to amend the Prohibition of Child Marriage Act, 2006, to make child marriages below 16 years void, and those solemnised when either party was between 16 and 18, voidable.

**Cartelisation: CCI Penalty on Beer Companies**

**Context:** Recently, the Competition Commission of India found that three beer companies — United Breweries Ltd (UBL), Carlsberg India Pvt Ltd (CIPL) and Anheuser Busch InBev India (AB InBev)— had **colluded to fix beer prices for a full decade** — between 2009 and 2018.

As a result, the CCI slapped a penalty of **Rs 873 crore on the companies** as well as the All India **Brewers Association (AIBA)** and **11 individuals** for **cartelisation** in the sale and supply of beer in 10 states and Union Territories.

- **AB InBev received a 100% relief** from the penalty because its officials helped the CCI investigation into the functioning of the cartel.
- Oddly enough, **the companies blamed government rules**, which require them to seek approvals from state authorities for any price revisions, as the main reason for forming a cartel.

**What is a cartel?**

- Cartels can be difficult to define. According to CCI, a "Cartel includes an association of producers, sellers, distributors, traders or service providers who, by agreement amongst

themselves, limit, control or attempt to control the production, distribution, sale or price of, or, trade in goods or provision of services”.

- The International Competition Network (ICN), which is a global body dedicated to enforcing competition law, has a simpler definition. The three common components of a cartel are:
  - an agreement;
  - between competitors;
  - to restrict competition.
- The agreement that forms a cartel need not be formal or written. Cartels almost invariably involve secrecy.

### How do cartels work?

According to ICN, four categories of conduct are commonly identified across jurisdictions (countries).

These are:

- price-fixing;
- output restrictions;
- market allocation and
- bid-rigging

Overall, participants in hard-core **cartels agree to insulate themselves from the rigours of a competitive marketplace**, substituting cooperation for competition.

### How do cartels hurt?

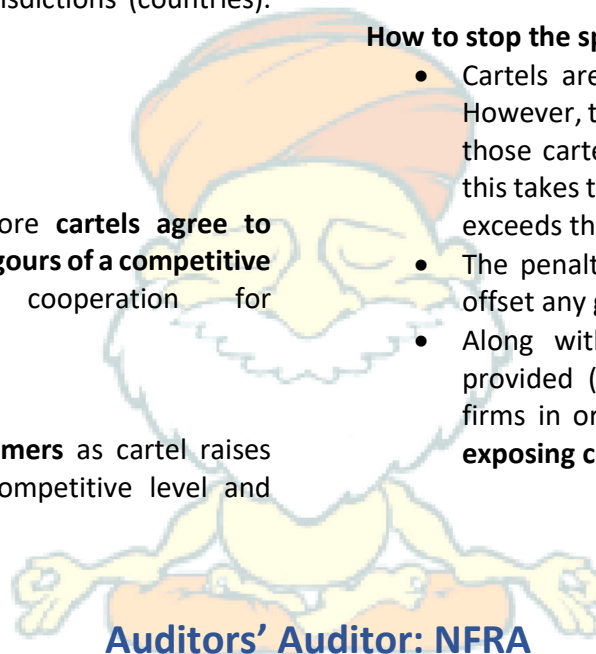
- Directly hurt the **consumers** as cartel raises the price above the competitive level and reduces output.

- In other words, by **artificially holding back the supply or raising prices** in a coordinated manner, companies either force some consumers out of the market by making the commodity (say, beer) more scarce or by earning profits that free competition would not have allowed.

- Consumer’s helplessness and lack of power to bargain for better prices ensure transfer of **wealth to the cartel operators**.
- Due to the explicit agreement of non-competition and profit guarantees among cartels, any incentive to improve one’s product is removed. Therefore, cartelisation **undermines innovations and the overall economic efficiency**.

### How to stop the spread of cartelisation?

- Cartels are not easy to detect and identify. However, there has to be **strong deterrence** to those cartels that are found guilty. Typically, this takes the form of a **monetary penalty** that exceeds the gains amassed by the cartel.
- The penalty has to be high enough so as to offset any gain realised by the cartel.
- Along with penalties, leniency has to be provided (like 100% relief for AB InBev) to firms in order to **incentivise whistleblowers exposing cartels and their functions**



**Context:** The National Financial Reporting Authority (NFRA) will be headless from October 1 if the government does not announce, either a successor or another term, to the incumbent Chairman.

### What is NFRA?

- NFRA came into being in late-2018 in the wake of the IL&FS financial scandal.
- The NFRA is a **national regulator for auditors** set up under the Companies Act, 2013.
- NFRA was born due to the failure of self-regulation of the audit profession by the Institute of Chartered Accountants of India (ICAI).

- It was set up specifically to investigate the role of auditors in frauds in listed and large public interest entities.
- It came into being in late-2018 in the wake of the IL&FS financial scandal.
- **Composition** - NFRA will have a chairperson who will be appointed by the Central Government and a maximum of 15 members.
- **An important function of NFRA** is to make recommendation to Central Government on the formulation and laying down of accounting and auditing policies and standards for adoption by companies or class of companies or their auditors.

- With the establishment of NFRA, **audit practices were put under the scanner** with such serious intent

#### Do You Know?

- India is unique among the big economies of the world in statutorily mandating compulsory audit for all companies, irrespective of their size and characteristics.
- Major economies of the world require statutory audit for small companies only in case some minimum criteria of public interest are satisfied.
- Even in India, income tax audit is now not compulsory where the turnover is Rs. 10 crore or less provided not more than 5% of the transactions are in cash. GST audit has also been completely done away with.

#### What are the challenges in effective functioning of NFRA?

- **Functioning with a skeletal staff:** Apart from the Chairman there is just one whole-time

director on the board, and three part-time directors who are nominees of ICAI

- **Conflict of interest:** NFRA board is unique in that it has representation from the constituency (nominee of ICAI) that it seeks to regulate. It is akin to the SEBI having stock brokers on its board or the RBI appointing practising bankers as Deputy Governors.

#### Way Ahead

- The ICAI's efforts to capture the regulatory body through appointments of its office-bearers as part-time directors should be rebuffed.
- The NFRA is at the crucial take-off stage now and it needs an independent head who is not an ex or present office-bearer of ICAI.
- With greater participation of retail investors in the stock market and increasing shareholder activism, we need a strong, autonomous regulator who can keep auditors in check and help develop the auditing profession.



## Practice MCQs

**Q.1) Which of the following was adopted as state animal by Ladakh recently?**

- a. Wild buffalo
- b. Snow Leopard
- c. Mithun
- d. One horned rhinoceros

**Q.2) Consider the following statements regarding bioluminescence:**

- 1. It is observed only in marine species.
- 2. It is a kind of Defence mechanism caused due to Stress which is caused by the movement of the sea and waves.

**Select the correct statements:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.3) The Shola forest is found in:**

- a. The Himalayas
- b. The Western Ghats
- c. The Vindhyan
- d. The Eastern Ghats

**Q.4) Which of the following statement is/are true about Hurricane?**

- a. A hurricane is a violent storm originating over tropical or subtropical waters.
- b. It is constituted by a low pressure centre, a closed low level atmospheric circulation, and strong winds.
- c. It is accompanied by a spiral arrangement of thunderstorms which produce heavy rain.
- d. All the above

**Q.5) The National Chambal River Gharial Sanctuary is the only area with a substantial population of which of the following species?**

- a. Leatherback turtle
- b. Red-crowned roofed turtle
- c. Northern river terrapin
- d. Black softshell turtle

**Q.6) Articles 124 and 217 of the Constitution deals with which of the following?**

- a. Pardoning Power of President & Governor
- b. Ordinance Making power of President & Governor
- c. Appointment of Supreme Court Judges & High Court Judges
- d. None of the above

**Q.7) Consider the following statements about Financial Stability and Development Council (FSDC)**

- 1. It is a statutory body established by FSDC Act, 2009
- 2. It works under the Ministry of Finance
- 3. The Urjit Patel committee (2008) on financial sector reforms first proposed the creation of FSDC.

**Select the *incorrect* statements:**

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1,2 and 3

**Q.8) Baira Siul Power Station is located in which of the following state of India?**

- a. Himachal Pradesh
- b. Uttarakhand
- c. Jharkhand
- d. Punjab

**Q.9) The Karbi Anglong insurgency often seen in the news is associated with which of the following state?**

- a. Nagaland
- b. Arunachal Pradesh
- c. Mizoram
- d. Assam

**Q.10) Consider the following statements about Account Aggregators (AAs)**

- 1. It will compile all the digital footprints of the customer at one place and make it easy for lenders to access it.
- 2. The licence for AAs is issued by the Ministry of Finance

**Select the Correct statements:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.11) SIMBEX is bilateral exercise between India and \_\_\_\_\_**

- a. Seychelles
- b. Singapore
- c. South Korea
- d. South Africa

**Q.12) Consider the following statements regarding Inner Line Permit:**

- 1. Any person is entitled to renew his permit every one year if he is not a native in these states despite the fact that he/she is a long-term resident.
- 2. It also regulates the movement to certain areas located near the international borders of India.
- 3. It is issued by Ministry of Home Affairs

**Select the correct statements:**

- a. 1 and 2 only
- b. 2 only
- c. 1 and 3 only
- d. 1, 2 and 3

**Q.13) Which of the following are correctly matched?**

- 1. Typhoons: China Sea and Pacific Ocean.
- 2. Hurricanes: Caribbean Sea and Atlantic Ocean.
- 3. Willy-willies: In north-western Australia
- 4. Tropical Cyclones: In the Indian Ocean Region.

**Select the correct answers:**

- a. 1 and 2 only
- b. 2 only
- c. 3 and 4 only
- d. 1, 2, 3 and 4

**Q.14) Consider the following statements regarding Common Service Centers:**

- 1. The CSC is a special purpose vehicle of the Ministry of Electronics and Information Technology (MeitY).
- 2. CSCs are physical facilities for delivering Government of India e-Services to rural and remote locations where availability of computers and Internet was negligible or mostly absent.

**Select the correct statements:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.15) Which of the following countries has recently launched Green visa for its workers?**

- a. USA
- b. Japan
- c. UAE
- d. Israel

**Q.16) Which of the following is the largest number of freshwater riverine islands formed by the River Brahmaputra?**

- a. Majuli
- b. Dibru Saikhowa
- c. Srirangam
- d. Bhavani Island



**Q.17) Which of the following States will set up India's first Dugong conservation reserve**

- a. Gujarat
- b. Tamil Nadu
- c. Odisha
- d. West Bengal

**Q.18) Consider the following Statements regarding BRICS:**

- 1. Its headquarters is in Beijing, China
- 2. New Development Bank and Asian Infrastructure Investment Bank are the components of financial architecture of the organisation.

**Select the correct statements:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.19) India Rankings 2021 under the National Institutional Ranking Framework is released by which of the following?**

- a. NITI Aayog
- b. Azim premji Foundation
- c. Ministry of Education
- d. Both (a) and (C)

**Q.20) Consider the following Statements regarding Pollen grains:**

- 1. Pollen grains are female biological structures with the primary role of fertilisation.
- 2. Pollen found suspended in air can cause widespread upper respiratory tract and nasobronchial allergy with manifestations like asthma, seasonal rhinitis, and bronchial irritation.

**Select the correct statements:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.21) The Tribal Cooperative Marketing Development Federation (TRIFED) comes under which of the following Ministry?**

- a. Ministry Of Tribal Affairs
- b. Ministry Of Commerce
- c. Ministry of Environment
- d. None of the above

**Q.22) Gujjar Bakerwal tribal communities belong to which of the following states?**

- a. Manipur
- b. Jammu and Kashmir
- c. Gujarat
- d. Rajasthan

**Q.23) Consider the following statements regarding GST Council**

- 1. It is a statutory body
- 2. It is chaired by the union Cabinet Secretary

**Which of the above is or are correct?**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.24) Who benefits from inflation?**

- a. Fixed income earners
- b. lenders/Creditors
- c. borrowers/debtors
- d. Bank depositors

**Q.25) National Crime Records Bureau comes under which of the following Ministry?**

- a. Ministry of Urban development
- b. Ministry of Home Affairs
- c. It is an independent agency
- d. None of the above

**Q.26) Consider the following statements regarding PLI scheme:**

1. The Product Linked Incentive (PLI) scheme aims to boost domestic manufacturing under the government's Atmanirbhar Bharat initiative.
2. The scheme provides incentives to companies for enhancing their domestic manufacturing apart from focusing on reducing import bills and improving the cost competitiveness of local goods.

**Which of the above is or are correct?**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.27) Which of the following is not a part of the Quad group?**

- a. India
- b. China
- c. Australia
- d. United Kingdom

**Q.28) Consider the following statements :**

1. Bad bank refers to a financial institution that takes over bad assets of lenders and undertakes resolution.
2. National Asset Reconstruction Company Ltd (NARCL) is a bad bank created by Government 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.29) Which of the following can be found as pollutants in the drinking water in some parts of India?**

1. Arsenic
2. Fluoride
3. Formaldehyde
4. Sorbitol

5. Uranium

**Select the correct answer using the codes given below:**

- a. 1 and 2 only
- b. 2, 4 and 5 only
- c. 1, 2 and 5 only
- d. 1, 2, 3, 4 and 5

**Q.30) Which of the following countries recently launched the Global Methane Pledge?**

- a. USA
- b. China
- c. Singapore
- d. India

**Q.31) Which of the following are correctly matched?**

1. Prithvi: Short-range surface to surface ballistic missile.
2. Agni: Ballistic missiles with different ranges
3. Trishul: Short-range low-level surface to air missile.
4. Nag: 3rd generation anti-tank missile.
5. Akash: Medium range surface to air missile.

**Select the correct answer from the quotes given below:**

- a. 1 and 2 only
- b. 1, 2 and 5 only
- c. 1, 2, 3, 4 and 5
- d. 2 and 4 only

**Q.32) Human capital index is published by Which of the following?**

- a. World economic forum
- b. World Bank
- c. ASEAN
- d. International monetary fund

**Q.33) Where are Udayagiri caves located?**

- a. Maharashtra
- b. Uttar Pradesh
- c. Madhya Pradesh
- d. Rajasthan

**Q.34) Pradhan Mantri Kaushal Vikas Yojana is implemented by Which of the following?**

- a. Ministry of education
- b. Ministry of minority affairs
- c. Ministry of skill development and Entrepreneurship
- d. None of the above

**Q.35) Which one of the following is the boundary between India and Sri Lanka ?**

- a. Gulf of Mannar
- b. Palk bay
- c. Palk Strait
- d. Malacca Strait

**Q.36) Consider the following statements on Central Vigilance Commission (CVC)**

- 1. It is a Constitutional Body whose members are appointed by President
- 2. It was set up by the Government in 1964 on the recommendations of the Committee on Prevention of Corruption, headed by K. Santhanam

**Which of the above statement(s) is/are correct?**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.37) Consider the following Statements About Food Safety and Standards Authority of India (FSSAI)**

- 1. It is an autonomous statutory body established under the Food Safety and Standards Act, 2006 (FSS Act).
- 2. It comes under the Ministry of Agriculture.

**Select the correct answer from the codes given below:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.38) What is the maximum loan limit under the Shishu product of MUDRA Yojana?**

- a. Rs 5 lakh
- b. Rs 1 lakh
- c. Rs 50,000
- d. Rs 10 lakh

**Q.39) Which of the following is responsible for carrying out the Census in India?**

- a. Ministry of Statistics and Programme Implementation
- b. Ministry of Home affairs
- c. NITI Aayog
- d. National Population Commission

**Q.40) Consider the following Statements About FASTER System by Supreme Court**

- 1. It is an Artificial Intelligence(AI) based tool that collects relevant facts and laws and makes them available to a judge
- 2. It is a big fillip to the fundamental rights of life, dignity and personal liberty.

**Select the correct answer from the codes given below:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.41) Consider the following Statements about National Digital Health Mission (NDHM)**

- 1. Under this, a unique digital health ID will be provided to the people, which will contain all the health records of the person
- 2. It is being implemented by Ministry of Electronics and Information technology

**Select the correct answer from the codes given below:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.42) Where is the Headquarters of International Solar Alliance located?**

- a. Gurugram
- b. Moscow
- c. Paris
- d. Beijing

**Q.43) Antidumping duties applied to imported goods\_\_\_\_\_**

- a. are abolished by the World Trade Organization
- b. result in decreases in consumer surplus for domestic households
- c. are imposed by industrial countries but not developing countries
- d. result in lower-priced goods for domestic consumers

**Q.44) Judima, the wine brewed by the Dimasa community has been awarded the geographical indication (GI) tag recently. The community belongs to which of the following states of India?**

- a. Chhattisgarh
- b. Assam
- c. Odisha
- d. Meghalaya

**Q.45) Consider the following statements regarding XENON1T experiment:**

1. The XENON1T experiment is the world's most sensitive dark matter experiment.
2. It was operated deep underground at the INFN Laboratori Nazionali del Gran Sasso in Italy.

**Select the correct statements:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.46) The currently under construction 14.15 km long Zojila Tunnel will connect which two places?**

- a. Srinagar to Leh
- b. Ladakh to Leh
- c. Sikkim to Darjeeling
- d. Spiti to Kullu

**Q.47) The primary objectives of SEBI include :**

- a. To protect interest of investors in securities
- b. to regulate securities market
- c. to promote the development of securities market
- d. all of the above

**Q.48) Which sea is to the north of Tunisia?**

- a. Black Sea
- b. Mediterranean sea
- c. Adriatic sea
- d. Red Sea

**Q.49) Which of the following is/are true regarding Nipah virus:**

1. It is a zoonotic virus.
2. Fruit bats, commonly known as flying fox, are considered to be a natural reservoir of the virus.

**Select the correct statements:**

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

**Q.50) Indian Navy has signed the 'Terms of Reference' (ToR) for the conduct of the navy to navy talks for the first time with which of the following countries?**

- a. Japan
- b. Singapore
- c. USA
- d. Australia

## ANSWER KEYS

1. b
2. b
3. b
4. d
5. b
6. c
7. c
8. a
9. d
10. a
11. b
12. b
13. d
14. c
15. c
16. a
17. b
18. d
19. c
20. b
21. c
22. b
23. d
24. c
25. b

26. c
27. b
28. c
29. c
30. a
31. c
32. b
33. c
34. c
35. a
36. b
37. a
38. c
39. b
40. b
41. a
42. a
43. b
44. b
45. c
46. a
47. d
48. b
49. c
50. d



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