



VAJIRAM & RAVI

(Institute for Civil Services Examination)

JULY 2020

the RECITALS

Explore Current Affairs Through Q&A



**Featured
Articles**

**Mains
Q & A**

**Prelims
Q & A**

**Bridging
Gaps**

New Education Policy

Data Localisation

Message From The Desk Of Director	1
1. Feature Article	2-9
a. New Education Policy	
b. Data Localisation	
2. Mains Q&A	10-23
3. Prelims Q&A	24-59
4. Bridging Gaps	60-136
1. Powers of Election Commission (EC) to Delay Polls	
2. Disabled Entitled To The Same Benefits As Given To SC-ST Candidates	
3. Padmanabhaswamy Temple Case	
4. Maratha Quota	
5. Delimitation In The Northeast	
6. Governor's Power to Summon the House	
7. Committee On Content Regulation In Government Advertising (CCRGA)	
8. Appoint Govt. Servants As Gram Panchayat Administrator	
9. Criminalization of Politics	
10. Dichotomy In Animal Protection Law	
11. ASEEM portal	
12. Sample Registration System Bulletin	
13. Swachh Survekshan 2021	

14. Voluntary National Review
15. Household Social Consumption On Education Survey
16. World Youth Skills Day
17. Unnat Bharat Abhiyan
18. Transgender Persons (Protection of Rights) Rules, 2020
19. State of World Population 2020
20. Schemes For Development Of Medical Devices
21. Schemes For Development Of Bulk Drugs
22. Affordable Rental Housing Complexes
23. World Bank's Assistance For MSMEs
24. India's Top Trading Partner
25. Rewa Solar Power Plant
26. GI Tag for Basmati
27. Curbs On Public Procurement
28. Zoram Mega Food Park Scheme
29. ICAT
30. Special Window for Affordable and Mid Income Housing
31. Financial Stability Report
32. AIM-iCREST
33. Antibiotic Use In Dairy Industry
34. Dhamma Chakra Day
35. Constitutional Amendments in Russia
36. Bhutan Demarches China
37. US Out of World Health Organization
38. China Tells USA to Close Consulate in Chengdu
39. Australia Unveils Plan to Force Google and Facebook to Pay for News
40. China Halts Hong Kong Extradition Treaties With Canada, Australia, UK
41. Turkey Approves Social Media Law
42. Britain Bans China's Huawei
43. UAE Keen on Open-Sky Policy with India
44. Parcel Train to Bangladesh
45. India-Bhutan Open New Trade Route
46. Resumption Of Afghan Exports To India Through Wagah Border
47. Currency Swap Pact with Central Bank of Sri Lanka
48. Cotton Warehouse in Vietnam
49. India-Russia Joint Technology Assessment and Accelerated Commercialization Program
50. New Supreme Court Building in Mauritius
51. India, Indonesia Defence Ministers' Dialogue
52. Gandhi-King Scholarly Exchange Initiative Act

53. 15th India-EU Summit
54. India-UN Development Partnership Fund
55. BRICS Environment Ministers' Meeting
56. G20 Digital Minister's Meeting
57. UN General Assembly to go Virtual
58. G20 Digital Minister's Meeting
59. UN General Assembly to go Virtual
60. Fourth Highest Opium Seizure in 2018 reported from India
61. Panel to Probe alleged Violations by Rajiv Gandhi Foundation
62. APT29
63. UN Report on Terrorism
64. Anti-tank Guided Missile 'Dhruvastra'
65. Covid-19 and T-Cell
66. Titbits Related To CoVID
67. Dilophosaurus
68. India Digitization Fund
69. Elyments App
70. CogX 2020
71. Low-Cost Supercapitor
72. OneWeb
73. Biosafety Levels
74. Lithium Production in Stars
75. NEOWISE Comet
76. DAC Approves New Defence Weapons
77. Spike-LR Anti-Tank Guided Missiles
78. Winter Diesel
79. AH-64E Apache Helicopters
80. ChAdOx1 COVID-19 Vaccine
81. ZyCov-D
82. Rise In COVID-19 Spread Towards Winter
83. PLPro
84. Lyfas
85. Latency of the SARS-CoV-2 Virus
86. N-95 Valved Respirator/Masks
87. WHO Guidelines on Comprehensive Surveillance
88. Pneumococcal Polysaccharide Conjugate Vaccine
89. Human Growth Hormone
90. AJO-Neo
91. Solar Orbiter Mission
92. Dare to Dream 2.0

93. Foundation Day of Ministry of Earth Sciences (MoES)
94. 5G
95. Common Services Centre (CSC) WiFi Choupal
96. Non-Personal Data
97. Kakrapar Atomic Plant
98. International Thermonuclear Experimental Reactor
99. Rafale Fighter Aircrafts
100. T-90 Tanks
101. Passage Exercise (PASSEX)
102. Rosalind Franklin
103. Global e-waste
104. Virtual Ministerial Meet on Climate Action
105. National Mission for Clean Ganga (NMCG)
106. Tillari Conservation Reserve
107. Globba Andersonii
108. New Species of Butterfly
109. Golden Birdwing
110. Ophicordyceps Nutans
111. Rare Orchid Species — Eulophia Obtuse
112. Himalayan Viagra- Ophiocordyceps Sinensis
113. Red Coral Kukri
114. High Levels Of Ammonia In Yamuna
115. Aerial Seeding
116. Bhagirathi Eco-Sensitive Zone
117. Lonar Lake Turned Pink
118. Global Tiger Day
119. RAISE Initiative
120. KURMA App
121. Assam's Dehing Patkai Sanctuary To Get National Park Status
122. Dolphin Number Dips In Chambal River
123. Indian Bullfrog
124. Tracking of Pied Cuckoo



From the Desk of the Director

Dear Students

The preparation of current affairs magazine is an evolutionary process as its nature and content keeps changing according to the demands of Civil Service Exam. As you are aware about the importance of current affairs for the prelims as well as mains exam, our aim is to follow an **integrated approach** covering all stages of examination from prelims to interview. Keeping these things in mind, we, at Vajiram and Ravi Institute, are always in the process of evolving our self so as to help aspirants counter the challenges put forward by UPSC.

In fulfillment of our objective and commitment towards the students, we have introduced some changes in our current affairs magazine. The CA Magazines, now with the name of “**The Recitals**”, will have four sections. These are:

1. **Feature Article:** As you are aware of the fact that civil service mains exam has become quite exhaustive and analytical, especially since 2013 after the change in syllabus, we have decided to focus on 2-3 topics every month that will provide an insight into the issue so as to help students understand the core of the issue. This will help in Essay writing as well as Mains Exam.
2. **Mains Q&A:** New students quite often struggle to find out that in what way the given topic is useful for them and in what form questions can be framed from the article. To help those students, we at Vajiram and Ravi have designed an innovative way to teach current affairs. Now, we will cover the current issues through questions and answers so as to make it more targeted towards exam. This will not just provide the information and analysis on current issues but will also help in learning the art of answer writing. Further the related information on the topics on which questions have been framed but that is outside the purview of answer will be given in the Box as ‘**Extra Mile**’.
3. **Prelims Q&A:** This section will contain prelims based MCQs that will test your diligence while reading the current issues. These MCQs will be of UPSC standard and will contain detailed explanation. Students are advised to attempt these MCQs honestly and read the Explanation carefully. The idea is to also provide students with a question bank of around 600 current affairs MCQs (50 Qs × 12 months = 600 Qs) just before their prelims examination, which will act as revision on issues spanning over the entire year.
4. **Bridging Gaps:** This section will contain miscellaneous topics which has not been covered through Q&A. That is why it is called Bridging Gaps, meaning the left-over topics.

So, the new magazine is a complete overhaul of what we have been doing for so long. We hope that the new beginning will be to the liking of students.

Thanks

Best Wishes

New Education Policy 2020

Need For The New Policy

The Union cabinet recently approved the National Education Policy, 2020, which is a seminal moment that sets out the path for education in the country for the next 20 years. In the three decades since the last National Education Policy 1986/1992 was formulated, the social, political and economic environment in India and the world has changed significantly. The economy has opened up, social structures have changed, there is increased participation in political, social and economic processes. New global challenges have emerged, while rapid advances in technology present both opportunities and challenges to human well-being.

India has made progress — education is now recognised as a fundamental right, access to education at different stages has increased dramatically and important curricular reforms have been made. However, equity and quality of education still remain challenges. While, the country has some world class institutions, it still struggles to create similarly effective learning opportunities. NEP, 2020 is a response to these changes and challenges. It is also a response to the unfinished education agenda set by the two previous education policies of 1968 and 1986/1992. In doing so, it changes the name of the Ministry of Human Resource Development to the Ministry of Education.

Based on two committee reports (TSR Subramanian Committee in 2016 and the K Kasturirangan Committee) and extensive nationwide consultations, NEP 2020 seeks to address the entire gamut of education from preschool to doctoral studies, and from professional degrees to vocational training.

Various Provisions Of The Policy

A. School Structure

- In a significant shift from the 1986 policy, which pushed for a 10+2 structure of school education, the new NEP proposes a **5+3+3+4 design** corresponding to the age groups 3-8 years (foundational stage), 8-11 (preparatory), 11-14 (middle), and 14-18 (secondary).
- This brings early childhood education (also known as pre-school education for children of ages 3 to 5) under the ambit of formal schooling and proposes the extension of the Right to Education (RTE) to all children up to the age of 18.

B. New Learning Framework

- A new curricular framework is to be introduced, including the pre-school and anganwadi years. The school curriculum overhaul will come in the shape of a new National Curricular Framework for School

Education (or **NCFSE 2020-21**), which will be undertaken by the National Council of Educational Research and Training (NCERT).

- A **National Mission on Foundational Literacy and Numeracy** will ensure basic skills at the Class 3 level by 2025.
- Students will begin **classes on coding as well as vocational activities from Class 6 onwards**. Indian knowledge systems, including tribal and indigenous knowledge, will be incorporated into the curriculum in an accurate and scientific manner.
- Further, the policy advocates the **introduction of contemporary subjects** such as artificial intelligence, design thinking, holistic health and organic living.

Learning plan
A look at the key features of the new education policy:
• R.V.S. PRASAD

SCHOOL EDUCATION

- Universalisation from age 3 to Class 10 by 2030
- Mission to ensure literacy and numeracy skills by 2025
- Mother tongue as medium of instruction till Class 5 wherever possible
- New curriculum to include 21st century skills like coding and vocational integration from Class 6
- Board exams to be easier, redesigned

HIGHER EDUCATION

- New umbrella regulator for all higher education except medical, legal courses
- Flexible, holistic, multi-disciplinary UG degrees of 3-4 years' duration
- 1 to 2 year PG programmes, no M.Phil
- College affiliation system to be phased out in 15 years

• Public spending on education by States, Centre to be raised to 6% of GDP

• Ministry of Human Resource Development to be renamed Ministry of Education

• Separate technology unit to develop digital education resources

C. Medium of Instruction

- Wherever possible, the medium of instruction until at least Grade 5, but preferably till Grade 8 and beyond, will be the home language/ mother tongue/ local language/ regional language.
- Thereafter, the home/local language shall continue to be taught as a language wherever possible. This will be followed by both public and private schools.
- Following widespread protests, the reference to Hindi and English in the draft NEP regarding the three-language formula has been dropped from the final policy document. The three languages learned by children will be the choices of States, regions, and of the students, so long as at least two of the three languages are native to India.

D. Reforms in Examination

- The new policy talks about moving away from high-stakes examinations towards more continuous and comprehensive evaluation.
- It aims to reform Board exams, through a reduction in the syllabus to retain core essentials” and a thrust on experiential learning and critical thinking. The focus will be on testing concepts and knowledge application.
- All students will be allowed to **take Board Exams on up to two occasions** during any given school year, one main examination and one for improvement, if desired.

- There will be an **aptitude test on the lines of SAT in the US for entrance into colleges** and Board results alone will no longer determine admission.
- To be overseen by the National Testing Agency (NTA), these tests will serve as a common entrance exam across the country with universities free to add other criteria. However, universities can choose to disregard NTA assessments altogether and continue with their own entrance exams

E. Higher Education Institutions

- The new policy marks a significant shift in the format of undergraduate education with the introduction of the four-year multidisciplinary Bachelor's programme, with exit options.
- While the traditional three-year BA, B.Sc, and B.Voc degrees will continue, under the four-year programme, students can **exit after one year with a certificate, after two years with a diploma, and after three years with a Bachelor's degree.**
- The 4-year multidisciplinary Bachelor's programme, however, shall be the preferred option since it allows the opportunity to experience the full range of holistic and multidisciplinary education.
- The four-year programme may also lead to a degree with Research if the student completes a rigorous research project in their major area(s) of study.
- To enroll for a Ph.D, a Master's degree or a 4-year Bachelor's degree with Research shall be required. **The M.Phil programme shall be discontinued.**
- In a first of its kind proposal, an **Academic Bank of Credit (ABC)** shall be established which would digitally store the academic credits earned from various recognised HEIs and will also make it easier to transfer between institutions.
- NEP calls for a transparent mechanism for **fixing fees with an upper limit**, for different types of institutions depending on their accreditation. This will empower private HEIs to set fees for their programmes independently, though within the laid out norms and the broad applicable regulatory mechanism.

F. Multidisciplinary Institutions

- The policy proposes the **phasing out of all institutions offering single streams** (such as technical education) over time.
- All universities and colleges must aim to become multidisciplinary by 2040. Even engineering institutions, such as IITs, will be expected to move towards more holistic and multidisciplinary education with more arts and humanities.

- Students of arts and humanities will aim to learn more science and all will make an effort to incorporate more vocational subjects and soft skills.

G. Foreign Universities

- Paving the way for foreign universities to set up campuses in India, the new policy states that the world's top 100 universities will be facilitated to operate in the country through a new law.
- Such universities will be given special dispensation regarding regulatory, governance, and content norms on par with other autonomous institutions of India.

H. Increase In Gross Enrolment Ratio

- The NEP emphasises universal access to schools, and aims to bring two crore out-of-school children back into the educational mainstream.
- It also aims to double the Gross Enrolment Ratio in higher education, including vocational education, from **26.3% in 2018 to 50% by 2035**, with an additional 3.5 crore new seats.
- To achieve this, the **National Scholarship Portal** will be expanded to support, foster, and track the progress of students receiving scholarships.

I. Teacher Development

The policy emphasises rigorous teacher preparation through four-year teacher education programmes, continuous teacher professional development, positive working environment and enabling service conditions for teachers.

J. Include Disadvantaged Groups

- The policy brings focus on socially and economically disadvantaged groups, which include gender, socio-cultural, and geographical identities besides disabilities.
- Regions with large chunk of educationally-disadvantaged groups will be declared **Special Education Zones**.
- The Centre will also set up a '**Gender-Inclusion Fund**' to build the country's capacity to provide equitable quality education to all girls and transgender students.
- The fund will be available to States to implement priorities determined by the Central government critical for assisting female and transgender children in gaining access to education (such as the provisions of sanitation and toilets, bicycles, conditional cash transfers, etc).

K. Governance

- The NEP also paves the way for a single overarching regulator for higher education, which will replace the University Grants Commission (UGC) and the All India Council for Technical Education (AICTE).
- The single regulator, called the **Higher Education Commission of India (HECI)**, will have four independent verticals to carry out the functions of regulation, funding, accreditation, and setting standards for learning outcomes.
- The college affiliation system is being phased out over the next 15 years, so that every college develops into either an autonomous degree-granting institution, or a constituent college of a university. In course of time, colleges will not need to seek affiliations but award degrees themselves.

Implementation Of The Policy

- The government has set a target of 2040 to implement the entire policy. However, the policy only provides a broad direction and is not mandatory to follow.
- Since education is a **concurrent subject** (both the Centre and the state governments can make laws on it), the reforms proposed can only be implemented collaboratively by the Centre and the states.
- The government plans to set up subject-wise committees with members from relevant ministries at both the central and state levels to develop implementation plans for each aspect of the NEP.
- The plans will list out actions to be taken by multiple bodies, including the HRD Ministry, state Education Departments, school Boards, NCERT, Central Advisory Board of Education and National Testing Agency, among others. Planning will be followed by a yearly joint review of progress against targets set.

Issues And Challenges

- In a federal system, any educational reform can be implemented only with **support from the States**, and the Centre has a difficult task of building a consensus on many ambitious plans.
- The implementation requires **enormous resources** and an ambitious target of public spending at 6% of GDP has been set. However, the allocation seems unlikely, due to the current tax-to-GDP ratio and competing claims on the national exchequer of healthcare, national security and other key sectors.
- Placing the burden of pre-primary education on the **overstretched, under-funded and under-equipped anganwadis** may also lead to disastrous results.

- Further, the goal of 50% enrolment ratio in higher education and 100% in secondary school education, could be tough to achieve, since it is currently only 25.8% in higher education & 68% in Class 9.
- Moreover, there are various proposals which require legal changes and may face **legislative hurdles** in implementation.

Analysis

- The New Education Policy, for the most part, provides a forward-looking framework for transforming Indian education. It acknowledges the 21st century need for mobility, flexibility, alternate pathways to learning, and self-actualisation.
- It recognizes education as a public good. This has important implications for public policy in planning, providing, and financing education. It also has important implications for the state's approach towards private education.
- By delivering on its promise of providing greater flexibility and skills to students and greater autonomy to educational institutions, it could prove a game changer.
- It signals the new normal in education with its focus on critical thinking, experiential learning, interactive classrooms, integrated pedagogy and competency-based education.
- Inclusive digital education features as a component throughout all reform areas, powering India's journey towards the fourth industrial revolution.
- Through a robust education system, leveraging the full potential of its demographic dividend, India can take a giant leap towards establishing itself as a knowledge superpower.

As with every policy, the real test of NEP will be translating it to action. Backed by quick and effective implementation in sync with its spirit, NEP could shape the lives of the future generations. If the government does little else but implement most of the recommendations on school education and empower India's school children, the future will belong to India.

Data Localisation

Recently, citing concerns over data security and national sovereignty, Indian government had blocked 59 Chinese apps. The government expressed its concern that these Chinese apps were passing user data to the Chinese government. This has, once again, brought the focus back on the issue of "Data Localisation".

What is Data Localisation

- Data localization is the act of storing data on any device that is physically present within the borders of a specific country where the data was generated.
- Free flow of digital data, especially data which could impact government operations or operations in a region, is restricted by some governments.
- Data localization often requires better IT infrastructure and stringent security measures for data related to business operations.

Previous Debate on Data Localisation:

- Earlier, in April 2018, the RBI had asked all payment companies operating in India to **set up data storage facilities within the country in the next six months**.
- The central bank in its notification said while the payments ecosystem had grown in India, it needed “unfettered supervisory access” to the transaction data to ensure better monitoring of the network.

Arguments In Support Of Data Localisation

- Debate around imposing stringent data localisation norms revolve around **India’s Sovereignty and government functions**.
- Also, the need is being felt to recognise **Indian data as a resource** to be used to further **India’s national interest**.
- The **Justice Srikrishna Committee** in its report, released in July 2018, noted that eight of the top 10 most accessed websites in India are owned by U.S. entities. This reality has often hindered Indian law enforcement agencies when investigating routine crimes or crimes with a cyber element.
- Post the **Cambridge Analytica and Facebook data breach controversy**, the need was felt to ensure that data of Indians are stored locally.
- Data localisation will **result into economic benefits to local industry** in terms of creating local infrastructure, employment and contribution to the AI ecosystem.
- Data localisation is emerging **as a strategy to counter the exploitative economic systems adopted by U.S.-based technology companies**. It has become a global phenomenon and India must not remain an outlier.
- Local hosting of data will **enhance its privacy and security** by ensuring Indian laws applies to the data and **users can access local remedies**.

Argument Against

- Critics point at the fallacies in the assumption that data localisation will necessarily lead to better privacy protection. Privacy protection is largely dependent on the **technical measures, skill, cybersecurity protocols and data protection regime of the country**.
- Many analysts believe that data localisation is **not a perfect solution**. According to them, even if the data is stored locally, **the issue of delay in criminal investigation for cross-border cybercrimes will not be solved**.
- It is because the U.S. law effectively bars these companies from disclosing user data to foreign law enforcement authorities. This scenario will not change even after technology companies relocate Indian data to India.
- Stricter localisation norms would help India get easier access to data when conducting investigations, but critics say it could lead to **increased government demands for data access and easier domestic surveillance over citizens**.
- Technology firms worry the mandate would **hurt their planned investments by raising costs related to setting up new local data centres**.
- Leading techno giants are claiming that restricting data flowing across borders would **risk a country's global competitiveness and economic growth**. Also, such a move would also not necessarily ensure data protection.
- There is also the risk of a backlash from India's IT export markets, which could result in reciprocal changes that could **undermine India as the preferred outsourcing destination**.
- The measures have potential to **break up the world into a series of data regimes**, a phenomenon sometimes named the "**splinternet**". This could seriously retard the growth of data-enabled innovation beyond simply the delivery of online services.

Conclusion

- Data is the new form of gold. Governments all over the world are trying to protect and harness the data for their own benefit.
- Against this backdrop, Indian government has also introduced **Personal Data Protection Bill, 2019** in the Parliament.
- **Data localization and data transfer restrictions are relaxed** in the proposed bill, but it **remains stringent for sensitive and critical personal data**. This has been done to ensure the free-flow of data across the boundaries while keeping eyes on India's sovereignty and national interests.

MAINS Q&A

1. **A five-member Committee for Reforms in Criminal Law has been set up by the Union Ministry of Home Affairs. In this light Discuss the need for reform in the Criminal Justice System in India and suggest a way forward?**

Answer

The criminal justice system is a collective enterprise authorized and supported by the legitimacy and coercive power of the state to **create and administer law**. It is first and foremost a formal system oriented for the control of human affairs. The purpose of criminal law is not only to deter criminal deviance and protect society from crime, but also to provide procedural safeguards to individuals and protect innocents from State persecution.

Need For Reform In The Criminal Justice System In India

- **Decades-old system:** The Criminal Justice System in India is a several decades-old system, based on the system established by the British in India during the Raj. The system more or less remains the same, without any major changes.
- **The colonial foundations of our criminal law:** The fundamental principles of Indian Penal Code, Criminal Procedure Code and Indian Evidence Act continue to **reflect state paternalism and Victorian morality of the colonial state**.
- **Inefficient:** The implementation of the criminal justice system rests with three institutions, i.e. the police, the courts, and the prisons. With a ratio of 144 police officers per 100,000 citizens, the Indian police are operating at a 30 percent vacancy. Indian judiciary has a judge population ratio of 18 judges per million compared to 50 to 110 judges per million in developed countries.
- **Pendency of cases:** The efficacy of any justice system can be judged by the speed by which the cases are disposed of. As per the Economic Survey for 2018-19, **3.5 crore cases are pending in the judicial system**, much of which are concentrated in the district and subordinate courts.
- **Delay in the investigation of crimes** or the haphazard way in which the cases are investigated, greatly contribute to the delay in dispensing prompt justice.

Way Forward

- **Rights of crime victims:** Victimological underpinnings ought to be given a major thrust in reforming laws to identify the rights of crime victims. The launch of victim and witness protection schemes, use of victim impact statements, advent of victim advocacy, increased victim participation in criminal trials, enhanced access of victims to compensation and restitution all point towards the increased role of victims in the criminal justice system.
- **Construction of new offences and reworking of the existing classification of offences** must be informed by the principles of criminal jurisprudence which have substantially altered in the past four decades.
 - For instance, liability questions in offences need a fresh look. Criminal liability could be graded better to assign the degree of punishments.
 - New types of punishments like community service orders, restitution orders, and other aspects of restorative and reformative justice could also be brought in this fold.
- **Rework on the scheme of chapters and classification of offences:** Chapters of the IPC are overloaded at several places. It is unnecessary to have hundreds of sections in the category of

property offences. Even the chapters on offences against public servants, contempt of authority, public tranquility, and trespass can be redefined and narrowed.

New offences under a fresh classification scheme, like those suggested by the **Malimath Committee on criminal justice reforms**, can be introduced. Classification of offences must be done in a manner conducive to management of crimes in the future.

- **Unprincipled criminalization must be avoided** to save the state from dealing with too many entrants into the criminal justice system.

Guiding principles need to be developed after sufficient debate before criminalising an act as a crime. Unprincipled criminalisation often leads to not only the creation of new offences on unscientific grounds, but also arbitrariness in the criminal justice system.

- **Principled Sentencing: On the procedural side, sentencing reforms are highly imperative.** Principled sentencing is needed as judges at present have the discretion to decide the quantum and nature of sentence to be imposed and often sentence convicts differently for crimes of the same nature and/or gravity.
2. **Many members of the Tablighi Jamaat belonging to different countries have obtained release from court cases in recent days by means of plea bargaining. In this light, discuss what is plea bargaining and how does it work?**

Answer

Many members of the Tablighi Jamaat, accused of violating visa conditions by attending a religious congregation in Delhi, have walked free after **pleading guilty to minor offences** and paying the fines imposed by the court. These cases have brought the focus on **plea bargaining** as a practice by which time-consuming trials can be avoided.

Plea Bargaining

Plea bargaining refers to a person charged with a criminal offence negotiating with the prosecution for a lesser punishment than what is provided in law by pleading guilty to a less serious offence. It is common in the United States, and has been a successful method of avoiding protracted and complicated trials. As a result, conviction rates are significantly high there. It primarily involves pre-trial negotiations between the accused and the prosecutor. It may involve bargaining on the charge or in the quantum of sentence. The practice would ensure speedy trial, end uncertainty over the outcome of criminal cases, save litigation costs and relieve the parties of anxiety.

Introduction of Plea Bargaining in India

- In India, the concept **was not part of law until 2006**. There has always been a provision in the Code of Criminal Procedure for an accused to **plead 'guilty' instead of claiming the right to a full trial**, but it is not the same as plea bargaining.
- **The Law Commission of India, in its 142nd Report, mooted the idea of "concessional treatment"** of those who plead guilty on their own volition, but was careful to underscore that it would not involve any plea bargaining or "haggling" with the prosecution.
- Plea bargaining was **introduced in 2006** as part of a set of **amendments to the CrPC as Chapter XXI-A**, containing Sections 265A to 265L.

Plea Bargaining Procedure

- The Indian code makes plea bargaining a process that can be **initiated only by the accused**. The applicant should approach the court with a petition and affidavit stating that it is a voluntary preference and that he has understood the nature and extent of punishment provided in law for the offence.
- The court would then issue notice to the prosecutor and the complainant or victim, if any, for a hearing. **The voluntary nature of the application must be ascertained by the judge in an in-camera hearing** at which the other side should not be present. Thereafter, the court may permit the prosecutor, the investigating officer and the victim to hold a meeting for a “satisfactory disposition of the case”.
- The outcome may involve payment of compensation and other expenses to the victim by the accused. Once mutual satisfaction is reached, the court shall formalise the arrangement by way of a report signed by all the parties and the presiding officer.
- **Punishment:** The accused may be sentenced to a prison term that is **half the minimum period fixed for the offence**. If there is no minimum term prescribed, the sentence should run up to one-fourth of the maximum sentence stipulated in law.

Circumstances Under Which It Is Allowed

- Cases for which the practice is allowed are limited. Only someone who has been charge sheeted for an offence that does not attract the **death sentence, life sentence or a prison term above seven years** can make use of the scheme under Chapter XXI-A.
- It is also applicable to private complaints of which a criminal court has taken cognisance.
- Categories of cases that cannot be disposed of through plea bargaining are those that involve offences affecting the “**socio-economic conditions**” of the country, or committed against a woman or a child below the age of 14.

Conclusion

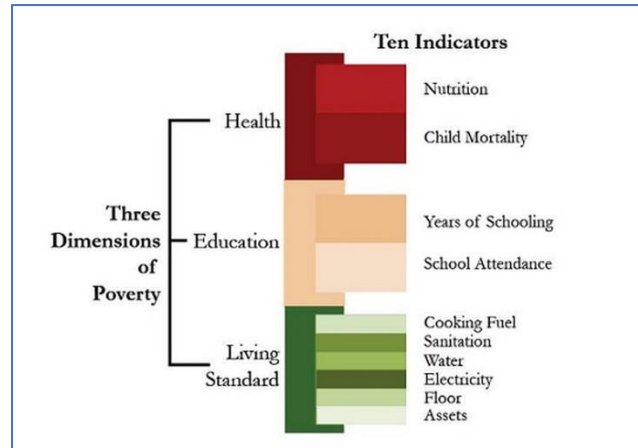
Even though plea bargaining is **available to those accused of criminal offences** in India for over a decade, it is not yet common. Case law after the introduction of plea bargaining has not developed much as the provision is possibly not used adequately. Some verdicts disapprove of bargaining with offenders, and point out that **lenient sentences could be considered as part of the circumstances of the case after a regular trial**. Courts are also very particular about the voluntary nature of the exercise, as **poverty, ignorance and prosecution pressure should not lead to someone pleading guilty of offences that may not have been committed**.

3. **The Global Multidimensional Poverty Index 2020 was recently released. What is multidimensional poverty? Highlight the key findings of the report.**

Answer

- The Global Multidimensional Poverty Index, developed by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI), looks beyond income to understand how people experience poverty in multiple and simultaneous ways.
- It measures poverty across **three equally weighted dimensions: health, education and standard of living**, comprising 10 indicators. People who experience deprivation (poverty) in at least one third of these indicators, fall into the category of multidimensionally poor. The MPI value ranges from 0 to 1, and higher values means higher poverty.

- It can be used to create a comprehensive picture of people living in poverty, and permits comparisons both across countries, regions and the world and within countries by ethnic group, urban or rural location, as well as other key household and community characteristics. Thus, the MPI offers a valuable complement to income-based poverty measures.



Key Findings

- The 2020 update of the global Multidimensional Poverty Index (MPI) covers 107 countries (28 low income, 76 middle income and 3 high income) and 5.9 billion people in developing regions.
- The data shows that across 107 developing countries, **1.3 billion people live in multidimensional poverty**. Among the 1.3 billion people still living in multidimensional poverty, more than 80 percent are deprived in at least five of the ten indicators used to measure the global MPI.
- **Age Profile:** The data also reveals that the burden of multidimensional poverty is disproportionately higher among children. Half of the 1.3 billion poor (644 million) are less than 18 years of age. Further, 107 million multidimensionally poor people are 60 years or older—a particularly important figure during COVID-19 pandemic.
- 84.2 percent of multidimensionally poor people live in rural areas, where they are more vulnerable to environmental shocks. In every developing region, the proportion of people who are multidimensionally poor is higher in rural areas than in urban areas.
- The report notes that 65 countries significantly reduced their MPI value between 2000 and 2019. Of the 65 countries that reduced their MPI value, 50 countries also reduced the number of people living in poverty. The **largest reduction was in India**, where approximately 273 million people moved out of multidimensional poverty over 10 years.
- Moreover, three South Asian nations — **India, Bangladesh and Nepal** — were among the 16 fastest countries to reduce their MPI value.
- In nearly one-third of the countries studied, either there was no reduction in multidimensional poverty for children, or the MPI value fell more slowly for children than for adults

Multidimensional Poverty And Immunisation

- The study also highlights the link between multidimensional poverty and immunisation. The percentage of children receiving three doses of diphtheria, tetanus and pertussis (DTP3) vaccines had been used as an indicator to check how countries were providing routine immunisation.
- According to the study, 10 countries accounted for 60 per cent unvaccinated children and around 40 per cent of the children who were not vaccinated for DTP3 lived in four countries — India, Nigeria, Pakistan and Indonesia.
- The report also stated that populated developing countries could contribute to a large number of unvaccinated children despite achieving high immunisation coverage. The study cited India as an example where 2.6 million children were “undervaccinated”.

Way Ahead

Addressing each challenge requires a different approach, many of which need to go beyond improving income, particularly in the light of UNDP’s work encouraging societies to take the opportunity to rethink

development pathways. It is hoped that the global MPI report will incite action in solidarity with the poor, so that the immediate crisis is not as deep as feared, and that the world 'builds back better' with permanently less disadvantage and human poverty.

4. **A new study published in The Lancet has projected that the world population will reach its peak level much earlier than estimated earlier. Highlight the findings of the study and its implications.**

Answer

A new study, published in The Lancet, has analysed population trends in 195 countries using data from the Global Burden of Disease Study 2017.

Global Highlights

- The world population is forecasted to reach a peak of 9.73 billion people in 2064, and fall to 8.79 billion by the century's end (2100). However, last year's UN World Population Prospects had projected that the world will reach a peak of 10.8 billion by 2100.
- The study also predicts huge shifts in the global age structure, with an estimated 2.37 billion individuals over 65 years globally in 2100 compared with 1.7 billion people under 20 years.
- The five countries with the highest population in 2100 are projected to be India, Nigeria, China, the U.S. and Pakistan.

Declining Total Fertility Rate

- The global TFR is predicted to steadily decline from 2.37 in 2017 to 1.66 in 2100. TFR represents the average number of children a woman delivers over her lifetime.
- By 2100, a total of 183 out of 195 countries will have total fertility rates below replacement level of 2.1 births per woman. In 23 countries including Japan, Thailand, Italy and Spain, the TFR is projected to reduce by more than 50%.
- The projected reduction in TFR is due to the assumption that all women globally will have much higher access to contraception and education.

Projections for India

- India's population is forecasted to reach its peak in 2048 at around 1.6 billion, from 1.38 billion in 2017. The peak in 2048 will be followed by a 32 per cent decline to around 1.09 billion in 2100.
- India's TFR declined to below 2.1 in 2019 and is projected to have a continued decline till 2040. India's total fertility rate will be 1.29 in 2100.
- The number of working-age adults (20–64 years) in India is projected to fall from around 748 million in 2017 to around 578 million in 2100. However, this will be the largest working-age population in the world by 2100.
- India is also expected to overtake China's workforce population in the mid 2020s. China's working-age population is estimated to decline from 950 million in 2017 to 357 million in 2100.
- Among the 10 countries with the largest populations in 2017 or 2100, India is projected to have one of the lowest life expectancies (79.3 years in 2100, from 69.1 in 2017). From 2017 to 2100 India is projected to rise in the rankings of countries with the largest gross domestic product (GDP), from 7th to 3rd.

Implications

- The study highlights huge challenges to the economic growth of a shrinking workforce and the high burden on health and social support systems of an ageing population. The countries that will be unable to stabilise their working age population will have to deal with declining economic growth.
- The biggest challenge of declining working age population will be to support large public social security programmes without increasing the burden on a smaller workforce, with higher taxes.
- India's inability to invest in human capital for the masses will hurt as developments in AI, robotics and telecom change the nature of skilled and unskilled labour.

Way Ahead

- Declining working age population will require many countries to develop liberal immigration policies or improve workforce participation rate among women and elderly, along with providing incentives to increase their TFR.
- However, what is more important is to look to invest in technological advancements that can compensate for the human shortages. For example, Japan has managed the needs of its greying population with virtually no emphasis on migration.
- Further, the effect of fertility decline on women's reproductive health rights has to be accompanied by greater economic independence. This would allow women to negotiate with the system on their own terms and for better support services as well.
- For India, struggling with a sustained economic slowdown that has killed jobs, pushing the long awaited second generation of economic reforms cannot wait longer.

Powered by a young workforce, India must utilise the narrowing window to lay a strong economic foundation and invest in human capital along with building a robust infrastructure built to prevent its demographic dividend from turning into a demographic burden.

5. The State of Food Security and Nutrition in the World, 2020 report was recently released. Highlight the key findings of the report.

Answer

- The State of Food Security and Nutrition in the World report is an annual report jointly prepared by Food and Agriculture Organization (**FAO**), International Fund for Agriculture (**IFAD**), the UN Children's Fund (**UNICEF**), World Food Programme (**WFP**) and World Health Organization (**WHO**).
- It is the most authoritative global study tracking progress towards ending hunger and malnutrition. It provides in depth analysis on key challenges for achieving this goal in the context of the 2030 Agenda for Sustainable Development.
- The report targets a wide audience, including policy-makers, international organizations, academic institutions and the general public.

Global Highlights

- The report estimates that almost **690 million people** remained hungry in 2019, which is an increase of 10 million from 2018.
- The global prevalence of undernourishment – or overall percentage of hungry people – has not changed much and is at 8.9 percent. However, the overall numbers have been increasing since 2014

(an increase of 60 million). This means that over the last five years, hunger has grown along with the global population.

- While Asia currently has the highest number of undernourished (381 million) people, the number in Africa is growing fast (250 million), followed by Latin America and the Caribbean (48 million). With 19.1 per cent of its people undernourished, Africa is the worst affected region. This is more than double the 8.3 per cent rate in Asia and 7.4 per cent in Latin America and the Caribbean.
- Eastern and Southern Asia are the two sub regions that have shown reductions in undernourishment. The two regions are dominated by the two largest economies of the continent - China and India. The reduction in hunger in both the countries is due to long-term economic growth, reduced inequality, and improved access to basic goods and services.
- Around the world, countries continue to face multiple forms of malnutrition, including undernutrition, overweight and obesity. A healthy diet with nutrient-rich dairy, fruits, vegetables and protein-rich foods, are the most expensive food groups globally and cost far more than the international poverty line of \$1.90 a day.
- Three billion people could not afford a healthy diet in 2019, and some 191 million children under five were stunted or wasted – too short or too thin – while another 38 million were overweight.

Highlights From India

- The number of undernourished people in India has declined by 60 million, from 21.7% of the population in 2004-06 to 14% in 2017-19. The number of undernourished people in India have declined from 249.4 million in 2004-06 to 189.2 million in 2017–19.
- The **prevalence of stunting in children under 5 years** of age in India declined from 47.8% in 2012 to 34.7% in 2019 or from 62 million in 2012 to 40.3 million in 2019.
- However, more Indian adults became obese between 2012-16. The number of adults (18 years and older) who are obese grew from 25.2 million in 2012 to 34.3 million in 2016, from 3.1% to 3.9%.

Impact of Covid-19

- The Covid-19 pandemic is increasing the vulnerabilities of global food systems, and is making things even worse.
- While it is too soon to assess the full impact of Covid-19, the report estimates that over 130 million people may have to remain hungry in 2020 as a result of the economic recession.
- This would further increase the difficulties in achieving the Sustainable Development Goal 2 (Zero Hunger).

Way Ahead

- There is a need to transform food systems to reduce the cost of nutritious foods and increase the affordability of healthy diets. Thus, governments should support local small-scale producers to grow and sell more nutritious foods and strengthen their access to markets.
- Further, governments should prioritize children's nutrition and include nutrition in national social protection systems and investment strategies
- While the specific solutions will differ from country to country, and even within them, the overall answers lie with interventions along the entire food supply chain, in the food environment, and in the political economy that shapes trade, public expenditure and investment policies.

6. Indian Railways recently launched the process of opening up train operations to private entities. Delineate various features of the project, along with the benefits and concerns of the said move.

Answer

To upgrade the country's railway system, the Union government has made plans for long-term partnerships with the private sector. Thus, the Indian Railways has launched the process of opening up train operation to private entities on 109 origin destination(OD) pairs of routes, using 151 modern trains. The project is expected to attract ₹30,000 crore in private investment.

Features Of The Project

- For the project, the routes are divided into 12 clusters based out of major city centres, such as Patna, Secundrabad, Bengaluru, Jaipur, Prayagraj, Howrah, Chennai, Chandigarh, and two each for Delhi and Mumbai.
- The Railways expects to open financial bids for the project by February-March 2021 and finalise them by April 2021. It further expects private players to begin rail passenger services by April 2023.
- The private entity will pay the Railways fixed haulage charges for path, stations, access to railway infrastructure and a share in gross revenue determined through the bidding process.
- There will be a power meter in every locomotive and private operators will pay for the actual amount of energy consumed. This will encourage them to keep their energy consumption low.
- The coaches would have to be manufactured in India and the local component would be as specified in the policy.
- The private entity has to ensure 95 per cent punctuality and record not more than one failure per lakh kilometre of travel. If any performance indicators are not met by private players in passenger train operations, they will be penalised.

Offerings By The Railways To The Private Players

- In return, Railways will be contractually bound to provide “non-discriminatory access” to private trains. This means that even though its own trains on the same route will be in competition with the private trains, the Railways cannot give unfair advantage to its own trains.
- Further, the tickets for the private trains will be booked through the current railway reservation system. Thus, the Railways will have to ensure that its systems and infrastructure are functioning properly for private trains.
- The Railways will give land to private players to set up maintenance facilities for the trains. After completion of 35 years, the maintenance facilities will belong to Railways.
- If the private player fails to meet its key performance indicators due to Railways' shortcomings, then the Railways will also have to pay certain damages to the private players.

Benefits

- The major benefits of this project is introduction of modern technology. With improvement in technology, the coaches that now require maintenance after running 4,000 km will need maintenance after every 40,000-km, that is either once or twice a month.
- Besides, the trains would run faster, would be safer and would provide more facilities.
- The introduction of private players would also mean that trains will be available on demand and that passenger waitlist will decrease, addressing the demand-supply deficit.

- Railways is currently operating in losses in passenger segment, however, the bids have been designed in a way that Railways will be able to recover minimum guaranteed cost to meet its expenditure.

Concerns

1. **Job losses:** There have been concerns that the move will lead to job losses in Railways. In order to address the fear of job losses, the Railway Board has informed that the private entities would run only 5% of the trains being run in the country. In addition, the Railways would have to introduce more trains to cater for an estimated 13 billion passengers by 2030. Hence, in future, the jobs in railways will only increase because of the expanding infrastructure.
2. **High Fares:** There are concerns that since the trains would be operated by private players, the fares may be significantly higher. However, the Railway Board believes that due to the competition in the market, it can be expected that the fares will not be very high.

Train services operated by Indian Railways cover several classes of passengers, meeting the social service obligation to connect remote locations, and adopting the philosophy of cross-subsidy for passengers. Thus, it is imperative that the government equally focuses on consumer interests and safety as well, along with promoting competition, efficiency and economy.

Extra Mile**Background**

- Several committees have been formed in the past to look into the expansion and the modernisation of Indian Railways.
- In 2015, the expert panel chaired by Bibek Debroy constituted by the Ministry of Railways, recommended that the way forward for the railways was “liberalisation and not privatisation” in order to allow entry of new operators.
- Last year, an empowered group of secretaries headed by the NITI Aayog CEO was formed to speed up the process of inviting private players. The panel also looked into the redevelopment of railway stations through private participation.

Need For Inviting Private Players

- According to data maintained by the World Bank, in 2018 India had 68,443 route kilometers of railways and is among the four largest rail networks in the world, along with the United States, China, and Russia. However, every kilometer of track in India covers geographical area much less than Germany, Russia, China or Canada, indicating scope for expansion.
- The Railway Board says five crore intending passengers could not be accommodated during 2019-20 due to lack of capacity, and there was 13.3% travel demand in excess of supply during summer and festival seasons.
- Thus, from a passenger perspective, there is a need for more train services, particularly between big cities.
- Further, it is estimated that around 70 per cent of freight trains will shift to the two upcoming Dedicated Freight Corridors from December 2021. This will free up a lot of capacity to introduce more passenger trains with better services and higher speeds.
- An analysis of passenger and freight operations in the Railways, by the Economic Survey, showed that a steady shift to other modes of travel for both categories was affecting economic growth by as much as 4.5% of GDP-equivalent.
- It was estimated that a one-rupee push in the railway sector would have a forward linkage effect of increasing output in other sectors by ₹2.50.

Lack Of Finances

- Introducing new, modern trains requires heavy investment in coaches and engines. Further, there is the cost of operations, which includes electricity, manpower and other expenses. Thus giving upgraded facilities, such as better services and faster trains, would lead to huge modernisation expense for Indian Railways.
- However, running of passenger trains is a loss-making business for Indian Railways, as it recovers only around 57 per cent of the cost through tickets on an average.
- Thus the government has invited private players to reduce its losses and to convert Railways into a money-making entity. The idea is to give passengers an option of superior train services without any money being spent by the Railways

7. Mindspace Business Parks Real Estate Investment Trust recently launched the country's second initial public offering of REITs to raise up to Rs 4,500 crore. What are Real Estate Investment Trusts? Delineate the advantages of investment in REITs along with the impact on Covid-19 on REITs.

Answer

- REIT is an investment tool that owns and operates income producing commercial real estate properties like offices, residential units, hotels, shopping centres, warehouses, etc.
- It allows individual investors to invest using this platform. The money collected from individual investors is invested in income-generating real estate.
- The structure of REITs is similar to that of a mutual fund. However, unlike mutual funds, where the mutual funds invest in bonds, stocks and gold, REITs invest in physical real estate.
- In India, REITs are conceptualised as special purpose vehicles (SPVs) providing investors an opportunity to earn dividend-based income.
- Initial public offerings (IPOs) is one of the ways to invest in a new REIT. As per SEBI regulations, minimum investment limit is Rs 50,000 in the REIT. After IPO, the REIT is available on the secondary market, i.e. it is listed on the stock exchange like shares and one can purchase it in the stock market.

Advantages of REIT Investment

- **Opportunity For Small Investors:** Real estate has always been an attractive investment opportunity, but the high investments required in the real estate market made it difficult for many people to invest. However, when it comes to REITs even small investors can invest, as the minimum investment limit has been kept very low.
- **Hedging Investors' Risk:** Minimum 80 per cent of the total value has to be invested in completed and leased properties (given on rent). Minimum 90 per cent of earnings has to be distributed to the investors. Since REITs are required to distribute nearly 90% of their earnings in the form of dividends to the REIT investors, the investors are assured of high income. Further, REITs are regulated by SEBI, which will ensure greater transparency, which is good for the investor.
- **Tax Efficient:**
 - REITs are designed to be tax efficient and the government has given them pass-through status. As per the Income Tax (IT) Act, 1961, income received by the investors shall be treated in the same nature and the same proportion as it had been received. Thus, income received by the

REITs in the nature of dividend, rent, interest and distributed to its unit holder shall be deemed as dividend, rental and interest income, respectively, in the hands of the unit holder.

- According to IT Act, all the incomes received from REITs shall be exempt from taxation except the interest income received from the special purpose vehicle by the REIT and rental income from the property that is owned directly by the REITs.
- Largely, REITs distribute most of their income in the form of dividend, which is tax free in the hand of the investor.
- **Less Volatile Investment:** Typically, commercial leases are of long periods like six or nine years or even more. This makes REITs less unpredictable than other investment options. Further, REITs are less volatile than the stock market, FDs, mutual funds and gold as regulations maintain that 80% of the REIT's investment must be in completed and leased properties.

Impact Of The Pandemic

- With a large office going population operating from their homes following the COVID-19 pandemic, there has been a growing concern on future demand for office real estate.
- According to some experts, the positive experience of work from home and savings on travel cost, time and office cost will make several companies to allow employees to work from home.
- However, factors such as smaller homes, weak internet, data security issues, will make it difficult for people to work from home.
- Further, large Fortune 500 companies generally work out of Business Parks and it is believed that they would continue to do so. Moreover, some deals have taken place in the recent past that show that the demand for office real estate is still there.

Thus, the REITs have come up as a new investment instrument, which eliminate the entry barrier for small time investors and creates space for them in the Indian property market, along with eliminating the development risk, which is common in many real estate projects and ensures a stable cash flow.

8. Data security has assumed significance in the digitized word due to rising cybercrimes. In this context, the Srikrishna Committee report has the potential to address the issue related to data security. Discuss.

Answer

In the backdrop of constant Aadhaar leaks, allegations that the government is enabling a surveillance state and amidst fears about the data collected by companies like Facebook, zoom etc., the data security assumes significance. Recently, the government banned 59 Chinese apps over the concern of data security. Given the fact that India lacks a data protection framework, Justice Srikrishna report is being hailed as a landmark report.

- The report has **combined the principles of individual 'privacy' with 'using data for empowerment'** which will create a fine balance between privacy and growth of data ecosystem.
- It has proposed the **constitution of a Data Protection Authority** of India with the mandate of protecting the interests of users, and preventing the "misuse of personal data". It calls for **financial penalties and jail terms** in the case of violations.
- It seeks to **govern the "processing"** – which includes collecting, recording, adapting, indexing, or even disclosing – of personal data.

- It also lays out **provisions on data storage**, making it mandatory for a copy of personal data to be stored in India, and called for amendments to other laws, including the Right to Information.

Hence, the report had given due emphasis on **freedom and fairness** where freedom was defined as enhancing individual autonomy with regard to personal data and fairness was defined as a regulatory framework where this individual right was respected.

However, this landmark effort has multiple but critical touchpoints, which needs to addressed properly. These are:

- It totally ignored the TRAI recommendation that **ownership of data** must rest with the individual.
- Globally, the right to be forgotten refers to the right to erase data. However, the wordings of this report was such that the data collector or processor will only be required to restrict or stop sharing data rather than erase it.
- It **fixes the liability on individuals** when they withdraw their consent for the processing of any personal data necessary for the performance of a contract to which they are a party. This is an outlandish clause as it means the individual has no right over his or her data.
- It recommended **heavy penalties for private sector's breach** of data privacy laws but adopted a **lenient stand regarding the state's infractions**.
- The report tried to **create a back door** through the **instrumentality of national security** as it granted exemptions to state institutions from acquiring informed consent from principals or processing personal data.

Conclusion

Supreme Court's verdict has declared the right to privacy as a fundamental right. Hence, stringent law on data privacy and protection that is the need of the hour. The grey areas present in the report was thoroughly debated and a new Personal Data Protection Bill 2019 has been presented in the parliament.

9. In 2012, the longitudinal marking for high-risk areas for piracy was moved from 65 degrees east to 78 degrees east in the Arabian Sea by the International Maritime Organisation. What impact does this have on India's maritime security concerns?

Answer

Consequent to the rise in incidents of piracy in the East Arabian Sea, the eastern limit of piracy high-risk areas (HRA) was extended to 78° E longitude, thereby including the west coast of India within the HRA. Although this step was taken to enable the ships to take evasive actions against piracy, it complicated the maritime security challenges for India.

- As territorial remain exempted from the HRA classification, more and **more ships started hugging Indian coasts to avoid high-risk areas**. They started impinging on the fishing zones of Indian fishermen.
- Not only there was increased **chance of collision** with the boats of fishermen who were poorly equipped, there was also a chance that these **fishermen would be mistaken as pirates**.
- Also, the fact that the ships transiting the piracy HRA can have their own private security personnel further created challenges from India's maritime security perspective.



VAJIRAM & RAVI

- The incident of **Enrica Lexie** is a good example, wherein two Italian marines shot a fisherman from Kerala. Entire episode occurred at 20.5 nautical miles, which is just outside the Indian territorial water.
- Also, the ship transiting through piracy HRA incurred **additional costs for insurance**. This made international trade costlier.

Conclusion:

The absence of piracy in the Indian maritime zones and adjacent seas, the security concerns and financial implications of an extended HRA, led to India seeking a review of the HRA. Finally, in December 2015, the limits of the piracy HRA was revised.

Italian Marines Case

The Permanent Court of Arbitration (PCA) has delivered its award in the **Enrica Lexie case**. It ruled that **India does not have jurisdiction** to try the Italian marines.

Key Highlights Of The Judgement

- The marines were **entitled to immunity** when it came to criminal proceedings in India, because of their status as military officers.
- The tribunal unanimously **rejected all of Italy's claims** that India violated the UNCLOS in detaining the Enrica Lexie. It also rejected the claim that India had not cooperated in dealing with piracy.
- The PCA also took note of Italy's commitment, expressed during the proceedings, to resume its own criminal investigation into the incident.
- The tribunal unanimously held that **India is entitled to claim compensation** from Italy in relation to this incident.
- The countries are to consult with each other to try and agree on the amount of compensation to be paid by Italy.

Background

- The incident took place on 15 February 2012, approximately **20.5 nautical miles** off the coast of Kerala.
- Two Italian marines – Massimiliano Latorre and Salvatore Girone – on board the Italian-flagged oil tanker **MV Enrica Lexie**, opened fire on the Indian fishing boat, St. Antony.
- The incident took place **within India's EEZ**, though it was beyond its territorial waters (which extends upto 12 nautical miles from the coast).
- India directed the *Enrica Lexie* to dock in Kochi after the incident, searched the ship, and arrested the two marines.

Supreme Court Came Into The Picture

- Italy took the matter up in the Indian Supreme Court first, challenging the criminal proceedings against them in Kerala.
- SC rejected the Italian argument that the incident took place on the high seas and so India did not have jurisdiction over the matter.
- However, the **case was transferred to the NIA** as the Centre, not the state governments, has jurisdiction over cases in the EEZ.

Involvement of PCA

- In July 2015, Italy had taken the case to the International Tribunal for the Law of the Sea, which hears disputes relating the UNCLOS. It referred the matter to the PCA.

India's Argument Against Italy

According to India, Italy violated India's rights under -

- **Article 56** (Rights, Jurisdiction and Duties of the Coastal State in the Exclusive Economic Zone) of the UNCLOS,
- **Article 58** (Rights and Duties of Other States in the Exclusive Economic Zone) of UNCLOS,
- Violated India's right and freedom under **Article 87** (Freedom of the High Seas) and Article 90 (Right of Navigation) of UNCLOS, and
- Infringed upon India's rights **under Article 88** (Reservation of the High Seas for Peaceful Purposes) of UNCLOS.

Analysis Of The Recent Judgement

- India has lost its jurisdiction to try the Italian marines in its own court. However, the judgement has many silver linings for India. It should be noted that India lost its jurisdiction as, according to the court, **marines' immunity** (as they were acting on behalf of a state) **precluded India's jurisdiction**. The court admitted that **both India and Italy had concurrent jurisdiction in the matter**.
- The PCA has taken note of Italy's commitment to resume its own criminal investigation into the incident. This means that **India has some leverage to ensure justice** is served in the Italian court system, if not in Indian courts.
- The fact that the tribunal has rejected all of Italy's claims - that India violated the UNCLOS rule – is a big win for India. It simply meant that the **arbitration court did not view the incident as one related to piracy at all**.
- While the tribunal held that **Italy had not violated India's rights to sovereignty** in respect of the incident, they held the attack on St. Antony was a **violation of India's rights to freedom of navigation under Articles 87 and 90 of the UNCLOS**.
- It is for this reason that **India is entitled to compensation** – the nature of the harm caused means it cannot be addressed by mere restitution.

About PCA

- **HQ** - The Hague, Netherlands
- It aims to resolve disputes that arise out of international agreements between member states, international organizations or private parties.
- PCA is an official UN Observer.

1. AuditOnline application recently in news was developed by which among the following?

- a) Ministry of Finance
- b) NITI Aayog
- c) Ministry of Panchayati Raj
- d) Reserve Bank of India

Answer: C

Explanation:

- Panchayat funds will be audited online as for the first time **Ministry of Panchayati Raj** has decided to carry out an online audit of **20 per cent of the estimated 2.5 lakh gram panchayats** (GPs) across the country for the financial year 2019-20.
- This will be conducted using **AuditOnline** which facilitates the online and offline audit of accounts to improve the transparency and accountability of the utilisation of the funds. The audit will be scaled up to cover all Panchayats across the country in the next financial year 2020-21.
- **AuditOnline is an open-source application developed as part of Panchayat Enterprise Suite (PES) under e-panchayat Mission Mode** Project (MMP) initiated by the Ministry of Panchayati Raj (MoPR).

2. Consider the following statements about AtmaNirbhar Bharat App Innovation Challenge:

- 1. The challenge has been launched by the Ministry of Science and Technology.
- 2. The challenge aims to promote existing apps.

Which of the statements given above is/are correct?

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

Answer: B

Explanation

- The **Ministry of Electronics and Information Technology (MeitY)** recently launched the Digital India AtmaNirbhar Bharat App Innovation Challenge aimed at improving the Indian app ecosystem.
- The challenge has been launched in partnership with the **Atal Innovation Mission** and government think-tank **Niti Aayog**.
- As part of the challenge, Indian startups will be incentivised to **create world-class apps**, which will also further the 'Make in India' and 'AtmaNirbhar Bharat' initiatives.
- The challenge has been launched in **eight categories** of e-learning, office utilities and work-from-home, gaming, business, entertainment, news, health and wellness and social networking.

- The challenge will run in **two tracks**: Promotion of Existing Apps and Development of New Apps.
 - i) **Track 1 - Promotion of Existing Apps**: The focus of the Track 1 is to *identify the best Indian apps that are already being used by citizens* and have the potential to scale and become world class apps in their respective categories. Track 1 will work in mission mode and will be completed in around a month.
 - ii) **Track 2 - Development of New Apps**: Track 2 will seek to identify Indian start-ups/entrepreneurs/companies and encourage them with ideation, incubation, prototyping and roll out of applications. This track will run for a longer course of a time.

3. Consider the following statements about National Food Security Act (NFSA):

1. Food grains to Antyodaya Anna Yojana households are given under NFSA.
2. Under NFSA, two thirds of the rural population are provided subsidized food grains.

Which of the statements given above is/are correct?

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

Answer: A

Explanation:

Acknowledging that the Covid pandemic and the lockdown have hit the poor the hardest, Prime Minister has announced an extension of the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) for 80 crore people till the end of November.

PM Garib Kalyan Anna Yojana (PMGKAY)

- The PMGKAY is one of the main components of Centre's Rs 1.70 lakh crore relief package under the Pradhan Mantri Garib Kalyan Yojana for the poor to help them fight the battle against coronavirus.
- The scheme involves providing **additional 5 kg food grain free to 80 crore beneficiaries** of the **National Food Security Act (NFSA)**, *over and above their monthly entitlement.*
- In addition, every family got one kilogram of dal per month, free of cost, but the milling of pulses, ended up delaying delivery and distribution of dal. Thus, the government has replaced the provision of one kilogram of dal to one kilogram of chana for the remaining duration of the scheme, which is expected to speed up delivery.
- The five-month extension will cost around Rs 90,000 crore, taking the overall cost of the scheme to Rs 1.5 lakh crore.

Food Grain Distribution Under PMGKAY

- Out of about the monthly allocation of 40 lakh metric tonnes, States have distributed about 93 per cent in April, 92 % in May and 74 % in June.
- Some States, for instance Bihar and Delhi, have distributed less food grains than the national average. West Bengal is the only state that has not distributed food grains for May and June.

National Food Security Act (NFSA), 2013

- The National Food Security Act, 2013 was notified in 2013 with the objective to provide for food and nutritional security, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity.
- The Act provides for coverage of up to 75% of the rural population and up to 50% of the urban population for receiving subsidized food grains under Targeted Public Distribution System (TPDS), thus covering about two-thirds of the total population.
- The eligible persons are entitled to receive 5 Kgs of food grains per person per month at subsidised prices. Further, the Antyodaya Anna Yojana (AAY) households or the poorest of the poor group receive 7 kg of subsidised food grains per person per month i.e. 35 kg of food grain/family/month.
- In case of non-supply of entitled food grains or meals, the beneficiaries receive a food security allowance.

Benefits For Women And Children

- Pregnant women and lactating mothers are entitled to meals and maternity benefits of not less than Rs 6000. It is however restricted to two children only.
- The eldest women of the household of age 18 years or above is the head of the household for the purpose of issuing ration cards.
- Further, children up to 14 years of age are entitled to nutritious meals as per the prescribed nutritional standards.

4. Consider the following statements about MGNREGA:

1. **Employment under MGNREGA is a legal entitlement.**
2. **MGNREGA has a provision for unemployment allowance.**

Which of the statements given above is/are correct?

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

Answer: C

Explanation

- According to the MGNREGA database, at least 1.4 lakh poor rural households have already completed their quota of 100 days of work under MGNREGA in the first three months of the year, and will not be eligible for further benefits for the rest of the year.
- Another seven lakh households have completed 80 days and are on the verge of running out of work as well. Further, 23 lakh households have already completed 60 days of work.
- This is an unprecedented situation where many people are desperate for work and are dependent on MGNREGA wages, as the COVID-19 pandemic and the lockdown resulted in thousands of unemployed migrant workers returning to their villages.

- Construction sector, which usually absorbs a large number of workers, has also collapsed. In many areas, monsoon is the hungry season and for families who cross the 100-day limit, will have to face a huge crisis.

Demands

- The MGNREGA scheme contains a provision for districts affected by drought or other natural disaster to request an expansion of the scheme to allow for **150 days of work per household**.
- Given that COVID-19 was declared a national disaster, activists have demanded that this provision be implemented immediately across the country to increase the limit to 200 days.
- Further, there have been demands to impose the upper limit of days **per adult individual** rather than per household.
- Demands have also been made to increase the daily wage to **Rs 600 per day** as the current wage rate of ₹200 per day does not even match up to minimum wage rates in most States.

MGNREGA

- MGNREGA provides a legal guarantee for **one hundred days of employment** in every financial year to adult members of any rural household willing to do public work-related unskilled manual work.
- It helps in **creation of durable assets** (such as roads, canals, ponds and wells). It also helps in protecting the environment, empowering rural women, reducing rural-urban migration and fostering social equity.
- **Social Audit of MGNREGA works is mandatory**, which lends to accountability and transparency.
- If work is not provided within 15 days of applying, applicants are entitled to an **unemployment allowance**. Thus, employment under MGNREGA is a legal entitlement.
- Employment is to be provided within **5 km of an applicant's residence**, and minimum wages are to be paid. If the distance is above 5 km extra wage has to be paid.
- The **Ministry of Rural Development** monitors the implementation of this scheme in association with state governments.

5. Consider the following statements about National Commission for Protection of Child Rights:

1. **NCPCR is a statutory body.**
2. **As per NCPCR a child includes person only up to the age of 16.**

Which of the statements given above is/are correct?

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

Answer: A

Explanation

Taking suo moto cognizance, the National Commission for Protection of Child Rights (NCPCR) has served a notice to the Rajasthan government seeking its response on its recent guidelines issued for admissions to pre-primary classes in private schools.

Rajasthan Government's Guidelines

- The new guidelines by Rajasthan government had exempted private schools from 25 per cent reservation for Economically Weaker Section (EWS) students in their pre-primary classes for the academic session 2020-21.
- It stated that admissions in 2020-21 under Right to Education (RTE) Act, will be given in Class I or above.

RTE Act

- The 86th Constitution Amendment, made education a fundamental right under Article 21A for children between 6 and 14 years. It also provided for 25 per cent reservation for economically weaker sections (EWS) in government-aided private schools.
- NCPCR highlighted that the Act states that where a school imparts pre-school education, the provisions shall apply for admission to such pre-school education as well. Thus, the Rajasthan government's guidelines violate the provisions of the RTE Act.
- NCPCR recommended the Rajasthan government to re-examine its recent guidelines and make necessary changes in light of the RTE Act, to ensure that there is no loss to the children or their education due to implementation of faulty guidelines

National Commission for Protection of Child Rights (NCPCR)

- The National Commission for Protection of Child Rights (NCPCR) is a **statutory body** established under the Commission for Protection of Child Rights (CPCR) Act, 2005.
- It works under the aegis of **Ministry of Women and Child Development**. The Commission became operational in 2007.
- The Commission is mandated under CPCR Act, 2005 to ensure that all laws, policies, programmes, and administrative mechanisms are in agreement with the child rights enshrined in the Constitution of India and the UN Convention on the Rights of the Child.
- As per the definition of the commission, a child includes person up to the age of 18 years.

6. Consider the following statements about Agriculture Infrastructure Fund (AIF):

1. AIF is a Central Sector Scheme.
2. AIF provides interest subvention as well as credit guarantee.

Which of the statements given above is/are correct?

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

Answer: C

Explanation:

- The Union Cabinet recently gave its approval to a new **pan India Central Sector Scheme-Agriculture Infrastructure Fund**. The duration of the Scheme shall be from FY2020 to FY2029 (**10 years**).

- The agri-infra fund was part of the Rs 20 lakh crore stimulus package announced in response to the COVID-19 crisis.

Features of the Fund

- The scheme will provide a **medium - long term debt financing facility** for investment in viable projects for **post-harvest management infrastructure and community farming assets** through interest subvention and financial support.
- Under the scheme, **Rs. 1 lakh crore** will be provided by banks and financial institutions as loans to Primary Agricultural Credit Societies (PACS), Marketing Cooperative Societies, Farmer Producers Organizations (FPOs), SHGs and farmers.
- Loans will also be extended to the Joint Liability Groups (JLG), Multipurpose Cooperative Societies, agri-entrepreneurs, startups, Aggregation Infrastructure Providers and PPP projects sponsored by the government agency or local body.
- The loans will be disbursed in the span of four years starting with a sanction of Rs 10,000 crore in the current year and Rs 30,000 crore each in the next three financial years.
- Loans under the scheme will have **interest subvention** of 3% per annum up to a limit of Rs. 2 crore. This subvention will be available for a maximum period of seven years.

Credit Guarantee

- Further, credit guarantee coverage will be available for eligible borrowers from this financing facility under Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme for a loan up to Rs. 2 crore. The fee for this coverage will be paid by the government.
- In case of FPOs, the credit guarantee may be availed from the facility created under FPO promotion scheme of Department of Agriculture, Cooperation & Farmers Welfare (DACFW).

Fund Management And Monitoring

- The fund will be managed and monitored through an online **Management Information System (MIS)**, which will provide a platform to the qualified entities to apply for a loan under the fund.
- The national, state, and district level **monitoring committees** will be set up to ensure real-time monitoring and effective feedback.

7. Consider the following statements about various models of highway development:

- 1. In Engineering, Procurement and Construction model the cost is completely borne by the government.**
- 2. Under Hybrid Annuity Model, the toll collection is the right of the developer.**

Which of the statements given above is/are correct?

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

Answer: A

Explanation:

- In its effort to improve the quality of roads, the National Highways Authority of India (NHAI) under the Ministry of Road Transport and Highways has decided to undertake performance assessment and ranking of the highways in the country.
- Apart from overall ranking of all the corridors, separate ranking for BOT (build, operate, transfer), HAM (hybrid annuity mode) and EPC (engineering, procurement, construction) projects will also be done.
- The ranking of the corridors will be dynamic and the concessionaire/ contractor/ operator will get the opportunity to improve upon their ranking by improving the services on that corridor.

Parameters Of Assessment

- The assessment parameters are based on different international practices and studies for benchmarking highway performances in Indian context.
- The criteria for the assessment have been broadly categorised in three main heads: **Highway Efficiency (45%), Highway Safety (35%) and User Services (20%)**.
- Additionally, important parameters like operating speed, access control, time taken at toll plaza, road signages, road markings, accident rate, incident response time, crash barriers, illumination will also be considered while conducting the assessment.
- Other parameters include availability of Advanced Traffic Management System (ATMS), functionality of structures, provision for grade separated intersections, cleanliness, plantation, wayside amenities and customer satisfaction

Outcome

- The score obtained by each corridor in each of the parameter will provide a feedback and corrective recourse for higher standards of operation, better safety and user experience to improve existing highways.
- It will also help in identifying and filling gaps of design, standards, practices, guidelines and contract agreements for other NHAI projects and ensure high quality maintenance of roads.

Build Operate and Transfer (BOT) Annuity Model

- The BOT Annuity model is a PPP model for infrastructure projects especially road projects. Under BOT annuity, a developer builds the highway, operates it for a specified duration and transfers it back to the government.
- The government starts payment to the developer after the launch of commercial operation of the project.

Engineering, Procurement and Construction (EPC) Model

- EPC is a PPP model for the development of infrastructure projects especially highways. Under EPC, the **cost is completely borne by the government**.
- Government invites bids for engineering knowledge from the private players. The private sector's participation is minimum and is limited to the provision of engineering expertise.
- Procurement of raw material and construction costs are met by the government. A difficulty of the model is the **high financial burden for the government**.

Hybrid Annuity Model (HAM):

- The Hybrid Annuity Model is a **mix of BOT Annuity and EPC models**.

- The government contributes 40% of the project cost in the first five years through annual payments (annuity). The remaining payment is made on the basis of the assets created and the performance of the developer.
- As the government pays only 40% during the construction stage, the developer has to find money for the remaining amount in the form of equity or loans.
- There is no toll right for the developer. Under HAM, revenue collection is the responsibility of the NHAI.
- As per the government's policy, HAM is used in stalled projects where other models are not applicable.

8. Swarna Sub1 is a variety of:

- a) Paddy crop
- b) Wheat crop
- c) Millet
- d) None of the above

Answer: A

Explanation:

- According to the Assam State Disaster Management Authority, this year's flood since May 22 has affected crop, mainly paddy, on more than 125,097 hectares of land across 25 of the State's 33 districts.
- But unlike that of most other crops in Assam, the paddy crops of the **Ranjit Sub1 variety** and two other flood-tolerant varieties named **Swarna Sub1** and **Bahadur Sub1**, withstood the deluge.
- Farmers in flood-prone areas of Assam have been harvesting the water-resistant Swarna Sub1, developed by the Indian Council of Agricultural Research and the Manila-based International Rice Research Institute, since 2009. But the switchover from traditional varieties of paddy has been slow.

Paddy Watch

- Researchers are developing the world's first real-time paddy-field monitoring app called Paddy Watch, which will give information on the quantity of rice planted and the harvest achieved.
- The app is developed in partnership with Indian Agricultural Research Institute and research institutes from Indonesia, Malaysia, China, Vietnam and Australia.
- The project has been undertaken in collaboration with Google Earth and the Group on Earth Observations.
- The real-time land-use data generated using Google Earth and cloud computing will be verified by field operators in India, China, Malaysia, Indonesia, and Vietnam. This will allow the agricultural scientists to monitor and ensure their accuracy worldwide.
- These five countries hold the position of the largest rice-producing countries across the globe. Among these, India, China and Indonesia are the world's three largest producers of rice and together account for about 60 per cent of the total world production.

Benefits of the App

- The mobile monitoring app will allow farmers, scientists and agricultural economists to:

- Determine the extent of arable land under rice cropping in near real-time.
 - Estimate potential yields.
 - Manage water use and water security.
 - Account for greenhouse gas emissions (paddy rice releases methane).
 - Develop policies for education, economic growth, gender equity, and reducing social inequality.
- The app will be helpful in improving the food security around the world and will go a long way in meeting the United Nations-mandated sustainable development goal No.2 — of 'Zero Hunger'.

9. Consider the following statements about Mongolian Kanjur:

- 1. Mongolian Kanjur is being re-printed in India under the National Mission for Manuscripts.**
- 2. Mongolian Kanjur has been translated from Pali language.**

Which of the statements given above is/are correct?

- 1 only**
- 2 only**
- Both 1 and 2**
- Neither 1 nor 2**

Answer: A

Explanation:

- The Ministry of Culture has taken up the project of reprinting 108 volumes of Mongolian Kanjur, under the National Mission for Manuscripts (NMM). The first set of five volumes of Mongolian Kanjur recently published were presented to the President of India.
- It is expected that all the 108 volumes of the Mongolian Kanjur will be published by March, 2022.

Mongolian Kanjur

- Mongolian Kanjur is a **Buddhist text** in 108 volumes and is considered to be the most important religious text in Mongolia.
- In the Mongolian language 'Kanjur' means 'Concise Orders'- the words of Lord Buddha in particular.
- Mongolian Buddhists worship the Kanjur at temples and recite the lines of Kanjur in daily life as a sacred ritual. It is also a source of providing a cultural identity to Mongolia.
- Mongolian Kanjur has been translated from Tibetan and the language of the Kanjur is Classical Mongolian.

National Mission for Manuscripts

- The National Mission for Manuscripts was established in February 2003 by the Ministry of Culture.
- India possesses an estimate of ten million manuscripts. These cover a variety of themes, textures and aesthetics, scripts, languages, calligraphies, illuminations and illustrations.
- The Mission has the mandate of identifying, documenting, conserving and making accessible the manuscript heritage of India.
- Indira Gandhi National Centre for the Arts (IGNCA) is the nodal execution agency.

10. Consider the following statements about Tangams:

1. Tangam is a community under the Adi tribe of Tamil Nadu.
2. Tangam language belongs to the Dravidian language family.

Which of the statements given above is/are correct?

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

Answer: D

Explanation:






- Recently, the Arunachal Pradesh Chief Minister released a book titled Tangams: An Ethnolinguistic Study of The Critically Endangered Group of Arunachal Pradesh.
- The book attempts to cover every aspect of Tangam life and culture that will help the future generations of the Tangam community to retain their unique identity. It takes into account language, rituals, food habits, belief systems etc. of the Tangam community.

Tangams

- Tangams are a little-known community within the larger Adi tribe of Arunachal Pradesh. As per a survey, the Tangams now live in only one village (Kugging), in Upper Siang district’s Paidem circle, with only 253 reported speakers of the Tangam language.
- As per the UNESCO World Atlas of Endangered Languages (2009), Tangam is an oral language that belongs to the Tani group, under the greater Tibeto-Burman language family. The Atlas classifies the Tangam language as ‘critically endangered’.
- Over the years, the Tangams have learnt several languages as a survival tool. They rarely speak their own language now, since their population is restricted to a single village.

Status Of Other Languages In Arunachal Pradesh

- The languages of Arunachal Pradesh have been classified under the Sino-Tibetan language family, and more specifically under the Tibeto-Burman and Tai group of languages, such as Lolo-Burmish, Bodhic, Sal, Tani, Mishmi, Hruissh and Tai.
- While the education system has introduced Devanagari, Assamese and Roman scripts for most tribal languages, new scripts such as Tani Lipi and Wancho Script have been developed by native scholars.
- According to experts, the number of languages in Arunachal Pradesh could be around 32-34. If the various varieties of language are also taken into account, then the number can go up to 90.

Degree of endangerment	Intergenerational Language Transmission
safe	language is spoken by all generations; intergenerational transmission is uninterrupted >> not included in the Atlas
 vulnerable	most children speak the language, but it may be restricted to certain domains (e.g., home)
 definitely endangered	children no longer learn the language as mother tongue in the home
 severely endangered	language is spoken by grandparents and older generations; while the parent generation may understand it, they do not speak it to children or among themselves
 critically endangered	the youngest speakers are grandparents and older, and they speak the language partially and infrequently
 extinct	there are no speakers left >> included in the Atlas if presumably extinct since the 1950s

- According to the UNESCO Atlas of the World's Languages in Danger (2009) more than 26 languages of Arunachal Pradesh have been identified as **endangered**.
- The younger generation of various tribes especially in the urban areas have mostly stopped using their mother tongue and depend on English, Assamese and an informal version of Hindi called Arunachalee Hindi. It is believed that this shift has led to loss of native languages of the tribal communities.

Reasons Of Disappearance Of Languages

- A language disappears when its speakers disappear or when they shift to speaking another language – most often, a larger language used by a more powerful group.
- Languages are threatened by external forces such as military, economic, religious, cultural or educational domination, or by internal forces such as a community's negative attitude towards its own language.
- Today, increased migration and urbanization has led to the loss of traditional ways of life and a strong pressure to speak a dominant language (language used by a larger/powerful group), that is necessary for economic progress.

UNESCO's Atlas of the World's Languages In Danger

- Since its creation in 1996, 'UNESCO's Atlas of the World's Languages in Danger' raises awareness around the need to safeguard the world's linguistic diversity among policy-makers, speaker communities and the general public.
- It acts as a tool to monitor the status of endangered languages and the trends in linguistic diversity at the global level.
- The latest edition of the Atlas (2010) lists about 2,500 languages (among which 230 languages are extinct since 1950). For each language, the Atlas provides its name, degree of endangerment (danger) and the country or countries where it is spoken.

11. The two countries that has been declared measles free by WHO are

- a) India and Sri Lanka
- b) Sri Lanka and Maldives
- c) Maldives and Bangladesh
- d) Bhutan and India

Answer: B

Explanation

- According to WHO, **measles and rubella** have been eradicated from **Sri Lanka and the Maldives**.
- The Maldives recorded its last endemic case of measles in 2009 and rubella in October 2015. On the other hand, Sri Lanka's last endemic cases of measles and rubella were reported in May 2016 and March 2017 respectively.
- **Bhutan, North Korea and East Timor** were also declared to be **measles-free**.

Disease Free Status

- A country gets a **disease-free status** when there is no evidence of endemic transmission of the viruses for over three years in the presence of a well performing surveillance system.

- In September 2019, **member countries of WHO South-East Asia Region** had set 2023 as target for elimination of measles and rubella.

Status in India

- India has a long road ahead, particularly because vaccine-resistant voices are sometimes being heard.
- For the period between May 2018 and April 2019, India reported 47,056 measles cases and 1,263 rubella cases during these 12 months. India currently gives a **measles rubella vaccine** in its **universal immunisation programme** to tackle both measles and rubella.
- It initiated **the world's largest Measles-Rubella (MR) Campaign**, in February 2017, targeting vaccination of 410 million children and adolescents aged between 9 months and 15 years.

Measles

- Measles is a highly **contagious**, serious disease caused by a **virus** in the paramyxovirus family and it is normally passed through direct contact and through the air. The virus infects the respiratory tract, then spreads throughout the body. Measles is a **human disease** and is not known to occur in animals.
- Even though a safe and cost-effective vaccine is available, in 2018, there were more than 140 000 measles deaths globally, mostly among children under the age of five.

Rubella

- Rubella is an **acute, contagious viral infection**. While rubella virus infection usually causes a mild fever and rash in children and adults, infection during pregnancy, especially during the first trimester, can result in miscarriage, fetal death, stillbirth, or infants with congenital malformations, known as congenital rubella syndrome (CRS).
- The rubella virus is transmitted by airborne droplets when infected people sneeze or cough. **Humans are the only known host**.

The Measles & Rubella Initiative

- Launched in 2001, the **Measles & Rubella Initiative (M&R Initiative)** is a global partnership led by the American Red Cross, United Nations Foundation, Centres for Disease Control and Prevention (CDC), UNICEF and WHO.
- The Initiative is committed to ensuring that no child dies from measles or is born with congenital rubella syndrome. The Initiative helps countries to plan, fund and measure efforts to stop measles and rubella for good.

12. Recently, work begun on world's longest subsea power cable. This power cable runs between

- a) **Germany & Denmark**
- b) **France & Germany**
- c) **France & UK**
- d) **UK & Denmark**

Answer – D

Explanation:

- Construction work has begun in Lincolnshire on the world's longest subsea power cable.
- This power cable will run between **Britain and Denmark** to **share renewable energy** between the two countries.

- The **475-mile (765km) cable** is a joint-venture between National Grid in the UK and Denmark's Energinet.
- The UK has about 5GW of power cable capacity connecting Britain's electricity system to power generated in the Netherlands, France and the Republic of Ireland.

13. Recently, an iconic UNESCO World Heritage site - Hagia Sophia has been in controversy. The site is located in

- a) Turkey
- b) Saudi Arab
- c) Iraq
- d) Oman

Answer – A

Explanation

A Turkish court has annulled the 1934 government decree converting Istanbul's Hagia Sophia into a museum. This ruling has paved way for the building's conversion back into mosque despite international warnings against such move.

Hagia Sophia

- It is a domed building that sits in Istanbul's Fatih district on the west bank of the Bosphorus. It was originally a cathedral.
- The construction of this iconic structure, as an Orthodox Christian cathedral, in Istanbul started in 532 AD during the reign of Justinian I, the ruler of the Byzantine Empire, when the city was known as Constantinople.
- For a long time, the Hagia Sophia was Istanbul's most important mosque. In the 1934, Mustafa Kemal Ataturk, the founder of the Republic of Turkey, changed the mosque into a museum in an attempt to make the country more secular.

Criticisms

- The current conversion has led to criticism from religious and political leaders worldwide, as it was considered an emblem of Christian-Muslim co-existence.
- Unesco has said it deeply regrets the decision and has asked the Turkish authorities to open a dialogue without delay.
- The US has said that the conversion would mean that the structure would not be able to serve humanity as a much-needed bridge between those of differing faith traditions and cultures.

14. The first-ever military communications satellite ANASIS-II has been launched by

- a) North Korea
- b) South Korea
- c) Iran
- d) Turkmenistan

Answer – B

Explanation

- **South Korea** launched its first-ever military communications satellite. The military satellite, **ANASIS-II** is aimed at enhancing the nation's ability to defend itself against nuclear-armed North Korea.
- The launch of ANASIS-II satellite has made South Korea the **10th country in the world to own a military-only communications satellite**.
- The satellite was launched by private operator SpaceX.

15. Consider the following statements regarding Malabar Exercise:

1. **Malabar is a trilateral military exercise between India, USA and Japan.**
2. **The annual Malabar series began in 1992 as a bilateral exercise between India and the United States.**

Which of the above statements is/are Correct?

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

Answer – C

Explanation

India is planning to invite Australia to join its high-level naval exercise named Malabar Exercise. If a green signal is given then it will be the first time since 2007 that all members of Quad will participate in a joint military drill.

Australis's Willingness to Join the Grouping

- For years, Australia has wanted to be party to the Malabar exercise. It even agreed to join in **as an observer in 2017**.
- Australia is a part of Quad group which includes India, USA, Japan and Australia. However, **Quad became dormant from 2008 to 2017**.
- While quad has been made operational once again since 2017, it only took off in a significant way after a meeting between the countries' foreign ministers in September 2019.
- Also, **tensions between Australia and China have been high** since Australia in April 2020 called for an investigation into the origins of COVID-19.
- China responded by reportedly drawing up a list of Australian exports that could be subject to tariffs and stricter controls.

Why India Resisted The Inclusion Of Australia So Far?

- India did not want to **antagonise China**. China has been uncomfortable with the informal coalition of four democracies, which was first formed in 2004 to help nations in the Indo-Pacific after the tsunami and revived in 2017.
- China views this maritime Quadrilateral as an **Asian-NATO** whose only aim is to contain the rise of China.

What Has Changed Now?

- Since 2007, India has tried to woo China. However, the situation has changed now.
- India has been facing a tense standoff with China after border clashes in Galwan valley which resulted in the death of 20 Indian border troops and an unknown number from the Chinese side.
- This had changed India's posture towards China. Now, India is under no obligation to give priority to China's wishes over its own strategic requirements.

Positive Effects of Australia Joining the Exercise:

- The decision to include Australia comes as Beijing and New Delhi are caught up in their worst border tensions in four decades. It will give a **strong message to China**.
- The more India cooperates with the US, Japan and Australia, the more it can improve its **ability to counter China in the Indo-China border area**.
- Quad will not just be a symbol, but will also **have more practical value**. There is a possibility that the Quad will expand as **Quad+**; Southeast Asian countries like Vietnam, Indonesia, Philippines etc and other European countries like the UK and France, too, will join the grouping.
- Australia's full induction into the Quad has implications for India's approach to the Indo-Pacific as well. So far, **India was reluctant to term its Indo-Pacific policy** as a strategy, and mostly referred to it as its "vision" of the Indo-Pacific.
- However, this seems to be changing now. As the Quad starts to leverage its hard power, and as India's relations with China deteriorate, **New Delhi is likely to reshape its Indo-Pacific strategy alongside its partners**.

Challenges

- India **faces a dilemma** that differentiates its strategic concerns from those of the US, Japan and Australia: **India is alone** among the four countries **that shares a land border with China**.
- As the cooperation among Quad countries increases, China might respond by deploying an increasingly **greater number of forces to the Chinese side** of the India-China border.
- It should be remembered that, India and China are currently negotiating a truce on the border in Eastern Ladakh. Formation of Quad **might derail the disengagement process** at Ladakh.
- Also, there is a possibility that China might respond through **aggressive posturing in the Eastern Indian Ocean**. This will open up a new front in the India-China conflict.
- The **US commitment**, because of its military, economic and technological power, is crucial. As of now, the US is focusing on its competition with China and hence will not withdraw from this region any time soon. **But if there is any sign of US withdrawal, it will be nightmare for the other countries**.

Conclusion

- The edifice of post 1988 India-China relationship was built on the premise that China will not pose a security threat to India, and that it will be sensitive towards India's core interests. That has not happened. Hence, India must pursue its strategic interests independently.
- The invitation should not be a one-off measure to irritate China in the backdrop of the border tension, but **should be a permanent feature** of India's strategic thinking.
- Then only the vision of free, open and prosperous India-Pacific region will be advanced and protected.

About Malabar Exercise:

- Exercise Malabar is a **trilateral naval exercise involving the United States, Japan and India** as permanent partners.
- Originally begun in 1992 as a bilateral exercise between India and the United States, Japan became a permanent partner in 2015.

16. Hul Divas is celebrated among tribals on June 30 every year. This is celebrated in memory of

- a) Birsa Munda
- b) Sidho and Kanhu
- c) Bhagoji Naik
- d) Dirjinarain

Answer – B

Explanation

- Celebrated on June 30 in the memory of tribal leaders — Sidho and Kanhu Murmu (Santhal Revolt).
- On June 30, 1855 tribals under the leadership of Sidho and Kanhu revolted at Bhognadih (a village in Sahebganj district of Jharkhand).

17. Who among the following persons have been appointed, on the recommendation of Indian government, as vice-president of the Asian Development Bank (ADB)?

- a) Diwakar Gupta
- b) Sunil Arora
- c) Chandrachud Singh
- d) Ashok Lavasa

Answer – D

Explanation

- ADB has appointed **Election Commissioner Ashok Lavasa** as its vice-president on the recommendation of the Indian government.
- Lavasa will succeed current vice president at ADB **Diwakar Gupta** whose tenure ends on 31 August.

ADB Approves Grant to India to Combat COVID-19

- Multilateral funding agency ADB has approved USD 3 million (about Rs 22 crore) grant to India from its Asia Pacific Disaster Response Fund.
- This was granted to support the **government's emergency response to COVID-19** pandemic.
- This grant has been financed by Japanese government. It will be used to **procure essential thermal scanners and essential commodities** which will strengthen India's COVID-19 response further.
- Earlier in April 2020, ADB had approved USD 1.5 billion **COVID-19 Active Response and Expenditure Support (CARES)** programme in order to support India in its pandemic response efforts.

- It included disease prevention and containment, as well as the social protection measures for the poor and economically vulnerable, especially women and disadvantaged groups.
- The CARES program has been funded through COVID-19 Pandemic Response Option (CPRO) which is under ADB's Counter-Cyclical Support Facility. CPRO was established to provide assistance to the member countries' pandemic response.

About ADB

- ADB (founded in 1966) is an international development finance institution whose mission is to help its developing member countries reduce poverty and improve the quality of life of their people.
- **Headquartered in Manila**, and established in 1966, ADB is owned and financed by its 67 members, of which 48 are from the region and 19 are from other parts of the globe.
- The two largest shareholders of the Asian Development Bank are the United States and Japan.
- ADB is an official United Nations Observer.

18. Consider the following statements regarding Commonwealth Human Rights Initiative (CHRI):

1. CHRI is an intergovernmental organization which aims to promote human rights in the countries of the Commonwealth.
2. It is headquartered at New Delhi, India.

Which of the above statements is/are Correct?

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

Answer – B

Explanation

The Commonwealth Human Rights Initiative (CHRI) and an international anti-slavery organisation Walk Free has released a report on Slavery. The report was released on the occasion of **World Day Against Trafficking in Persons**.

Key Highlights Of The Report

- Commonwealth countries accounts for about 40% of people living in conditions of modern slavery in the world.
- Commonwealth nations have failed to take proper actions to eradicate modern slavery by 2030.
- An estimated **one in every 150 people** in the Commonwealth is living in conditions of modern slavery.
- One-third of the Commonwealth countries had criminalised forced marriage. 23 countries had not criminalised commercial sexual exploitation of children.
- Out of 54 countries, only four engage with business to investigate supply chains, and all countries report gaps in victim assistance programs.

India Specific Observations

- India, like all other Commonwealth countries in Asia, had not ratified the International Labour Organisation's 2011 Domestic Workers Convention or the 2014 Forced Labour Protocol.

- The 2014 Forced Labour Protocol provides protection and appropriate remedies, including compensation, to victims of forced labour and to sanction the perpetrators of forced labour.
- It also obligates state parties to develop a national policy and plan of action for the effective and sustained suppression of forced or compulsory labour.
- India accounted for one-third of all child brides in the world.
- India has the weakest response on national coordination, with no national coordinating body or **National Action Plan in place.**”

Commonwealth Human Rights Initiative (CHRI)

- It is an independent, non-profit, non-partisan, **international non-governmental organisation** working in the area of human rights.
- HQ – New Delhi
- The Commonwealth is a voluntary association of 54 independent and equal sovereign states which came into existence in 1949.
- **Rwanda and Mozambique** are two members which had no historical ties with British empire.

19. Recently, Poland has expressed its intention to withdraw from the Istanbul convention. The convention is related to

- a) **Preventing violence against women**
- b) **Preventing Child Sexual Abuse**
- c) **Elimination of Nuclear weapons**
- d) **Fight against terrorism**

Answer – A

Explanation

Poland is to withdraw from Istanbul treaty aimed at preventing violence against women.

Reasons Given By Poland

- According to Poland, the **Convention was harmful** because it **required schools to teach children about gender.**
- The government also argued that the convention **violated the rights of parents** and contains **elements of an ideological nature.**

About The Treaty

- The treaty, known as the Istanbul Convention, is intended to **combat violence against women in Europe.**
- Although the treaty does not address issues of gay rights, opponents have claimed that the treaty promotes LGBT ideology and poses a threat to Christian morality.
- Ratification of the treaty has stalled in several European countries including Bulgaria, the Czech Republic, Hungary, Latvia and Slovakia. Russia, which is also a member of the Council of Europe, has not signed it.

20. Blue Heart Campaign is an awareness initiative launched by United Nations. This campaign is related to

- a) Promoting Organ Donation
- b) Promoting Healthy life style
- c) Fight human trafficking
- d) None of the above

Answer – C

Explanation

World Day Against Trafficking in Persons

- The world day against trafficking in persons is observed on **July 30** every year.
- **Aim** - to raise awareness about the condition of victims of human trafficking and to promote and protect their rights.
- The **2020 theme** focuses on the **first responders to human trafficking**. These are the people who work in different sectors - identifying, supporting, counselling and seeking justice for victims of trafficking, and challenging the impunity of the traffickers.

The Blue Heart Campaign

- Launched by UN
- It is a global awareness raising initiative to fight human trafficking and its impact on society.
- The Blue Heart is increasingly recognized as the international symbol against human trafficking, representing the sadness of those who are trafficked while reminding us of the cold-heartedness of those who buy and sell fellow human beings.

21. Who among the following has been nominated to be the vice-chairman of the Security Platform of International Union of Railways (UIC):

- a) Arun Kumar
- b) Diwaker Sen Gupta
- c) Ashok Lavasa
- d) Piyush Goyal

Answer – A

Explanation

- **Arun Kumar**, Director General of the Railway Protection Force (RPF), has been nominated to be the vice-chairman of the Security Platform of the **Paris-based Union Internationale Des Chemins/International Union of Railways (UIC)**.
- The security platform of UIC promotes the exchange of information and experience among the security agencies of UIC members.
- The UIC is the **global platform for railway systems** working on inter-operability, developing common technical standards for railways across the world and strengthening what is called “**rail diplomacy**”.

- With Chinese railway hardly ever sharing any data, Indian Railways is a significant member of the UIC as the largest mover of passengers and freight after China.

22. Consider the following statements regarding the Economic and Social Council (ECOSOC):

1. It is the principal organ of United Nation.
2. It is a platform for coordination, policy review, policy dialogue and recommendations on economic, social and environmental issues.

Which of the above statements is/are correct?

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

Answer – C

Explanation

UN ECOSOC Meet

- the United Nations' **Economic and Social Council (ECOSOC)** held a high-level dialogue on the topic – **'Multilateralism after Covid-19: What kind of UN do we need at the 75th Anniversary'**
- It should be noted that the theme of this dialogue resonated with **India's call for 'reformed multilateralism' in a post-COVID-19 world.**
- Indian PM delivered a keynote address virtually at the dialogue.
- This was the first address by PM to the broader UN membership since India's election as a non-permanent member of the Security Council for the term 2021-22.
- Overall, it was the 2nd time that the current PM addressed the ECOSOC. He had earlier addressed at the 70th anniversary of the ECOSOC in January 2016.

About ECOSOC

- It is **one of the six principal organs** of UN, responsible for the direction and coordination of the economic, social, humanitarian, and cultural activities carried out by the UN.
- It was established by the UN Charter (1945) and has 54 members.
- Its **membership is based on geographic representation**: 14 seats are allocated to Africa, 11 to Asia, 6 to eastern Europe, 10 to Latin America and the Caribbean, and 13 to western Europe and other areas.
- Members are elected for **three-year terms** by the General Assembly. Four of the five permanent members of the Security Council have been continuously reelected because they provide funding for most of ECOSOC's budget, which is the largest of any UN subsidiary body.
- Decisions are taken by simple majority vote. The presidency of ECOSOC changes annually.
- India held the **inaugural Presidency of ECOSOC** (Sir Ramaswami Mudaliar, in 1946).

23. Consider the following statements regarding the Global Fund to Fight AIDS, Tuberculosis and Malaria:

- 1. It is a financing instrument, not an implementing agency.**
- 2. It is headquartered at Geneva, Switzerland.**

Which of the above statements is/are Correct?

- 1 Only**
- 2 Only**
- Both 1 and 2**
- Neither 1 nor 2**

Answer – C

Explanation

- Sex workers, transpersons, gay and bi-sexual men, drug users and people living with HIV/AIDS have petitioned the Global Fund for AIDS, TB and Malaria (**GFATM**).
- They have protested against being **ignored by government and multilateral agencies** in coronavirus (COVID-19) related emergency relief efforts.
- The petitioners have urged the GFATM to issue guidance to governments to channelise their COVID-19 relief funds to emergency survival needs of these people.

About GFATM:

- Popularly known as the Global Fund, it was established in 2002 as an innovative financing mechanism that seeks to rapidly raise and disburse funding for programs that reduce the impact of HIV/AIDS, tuberculosis and malaria in low- and middle-income countries.
- The Fund is a **financing instrument**, not an implementing agency.
- HQ – Geneva, Switzerland

24. Consider the following statements regarding the National Crime Records Bureau (NCRB):

- 1. It has been set up under the administrative control of the Ministry of Home Affairs.**
- 2. It functions as the National storehouse of fingerprint records of convicted persons.**

Which of the above statements is/are Correct?

- 1 Only**
- 2 Only**
- Both 1 and 2**
- Neither 1 nor 2**

Answer – C

Explanation

- The National Intelligence Grid (NATGRID) has signed a MoU with the National Crime Records Bureau (NCRB). The MoU would enable smooth access to the centralised online database on FIRs and stolen vehicles.

- This MoU will give NATGRID access to the **Crime and Criminal Tracking Network and Systems (CCTNS) database** (CCTNS is a platform that links around 14,000 police stations).

About NATGRID

- NATGRID is a **counter terrorism programme**, which will utilise technologies like Big Data and analytics to study and analyse the huge amounts of data from various intelligence and enforcement agencies to help track suspected terrorists and prevent terrorist attacks.
- NATGRID project was conceptualized in 2009 after Mumbai attack.
- It will be one-stop destination for security and intelligence agencies. It will be **operational by 31st December 2020**.

About NCRB

- It was set-up in 1986 under the administrative control of Ministry of Home Affairs.
- It is responsible for collecting and analysing crime data as defined by the Indian Penal Code and Special and Local Laws. NCRB is **headquartered in New Delhi**.
- It also functions as the National storehouse of fingerprint (FP) records of convicted persons including FP records of foreign criminals.

25. Arad and Carmel, recently seen in news, are

- a) Submarines deployed by China in Indian Ocean**
- b) US' warships deployed in South China Sea**
- c) Indian submarine and Aircraft carrier respectively**
- d) Israeli assault rifles**

Answer – D

Explanation

- Two latest **Israeli assault rifles — the Arad and the Carmel** — are set to be manufactured in India.
- The assault weapons are to be produced under the '**Make in India**' initiative.
- A plant had been set up in Madhya Pradesh in 2017 by Israel Weapons System (IWI) in a joint venture called PLR Systems.

26. Consider the following statements:

- 1. Kargil Vijay Diwas is celebrated on July 27 every year.**
- 2. Raising Day of Central Reserve Police Force is observed on 26 July.**

Which of the above statements is/are Correct?

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

Answer – D

Explanation

- **21st Kargil Vijay Diwas** was celebrated on **26 July** to commemorate the victory of the Indian soldiers over the infiltrating Pakistani troops.
- The Kargil War fought between May-July of 1999 in the Kargil district of Jammu and Kashmir along the Line of Control. Operation Vijay was launched by the Indian army to throw back the intruders.
- On July 26, 1999, India successfully regained command over all the high outposts.

Raising Day of Central Reserve Police Force

- The 82nd Raising Day of Central Reserve Police Force was celebrated on 27 July.
- The CRPF came into existence as Crown Representative's Police on July 27, 1939. It became the Central Reserve Police Force (CRPF) on the enactment of the CRPF Act on December 28, 1949. CRPF has the mandate to secure internal security scenario of the country.

27. Consider the following statements regarding the Army Adventure Wing (AAW):

1. **AAW works under the Directorate General of Military Training.**
2. **It is the apex body for the planning, conduct, coordination and promotion of adventure activities in the Army.**

Which of the above statements is/are correct?

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

Answer – C

Explanation

- The Indian Army has opened the Siachen Valley for the civilians. This decision was taken amidst Line of Actual Control standoff between India and China.
- **The Army Adventure Cell is to issue permits for Siachen area.**

Army Adventure Wing:

- It works under the Directorate General of Military Training. It is the apex body for the planning, conduct, coordination and promotion of adventure activities in the Army.
- Presently AAW conducts training in **17 different adventure disciplines** categorised under three fields of Aero, Aqua and Land.
- There are **25 state-of-the-art Army Adventure Training Centres** in the Army that impart specialised training and certification to all volunteers that have the zeal and enthusiasm to pursue adventure activities.

28. Stickney, Shklovsky, Roche and Grildrig are craters of which of the following planetary body

- a) Moon
- b) Mars

- c) Phobos
- d) Venus

Answer: C

Explanation

- The **Mars Colour Camera (MCC)** onboard **ISRO's Mars Orbiter Mission** has captured the image of **Phobos**, the **closest and biggest moon of Mars**.
- Phobos is largely believed to be made up of **carbonaceous chondrites**.
- **Stickney**, the **largest crater** on **Phobos** along with the other craters (**Shklovsky, Roche & Grildrig**) are also seen in this image.

Mars Orbiter Mission (MOM)

- Launched from Sriharikota (Andhra Pradesh) on 5th Nov' 2013 by **ISRO**, the MOM or the **Mangalyaan** is a space probe, orbiting Mars since 24 September 2014.
- It is India's first interplanetary mission and it made ISRO the **fourth space agency** to reach Mars, after **Roscosmos**, NASA, and the European Space Agency.
- It made India the **first Asian nation to reach Martian orbit and the first nation in the world to do so on its maiden attempt**.
- The mission was initially meant to last six months, but subsequently ISRO had said it had enough fuel for it to last "many years."
- The Rs 450-crore MOM mission aims at studying the Martian surface and mineral composition as well as scan its atmosphere for methane (an indicator of life on Mars).
- The Mars Orbiter has **five scientific instruments** - Lyman Alpha Photometer (LAP), Methane Sensor for Mars (MSM), Mars Exospheric Neutral Composition Analyser (MENCA), Mars Colour Camera (MCC) and Thermal Infrared Imaging Spectrometer (TIS).

Chondrite

- A chondrite is a **stony (non-metallic)** meteorite that has not been modified, by either melting or differentiation of the parent body.
- They are formed when various types of dust and small grains in the early Solar System accreted to form primitive asteroids.
- Estimates for their contribution to the total meteorite population vary between 85.7% and 86.2%.
- Their study provides important clues for understanding the origin and age of the Solar System, the synthesis of organic compounds, the origin of life and the presence of water on Earth.



29. Weibo Diplomacy, sometimes seen in news is related with

- a) Foreign embassies to direct communicate with people of China
- b) Chinese policy to increase its presence in African Region
- c) Group of Countries against China's South China Sea aggression
- d) US policy to support Hong Kong independence

Answer: A

Explanation

- After the government banned 59 Chinese apps, Prime Minister Narendra Modi has decided to quit the **Chinese microblogging website** Sina Weibo, which he had joined a few years ago.
- This marks a sudden end to Mr. Modi's "**Weibo diplomacy**" in China that was launched with much fanfare in **2015** as a means to directly communicate with the people of China before his first visit there as Prime Minister.
- Weibo diplomacy: Foreign embassies communicating on Chinese social media

30. Consider the following sentences about G4 Flu Virus

1. **G4 flu virus is a newly emerged strain of influenza virus that is infecting Chinese chicken and that has the potential of triggering a pandemic.**
2. **It is reported that the new strain (G4) has descended from the H5N7 strain that was responsible for the 2009 swine flu pandemic.**
3. **It is also found that the G4 strain has the capability of binding to human-type receptors.**

Which of the above statements is/are incorrect

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

Answer: A

Explanation:

- In a new research, scientists from China have identified a "recently emerged" strain of influenza virus, **G4 flu virus**, that is infecting Chinese pigs and that has the potential of triggering a pandemic.
- Scientists report that the **new strain (G4)** has **descended from the H1N1 strain** that was responsible for the 2009 swine flu pandemic.
- They also found that the G4 strain has the **capability of binding to human-type receptors** (like, the SARS-CoV-2 virus binds to ACE2 receptors in humans), was able to copy itself in human airway epithelial cells, and it showed effective infectivity and aerosol transmission in ferrets.

31. Which of the following disease is also known as Black death in Middle age

- a) Measles
- b) Kawasaki disease
- c) Kala Azar
- d) Bubonic Plague

Answer: D

Explanation

- A suspected case of bubonic plague was reported from Bayannur, a city in northern China.
- The **bubonic plague**, known as the “**Black Death**” in the Middle Ages, is a highly infectious and often fatal disease that is spread mostly by rodents. It is a **zoonotic disease**, which means it can **jump from animals to humans**.
- The plague is estimated to have a **basic reproduction number, or R0**, between **5 and 7**. This means that one infected person can spread the disease to 5-7 people. The ongoing Covid-19 pandemic’s R0 is between 1 and 2.
- Some of the symptoms of the disease include swollen lymph nodes which can be as large as chicken eggs, fever, chills, coughs, fatigue, muscle ache, etc. The **swollen lymph nodes** are called buboes, which is where the name ‘Bubonic’ comes from.

Plague

- Plague is an **infectious disease** caused by the bacteria **Yersinia pestis**, usually found in small mammals and their fleas. The disease is transmitted between animals via their fleas and, as it is a **zoonotic bacteria**, it can also transmit from animals to humans.
- Humans can be contaminated by the bite of infected fleas, through direct contact with infected materials, or by inhalation. Plague can be a very severe disease in people with a **case-fatality ratio of 30% - 100%** if left untreated.
- Although plague has been responsible for widespread pandemics throughout history, today it can be easily treated with antibiotics and the use of standard preventative measures.
- Plague is **found on all continents except Oceania** but most human cases since the 1990s have occurred in Africa. **Democratic Republic of Congo, Madagascar and Peru** are the three most endemic countries.

Kawasaki Disease

- In India and elsewhere, a new illness, with some symptoms common with the rare **Kawasaki disease, such as rashes and inflammation**, has been affecting children with Covid-19.
- Kawasaki disease is a **syndrome of unknown cause** that results in a fever and mainly affects **children under 5 years of age**. It is a form of vasculitis, where blood vessels become inflamed throughout the body.
- It is a rare disease and **does not spread between people**.
- The disease derives its name from a Japanese paediatrician, Tomisaku Kawasaki, who reported the first case in 1961. The doctor, 95, died on June 5 this year in Tokyo.

32. Consider the following sentences about Science and Engineering Research Board (SERB)

1. **Science and Engineering Research Board (SERB) is an attached body under the Department of Science and Technology, Government of India.**
2. **SERB launched ABHYAAS programme which aims to boost research and development in the country by enabling and grooming potential PG/PhD students by means of developing their research skills in selected areas across different disciplines or fields.**

Which of the above sentences is/are correct?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
d) Neither 1 nor 2

Answer: B

Explanation

- The **Accelerate Vigyan (AV) scheme** has been recently launched by the Science and Engineering Research Board (SERB) to provide a single platform for research internships, capacity building programs, and workshops across the country.
- The primary objective of this inter-ministerial scheme is to give **more thrust on encouraging high-end scientific research** and **preparing scientific manpower**, which can lead to research careers and knowledge-based economy.
- An **Inter-Ministerial Overseeing Committee (IMOC)** involving all the scientific ministries/departments and a few others has been constituted for the purpose of supporting SERB in implementing the AV scheme in a successful manner.
- The vision is to expand the research base, with **three broad goals**, namely,
 - consolidation / aggregation of all scientific programs,
 - initiating high-end orientation workshops, and
 - creating opportunities for research internships for those who do not have access to such resources / facilities.
- **Components:**
 - i) **'ABHYAAS' programme:** It is an attempt to **boost research and development** in the country by enabling and grooming potential PG/PhD students by means of developing their research skills in selected areas across different disciplines or fields. It has **two components**:
 - **High-End Workshops ('KARYASHALA')** and **Research Internships ('VRITIKA')**. This is especially important for those researchers who have limited opportunities to access such learning capacities / facilities / infrastructure.
 - ii) **SAMMOHAN:** It has been sub-divided into 'SAYONJIKA' and 'SANGOSHTI'.
 - **SAYONJIKA** is an open-ended program to catalogue the capacity building activities in science and technology supported by all government funding agencies in the country.
 - **SANGOSHTI** is a pre-existing program of SERB.

Science and Engineering Research Board (SERB)

- Science and Engineering Research Board (SERB) is a **statutory body under the Department of Science and Technology, Government of India** established through the **Science and Engineering Research Board Act, 2008**.
- It aims to support **basic research in emerging areas of Science & Engineering**. It also aims to build up best management systems which would match the best global practices in the area of promotion and funding of basic research.

33. BlackRock, recently in news, is related with

- a) Name given to the newly found exoplanet with Earth-like geological structure.
- b) Rock found on Antarctica that contains remains of million-year-old algae
- c) A newly found android malware
- d) Name given to mountains on Moon

Answer: C

Explanation:

- Security firm ThreatFabric has alerted about a new malware, called **BlackRock**, which can steal information like passwords and credit card information from about **377 smartphone applications**. Since these are very popular apps, the threat posed by the BlackRock Android malware is quite high.
- BlackRock isn't a new strain of malware. It is based on the leaked source code of the **Xeres malware**, which itself derived from malware called **LokiBot**.
- BlackRock works like most Android malware. Once installed on a phone, it monitors the targeted app. When the user enters the login and/or credit card details, the malware sends the information to a server. BlackRock **uses the phone's Accessibility feature, and then uses an Android DPC (device policy controller)** to provide access to other permissions.
- The only big difference between BlackRock and other **Android banking trojans** is that it can target more apps than previous malwares including **Amazon, Facebook, Gmail, Tinder, Uber, Twitter, Snapchat, PayPal etc.**
- But BlackRock isn't limited to online banking apps and targets general purpose apps also across various categories of Books & Reference, Business, Communication, Dating, Entertainment, Lifestyle, Music & Audio, News & Magazine, Tools, and Video Players & Editors.
- The malware can be used to **send and steal SMS messages, hide notifications, keylogging, AV detection**, and much more.

Banking Trojans

- A **trojan is any type of malicious program** disguised as a legitimate one. Often, they are designed to steal sensitive information (login credentials, account numbers, financial information, credit card information, and the like) from users.
- **Banking trojans** are a specific kind of trojan malware. Once installed onto a client machine, banking trojans use a variety of techniques **to create botnets, steal credentials, inject malicious code into browsers, or steal money.**

34. 2020 ND, recently in news, is related with

- a) A potentially dangerous Asteroid
- b) New strain of Novel Coronavirus
- c) A New species of medical plant found in Andaman
- d) None of the above

Answer: A

Explanation

- NASA has issued a warning of a huge “**Asteroid 2020 ND**” that is expected to move past Earth.
- The asteroid, about **170 metres-long**, will be as close as 0.034 astronomical units (5,086,328 kilometres) to the earth, and is travelling at a speed of 48,000 kilometres per hour. Its distance from Earth has placed it in the “**potentially dangerous**” category.

Asteroids

- **Asteroids**, sometimes called **minor planets**, are rocky remnants left over from the early formation of our solar system about 4.6 billion years ago.
- Most of this ancient space rubble can be found orbiting the sun between **Mars and Jupiter** within the **main asteroid belt**.
- Asteroids **range in size** from Vesta—the largest at about 329 miles (530 kilometers) in diameter - to bodies that are less than 33 feet (10 meters) across. The **total mass of all the asteroids combined is less than that of Earth's Moon**.

Potentially Hazardous Asteroids

- Potentially Hazardous Asteroids (PHAs) are currently defined based on parameters that measure the asteroid’s potential to make threatening close approaches to the Earth. Specifically, all asteroids with a **minimum orbit intersection distance (MOID) of 0.05 AU or less are considered PHAs**.
- NASA classifies objects like these as ‘**near-Earth objects**’ (**NEOs**) as they get nudged by other planets’ gravitational attraction resulting in their proximity to our solar system.

Near-Earth objects (NEOs)

- NEOs are comets and asteroids **nudged by the gravitational attraction of nearby planets** into orbits which allows them to enter the Earth’s neighbourhood.
- These objects are **composed mostly of water ice with embedded dust particles**, and occasionally approach close to the Earth as they orbit the Sun.
- NASA’s **Center for Near-Earth Object Study (CNEOS)** determines the times and distances of these objects as and when their approach to the Earth is close.
- NASA’s **Near-Earth Object Observations Program** finds, tracks and characterises over 90% of the predicted number of NEOs that are 140 metre or larger, which according to the space agency are of “the greatest concern” due to the level of devastation that their impact is capable of causing.

Deflecting Asteroids

- Over the years, scientists have suggested different ways to ward off such threats, such as **blowing up the asteroid** before it reaches Earth, or **deflecting it off its Earth-bound course** by hitting it with a spacecraft.
- **Asteroid Impact and Deflection Assessment (AIDA)**: It is the most drastic measure undertaken so far and includes NASA’s **Double Asteroid Redirection Test (DART) Mission** and the European Space Agency’s (ESA) **Hera**.
- The mission’s target is **Didymos, a binary near-Earth asteroid**, that could pose the most likely significant threat to Earth.

Double Asteroid Redirection Test (DART)

- In 2018, NASA announced that it had started the construction of DART, which is scheduled to **launch in 2021**.

- It aims to slam into the smaller asteroid of the Didymos system at around 6 km per second in 2022.

Hera

- Hera is a project of ESA which is scheduled to **launch in 2024** and will arrive at the Didymos system in 2027.
- It aims to **measure the impact crater produced by the DART collision** and study the change in the asteroid's orbital trajectory.

35. Which of the following pair(s) is/are correctly matched

Spacecraft/Mission	Country/Region
a. Perseverance	: United State of America
b. InSight	: European Union
c. Hope	: Saudi Arabia
d. Tianwen	: China

Select the correct answer using the codes given below.

- 1 and 4 only
- 1, 2 and 4 only
- 1, 3 and 4 only
- 1, 2, 3 and 4

Answer: A

Explanation:

Hope was the **first of three space missions** sent toward Mars during the **July 2020 Mars launch window**, with missions also launched by the national space agencies of **China (Tianwen-1)** and the **U.S. (Mars 2020 or Perseverance)**. All three are expected to arrive **at Mars in February 2021**. This Mars-launching season - which occurs every 26 months when Earth and Mars are at their closest - is especially busy.

Hope: Emirates Mars Mission

- The Emirates Mars Mission is a **United Arab Emirates Space Agency uncrewed** space exploration mission to **Mars**. The **Hope (Al Amal) orbiter** was launched on 19 July 2020, marking the first planetary science mission led by an Arab country.
- It was **launched from Tanegashima, LP-1 (Japan)** by a Japanese H-IIA rocket,
- In just six years, the UAE has built an impressive space program from scratch. The mission **design, development, and operations** are led by the **Mohammed bin Rashid Space Centre (MBRSC)**.
- It is a **joint project** between UAE and the University of Colorado Boulder, University of California, Berkeley, and Arizona State University, and was assembled at the University of Colorado (US).
- The spacecraft orbiter will **orbit the Red Planet** and **study the Martian atmosphere and climate**. It will **study daily and seasonal weather cycles, weather events** in the **lower atmosphere** such as dust storms, and how the weather varies in different regions of the planet. It will give planetary scientists their first global view of Martian weather at all times of day.
- It will also attempt to find out why it is **losing hydrogen and oxygen** into space and other possible reasons behind its drastic climate changes.

TIANWEN-1 (TW-1)

- China launched its most ambitious Mars mission, Tianwen-1, on 23rd July 2020 on a **Long March-5 carrier rocket** (nicknamed "**Fat 5**" because of its bulky shape) from **Hainan Island**, a resort province off the south coast of the mainland.
- Tianwen-1 (meaning **quest for heavenly truth**) contains **both an orbiter and a rover** and will take seven months to reach Mars (February 2021) and look for a landing site on **Utopia Planitia - a plain where NASA has detected possible evidence of underground ice**. The landing would then be attempted in April or May.
- If all goes well, the 240-kilogram (530-pound) golf cart-sized, solar-powered rover is expected to **operate for about three months, and the orbiter for two years**.
- Though small compared to America's hulking, car-sized 1,025-kilogram (2,260-pound) Perseverance, it's almost twice as big as the two rovers China has sent to the moon in 2013 and 2019.
- Its **objectives** are to search for evidence of **underground water**, if it's present, as well as evidence of possible **ancient life**. It will also assess the **planet's environment**.
- This **isn't China's first attempt** at Mars. In 2011, a Chinese orbiter accompanying a Russian mission was lost when the spacecraft failed to get out of Earth's orbit after launching from Kazakhstan, eventually burning up in the atmosphere.

NASA: Perseverance Rover

- Nasa has successfully launched its next-generation Perseverance rover on a **seven-month journey to Mars** on 30 July 2020 in search of evidence of **ancient microbial life** on the red planet. This will advance NASA's quest to explore the past habitability of Mars.
- The car-sized robot will attempt to land on the **Jezero crater** – which may have been a lake more than 3.5bn years ago – where it will gather information about **Mars's geology, atmosphere and environmental conditions**.
- Perseverance will carry a mini helicopter, **Ingenuity**, that will attempt the first powered flight on another planet, and also **test technologies** to help pave the way for future human exploration of Mars. These include testing a method for producing oxygen from the Martian atmosphere, identifying other resources (such as subsurface water), improving landing techniques, and characterizing weather, dust, and other potential environmental conditions that could affect future astronauts living and working on Mars.
- The Perseverance rover has **four science objectives** that support the **Mars Exploration Program's science goals**:
 - Identify past environments capable of supporting microbial life
 - Seek signs of possible past microbial life in those habitable environments, particularly in special rocks known to preserve signs of life over time
 - Collect core rock and "soil" samples and store them on the Martian surface
 - Test oxygen production from the Martian atmosphere

Mars Exploration Programme

- The Mars Exploration Program (MEP), initially called the Mars Surveyor Program, was announced by **NASA in 1994**.

- It is a science-driven, technology-enabled study of Mars as a planetary system in order to understand:
 - a) the formation and early evolution of Mars as a planet
 - b) the history of geological and climate processes that have shaped Mars through time
 - c) the potential for Mars to have hosted life (its “biological potential”)
 - d) the future exploration of Mars by humans, and
 - e) how Mars compares to and contrasts with Earth.
- Landing on Mars is notoriously difficult. Only the US has successfully landed a spacecraft on Martian soil, doing it eight times since 1976.
- **NASA's InSight** and **Curiosity rovers** still operate today. Six other spacecraft are exploring Mars from orbit: three American, two European and one from India.

Interplanetary Contamination

- As ambitious **space missions are proliferating**, along with advances in commercial space flight, **astrobiologists have expressed concerns about possible ‘interplanetary contamination’**.
- Interplanetary contamination refers to **biological contamination of a planetary body** by a space probe or spacecraft, either deliberate or unintentional.
- **Such contamination are of two types**
 1. **Forward Contamination:** The **transport of Earth-based microbes to other celestial bodies**
 - **In the past**, space missions have established physical contact with astronomical bodies such as comets and asteroids, and crewed missions have landed on the Moon. However, since these bodies are known to be **hostile to life**, the possibility of their forward contamination has not been a pressing issue.
 - **In the case of Mars**, however, space missions have already discovered the **possible presence of liquid water on the planet**, either in the subsurface today or at some point in its past, and are now actively looking for signs of life.
 - Astrobiologists say that **if there is a chance that Mars has life**, even in its most primitive form, there is an **ethical obligation** on humanity to ensure that microbes from Earth **do not disturb a possible Martian biosphere**.
 2. **Back Contamination:** The transfer of **extraterrestrial organisms (if they exist) into the Earth’s biosphere**.
 - NASA also plans for a **Mars sample-return mission**, which would bring samples of the Red Planet back to Earth, possibly by 2031.
 - The suggestion that **Martian microbes (if they exist)** would infect human beings—causing a catastrophe like the current pandemic— is highly unlikely, but possibility can’t be ruled out.

36. Consider the following statements about Malaria

1. **Malaria is a mosquito-borne infectious disease that affects humans and other animals.**
2. **It is caused by single-celled microorganisms of the Plasmodium group.**
3. **The disease is most commonly spread by an infected female Anopheles mosquito.**

4. Dichlorodiphenyltrichloroethane (DDT) is used to control Malaria.

5. Hindustan Insecticides Limited (HIL, India) is the sole manufacturer of DDT globally.

Which of the above sentences is/are correct?

- b) 1, 2, 3 and 4 only
- c) 2, 3 and 5 only
- d) 1, 3, 4 and 5 only
- e) 1, 2, 3, 4 and 5

Answer: D

Explanation:

- **Hindustan Insecticides Limited** (HIL, India), a PSU under the Ministry of Chemicals and Fertilizers, supplied 20.60 Metric tonne of **DDT to South Africa** for their Malaria control program. HIL (India) is the **sole manufacturer of DDT globally**. The company was incorporated in **1954** to manufacture and supply DDT to the Government of India's Ministry of Health and Family Welfare for malaria control programmes.
- Malaria is a **mosquito-borne** infectious disease that affects **humans** and other **animals**.
- It is caused by **single-celled microorganisms** of the **Plasmodium (parasite)** group. The disease is most commonly spread by an infected **female Anopheles mosquito**.
- **Dichlorodiphenyltrichloroethane** (DDT), is a **colourless, tasteless**, and almost **odorless** crystalline chemical compound, an **organochlorine**. Originally developed as an **insecticide**, it became infamous for its **environmental impacts**.

37. What is Miyawaki Method, recently in news?

- a) Unique method of forest creation
- b) Tiger monitoring method
- c) Method to prevent phishing attacks
- d) Unique method of Aquaculture

Answer: A

Explanation:

- Union Environment Minister inaugurated a **unique urban forest** at the office of the Comptroller and Auditor General of India (CAG) in New Delhi. The **Miyawaki method of forest creation** has been used to create the urban forest.
- The technique was pioneered by Japanese botanist, Akira Miyawaki, and is believed to **ensure 10 times faster plant growth**, which results in plantation, that is 30 times denser than usual.
- Using this, it's possible to grow a variety of native species in as **little a space as 600 sq.ft.**
- The Miyawaki method could help in **reducing the temperature by as much as 14 degree & increase the moisture by more than 40%**.
- Recently **Yadadri method of planting**, a modified version of Miyawaki Method, has been employed in the annual afforestation program of Telangana state government.

38. Consider the following statements about Central Zoo Authority (CZA)

1. It is a statutory body under the Ministry of Environment, Forest and Climate Change.
2. It is chaired by Union Environment Minister.

Which of the statements given above is/are correct?

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

Answer: C

Explanation:

- The Environment Ministry has **reconstituted the Central Zoo Authority (CZA)** to include an expert from the School of Planning and Architecture, Delhi, and a molecular biologist.
- The Central Zoo Authority (CZA) is a **statutory body** under the **Ministry of Environment, Forest and Climate Change**. It was constituted in 1992 under the **Wildlife (Protection) Act, 1972**.
- **It is chaired by the Environment Minister** and tasked with regulating zoos across the country. Apart from the chairman, it **consists of 10 members and a member-secretary**.
- The main objective of the authority is to complement the national effort in the conservation of the rich biodiversity of the country, particularly the fauna as per the **National Zoo Policy, 1998**.

39. Brahmapuram Solid Waste Processing Plant recently in news was located in which among the following states?

- a) Kerala
- b) Karnataka
- c) Maharashtra
- d) Andhra Pradesh

Answer: A

Explanation:

- National Green Tribunal (NGT) has said that the Chairman and Member Secretary of the Kerala State Pollution Control Board (KSPCB) will be held liable if they fail to initiate prosecution and recover compensation from those responsible for the **unscientific handling of waste at the dumping site of the Kochi Corporation at Brahmapuram**.
- The tribunal's order came in the case related to the non-compliance with **Solid Waste Management Rules, 2016 (SWM Rules, 2016)** at the now defunct Brahmapuram solid waste processing plant on the outskirts of Kochi city resulting in environment pollution and impacting public health.
- The tribunal expressed doubts on whether the leachate generated at the dumping yard could be treated in an ordinary septage treatment plant as it **contained heavy metals**. This observation was made in reply to the board's report that the construction of a new leachate collection tank of one-lakh-litre collection capacity was nearing completion.

40. Consider the following statements about Green-Ag Project

1. It aims to reduce emissions from agriculture and ensure sustainable agricultural practices.
2. The Green-Ag Project is funded by the World Bank.

Which of the statements given above is/are correct?

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

Answer: A

Explanation:

The Union government launched the “**Green – Ag: Transforming Indian Agriculture for global environment benefits and the conservation of critical biodiversity and forest landscapes**” project in Mizoram.

About Green-Ag Project

- **Aim:** To reduce emissions from agriculture and ensure sustainable agricultural practices.
- **Objectives:**
 - Achieve multiple global environmental benefits in at least 1.8 million hectares (ha) of land in five landscapes, with mixed land use systems.
 - Bring at least 104,070 ha of farms under sustainable land and water management.
 - Ensure **49 million Carbon dioxide equivalent (CO₂ eq) sequestered** or reduced through sustainable land use and agricultural practices.
- **Coverage:** The project will be implemented in **five states** - Mizoram, Rajasthan, Madhya Pradesh, Odisha and Uttarakhand.
- **Funding & Implementation:** The Green-Ag Project is funded by the **Global Environment Facility**, while the Department of Agriculture, Cooperation, and Farmers’ Welfare (**DAC&FW**) is the national executing agency. Other key players involved in its implementation are Food and Agriculture Organization (FAO) and the Union Ministry of Environment, Forest and Climate Change (MoEF&CC).
- The pilot project is supposed to **end on March 31, 2026, in all states.**

41. Dibru-Saikhowa National Park recently in news is located in which among the following states?

- a) Assam
- b) Meghalaya
- c) Sikkim
- d) Arunachal Pradesh

Answer: A

Explanation:

- The National Green Tribunal (NGT) has directed the Environment Ministry, Oil India Limited (OIL) and two other entities to explain how the proposed drilling of seven oil wells in **Dibru-Saikhowa National Park in Assam** was permitted.
- The NGT took a note of the petitioners' contention that OIL did not carry out a biodiversity assessment study for the seven-well exploratory drilling project besides not conducting a public hearing as mandated by the Environment Impact Assessment (EIA) Notification of 2006.
- OIL had obtained permission for the seven wells in 2016 on the basis of the **sophisticated ERD (Extended Reach Drilling) technology that will enable us to explore hydrocarbon deposits horizontally**, from beyond the national park. The ERD was extensively used to intersect hydrocarbon targets far from the surface or areas of the reservoir that otherwise were difficult to access.

About Dibru-Saikhowa National Park

- Dibru-Saikhowa is a National Park as well as a **Biosphere Reserve** situated in the south bank of **river Brahmaputra** in the extreme east of Assam state in India.
- The forest type of Dibru-Saikhowa comprises of semi-evergreen forests, deciduous forests, littoral and swamp forests and patches of wet evergreen forests.
- **Avifauna:** It is an identified Important Bird Area (IBA) having more than 382 species of Birds, some of which are Greater Adjutant Stork, Lesser Adjutant Stork, Greater Crested Grebe.
- It has over 36 species of mammals, including Bengal tiger, leopard, Assamese macaque, Hoolock gibbon, sambar, barking deer, water buffalo, etc

Powers of Election Commission (EC) to Delay Polls

Political parties are increasingly voicing concerns over holding elections in Bihar amid corona pandemic.

Is The EC Empowered To Delay Elections At Will?

- EC is mandated under law to **hold elections at any time within six months before the five-year term of the Lok Sabha or Legislative Assembly expires**. The polls are timed in a way that the new Assembly or Lok Sabha is in place on the day of the dissolution of the outgoing House.
- However, **under Section 153 of the Representation of the People Act**, the poll panel can “extend the time” for completing an election, but such **extension should not go beyond the date of the normal dissolution of the Lok Sabha or the Assembly**.

In 1991, the Commission, under this provision read with **Article 324 of the Constitution**, postponed the ongoing parliamentary elections for three weeks after Rajiv Gandhi’s assassination during his campaign in Tamil Nadu.

- Powers under Section 153 can be exercised **only after an election schedule has been notified**. If the EC wants to postpone elections, it will have to be done through its extraordinary powers under Article 324.
- The Commission will have to inform the government of its inability to hold polls on time. The government and the President will then decide the future course — to impose President’s Rule or allow the incumbent Chief Minister to continue for six months.

Under What Circumstances Can The EC Decide To Postpone An Election?

- There is **no specific legal provision that specifies the circumstances** under which elections can be deferred. Law and order, natural calamities like earthquake and floods, or any other compelling circumstances that are beyond EC’s control would be guiding factors for the Commission to take a decision in the matter.
- The decision on postponement is usually made after taking inputs from the ground and the central and state governments.

Disabled Entitled To The Same Benefits As Given To SC-ST Candidates

The Supreme Court confirmed that persons suffering from disabilities are also socially backward and entitled to the same benefits of relaxation as Scheduled Caste (SC)/Scheduled Tribe (ST) candidates in public employment and education.

Background:

- The decision came on a petition filed by a **special needs person, against the Government College of Arts, Chandigarh**. The **college denied relaxation in minimum qualifying marks** in the Painting and Applied Art course.
- The college insisted that disabled persons too need to meet the general qualifying standard of 40% in the aptitude test, whereas SC/ST candidates were given a relaxation to 35%.

Supreme Court Verdict

- The SC upheld a **2012 judgment of the Delhi High Court** in Anamol Bhandari (minor) through his father/Natural Guardian v. Delhi Technological University.

- In Anamol Bhandari case, the High Court held that people suffering from disabilities are also socially backward, and entitled to the same benefits as given to the SC/ ST candidates.
- Supreme Court noted that SC/ST candidates require 35% to pass in the aptitude test, the same shall apply so far as the disabled are concerned in future.
- SC also highlighted the Delhi High Court's words that **new academic courses should be crafted to specifically cater to the needs of intellectually disabled persons.**

Padmanabhaswamy Temple Case

- Reversing the 2011 Kerala High Court decision, the Supreme Court **upheld the right of the Travancore royal family to manage the property of deity** at Sree Padmanabha Swamy Temple in Thiruvananthapuram.
- The court ruled that, as per customary law, the **shebait rights (right to manage the financial affairs of the deity) survive with the members of the family even after the death of the last ruler.**

What Is The Case About?

- The central legal question was whether Utradam Thirunal Marthanda Varma, the younger brother of the last Ruler of Travancore, could claim to be the "Ruler of Travancore" after the death of the ruler in 1991.
- The court examined this claim within the limited meaning of that term according to the Travancore-Cochin Hindu Religious Institutions Act, 1950 **to claim ownership, control and management of the ancient Sree Padmanabha Swamy Temple.**
- All the temples which were under the control and management of the erstwhile Princely States of Travancore and Cochin were under the **control of the Travancore and Cochin Devaswom Boards before 1947.**
- However, as per the **Instrument of Accession signed between the princely states and the Government of India, since 1949**, the administration of the Padmanabhaswamy Temple was "vested in trust" in the Ruler of Travancore. The **state of Kerala was carved out in 1956 but the temple continued to be managed by the erstwhile royals.**
- In 1971, privy purses to the former royals were abolished through a **constitutional amendment stripping their entitlements and privileges.** The move was upheld in court in 1993 and the last ruler of Travancore who died during the pendency of this case continued to manage the affairs of the temple till then.
- In 1991, when the last ruler's brother took over the temple management, it created a furore among devotees who moved the courts leading to a long-drawn legal battle. The government joined in; supporting the claims of the petitioner that **Marthanda Varma had no legal right to claim the control or management of the temple.**

Ownership of Padmanabhaswamy Temple's Property

- The character of the temple was always recognised as a **public institution governed by a statute.** The argument of the royal family is that the temple management would vest with them for perpetuity, as per custom.
- Even though the last ruler Balarama Varma executed a detailed will bequeathing his personal properties, he had **not included the Sree Padmanabhaswamy Temple as his personal property or dealt with it in his will.**

- In 2007, Marthanda Varma claimed that the treasures of the temple were the family property of the royals. But the **Kerala High Court in the 2011 ruling passed an order that a board be constituted to manage the affairs of the temple, ruling against the royal family.**

Despite being a **secular country that separates religion from the affairs of the state, Hindu temples, its assets are governed through statutory laws and boards heavily controlled by state governments.** This system came into being mainly through the **development of a legal framework to outlaw untouchability by treating temples as public land;** it has resulted in many legal battles.

Maratha Quota

- Supreme Court commenced the final hearing of petitions **challenging the reservation granted to the Maratha community** in education and jobs in Maharashtra.
- The petitions challenged the June 2019 Bombay High Court decision, which upheld the constitutional validity of Maratha quota under **Socially and Educationally Backward Classes (SEBC) Act, 2018.**

Who Are The Marathas?

- The Marathas are a group of **castes comprising peasants, landowners among others.** While most Marathas are Marathi-speaking, not all Marathi-speaking persons belong to Maratha community.
- A **politically dominant community in Maharashtra,** it comprises nearly **one-third of the population of the state.**
- Historically, Marathas have been identified as a **'warrior' caste with large land-holdings.** Since the formation of Maharashtra state in 1960, of its 19 Chief Ministers, 11 have been from Maratha community.
- While division of land and agrarian problems over the years have led to a decline of prosperity among middle class and lower middle-class Marathas, the community still plays an important role in rural economy.

Bombay High Court Ruling

- While ruling that the **16 per cent quota granted by the state was not 'justifiable,'** the Bombay High Court **reduced it to 12 per cent in education and 13 per cent in government jobs,** as recommended by **the Maharashtra State Backward Class Commission.**
- The court said that the limit of reservation should not exceed 50%, however, in exceptional circumstances, this limit can be crossed subject to availability of quantifiable and contemporaneous data reflecting backwardness, inadequacy of representation and without affecting the efficiency in administration.
- While the backwardness of the community was not comparable with SCs and STs, **it was comparable with several other backward classes, which find place in the list of Other Backward Classes** pursuant to the Mandal Commission.

Maharashtra State Backward Class Commission (MSBCC) Findings:

- **Social Backwardness**
 - The Commission found that **around 76.86 % of Maratha families are engaged in agriculture and agricultural labour** for their livelihood and nearly 70% reside in Kachha dwellings, and only 35- 39 % have personal tap water connections.
 - In 2013-2018, a total of **2,152 (23.56%) Maratha farmers died by suicide,** against total 13, 368 farmer suicides.

- **88.81 % Maratha women are involved in physical labour for earning livelihood**, besides physical domestic work they perform for the family.
- **Economic Backwardness**
 - The Commission found that **93 % Maratha families have an annual income of Rs 1 lakh**, which was below average income of middle-class families.
 - Moreover, it found that **37.38% families were Below Poverty line** against the state average of 24% and 71% own less than 2.5 acres land, whereas only 2.7% big farmers own 10 acres of land.
- **Educational Backwardness:** It found that **13.42 % of Marathas are illiterate, 35.31 % primary educated**, 43.79 % HSC and SSC, 6.71 % undergraduates and postgraduates and 0.77 % technically and professionally qualified.
- The Commission had conclusively established the **social, economic and educational backwardness of the Maratha community**. It had also established inadequacy of representation of the Maratha community in public employment in the state.

Supreme Court, in the 1993 Indra Sawhney case, had ruled that total reservation for backward classes cannot go beyond the 50%-mark. Tamil Nadu and Maharashtra are few states that are an exception to this. In Maharashtra, following the 2001 State Reservation Act, the total reservation was 52 per cent. With the addition of 12-13 per cent Maratha quota, the **total reservation in the state is 64-65 per cent**. The 10 % Economically Weaker Sections (EWS) quota announced by the Centre is also effective in the state.

Delimitation In The Northeast

A former legal advisor to the Election Commission (EC) has red-flagged the Centre's order setting up a Delimitation Commission for Arunachal Pradesh, Manipur, Assam and Nagaland, calling it "unconstitutional" and "illegal".

What Is Delimitation And Why Is It Needed?

- Delimitation is the act of **redrawing boundaries of Lok Sabha and Assembly seats to represent changes in population**. In this process, the number of seats allocated to a state may also change.
- The objective is to provide **equal representation for equal population segments, and a fair division of geographical areas**, so that no political party has an advantage.
- The Delimitation Commission's orders cannot be questioned before any court.

How Often Has Delimitation Been Done?

- Delimitation is done on the basis of the preceding Census. **The first such exercise in 1950-51 was carried out by the President**, with the help of the Election Commission. Following the Delimitation Commission Act in 1952, all such exercises have been conducted by **Delimitation Commissions — set up in 1952, 1963, 1973 and 2002**.
- There was **no delimitation after the 1981 and 1991 Censuses**. This was a fallout of the provision that the ratio between the number of Lok Sabha seats in a state and the population of the state is, as far as practicable, the same for all states.
- Although unintended, this meant that **states that took little interest in population control could end up with more seats in Parliament**, while the southern states that promoted family planning could end up with fewer seats. Amid these concerns, the **Constitution was amended in 1976 to suspend delimitation until 2001**.

- **Another amendment extended the freeze on the number of seats until 2026**, by when the country was projected to achieve a uniform population growth rate. So, the last delimitation exercise between July 2002 and March 31, 2008, based on the 2001 Census, only readjusted boundaries of existing Lok Sabha and Assembly seats and reworked the number of reserved seats.

Why Were These Four States Left Out In 2002-08?

- In Arunachal Pradesh, Assam, Manipur and Nagaland, various organisations had moved the Guwahati High Court against the 2002-08 exercise, **challenging the use of the 2001 Census for reference**. From Assam, an all-party delegation met then Home Minister Shivraj Patil pleading that delimitation be called off because the National Register of Citizens (NRC) was yet to be updated.
- The Delimitation Act was amended in 2008, and on February 8, 2008, Presidential orders were issued to **defer delimitation in these four states**.

Current Status

- On February 28 this year, President cleared the decks for the resumption of the delimitation exercise in the four states by **cancelling the order of February 8, 2008**.
- The fresh order stated that, the circumstances that led to the deferring of the delimitation exercise in Assam, Manipur, Arunachal Pradesh and Nagaland have ceased to exist and that the delimitation of the constituencies as envisaged under the Delimitation Act, 2002 could be carried out now.
- In March, Law Ministry notified the **Delimitation Commission for the four northeast states and Jammu and Kashmir**, which was also left out in 2002-08.

Will Delimitation Change The Number Of Seats In These States?

- Not in the four Northeast states. There is a **freeze until 2026 on the number of Lok Sabha and Assembly seats in any state**. Delimitation will only redraw the boundaries of seats in each state, and can rework the number of reserved seats for SCs and STs.
- However, because of exceptional past circumstances, **Jammu & Kashmir's Assembly seats will now increase from 107 to 114**, which is expected to increase Jammu region's representation.

Criticisms:

- Law Ministry's notification of March violates **the Representation of the People Act 1950**. In 2008, after the President deferred delimitation in Arunachal Pradesh, Assam, Manipur and Nagaland, the **Parliament decided that instead of creating another Delimitation Commission in future for the limited purpose of redrawing seat boundaries in the four northeastern states, the exercise there would be carried out by the EC**. The Representation of the People Act 1950 was amended, and **Section 8A was introduced for this purpose**.
- The Parliament was guided by the fact that there is precedence of **the EC being vested with the authority to redraw boundaries of constituencies** – including when Delhi was delimited into 70 seats in 1991-92, and Uttarakhand into 70 seats in 2000.
- Since the RP Act 1950 clearly states that delimitation in the four northeastern states, when held, would fall within the EC's remit, the **Centre should not have notified a separate Delimitation Commission for this purpose**.
- Any delimitation exercise in these four states by the new Delimitation Commission would result in **"wastage of huge precious public funds"**.

Governor's Power to Summon the House

- Rajasthan Governor - returning the fresh proposal by the state Cabinet – seeking to convene a session of the Assembly– has **raised fresh legal questions on the powers of the Governor**.
- This is the second time that the Governor has put off the request, which would allow Congress Chief Minister to prove his strength on the floor of the House.

Powers of the Governor

- **Article 174** of the Constitution gives the Governor the power to summon from time to time “the House or each House of the Legislature of the State to meet at such time and place as he thinks fit. However, the phrase “as he thinks fit” is read as per **Article 163** of the Constitution which says that the **Governor acts on the aid and advice of the cabinet**.
- **Article 163(1)** essentially limits any discretionary power of the Governor only to cases where the Constitution expressly specifies that the Governor must act on his own and apply an independent mind.

Supreme Court On Governor's Discretionary Powers

- The **Governor cannot refuse the request of the Cabinet to call for a sitting of the House** for legislative purposes or for the Chief Minister to prove his majority.
- In fact, on numerous occasions, including in the 2016 Uttarakhand case, the court has clarified that **when the majority of the ruling party is in question, a floor test must be conducted at the earliest available opportunity**.
- In 2016, a Constitution Bench of the Supreme Court in **Nabam Rebia and Bamang Felix vs Deputy Speaker, the Arunachal Pradesh Assembly case**, expressly said that the **power to summon the House is not solely vested in the Governor**.
- Referring to discussions in the Constituent Assembly, the court noted that the **framers of the Constitution expressly and consciously left out vesting powers to summon or dissolve the House solely with the Governor**.

Constituent Assembly Debate on Article 174

- To interpret Article 174, the constitution bench in the Nabam Rebia case had examined the constituent assembly debate on the said provision.
- Then drafted as Article 153 (which later became Article 174), the provision had three clauses. The first two clauses were similar to the ones mentioned in Article 174 in the present form. **The third clause allowed the governor to exercise her or his discretion to summon, prorogue and dissolve the assembly**.
- However, during the debate, Jayaprakash Narayan suggested deletion of clause 3. He submitted that **there was no reason why the governor, in her or his discretion, should be permitted to summon or dissolve the House, when no such discretionary power was being extended to the President** (with regard to summoning and dissolution of the Parliament).
- **Later B.R. Ambedkar moved to omit clause 3**, as the same was inconsistent with the scheme of a “constitutional” Governor. When put to vote, the amendment suggested was adopted.

When Can The Governor Act Without The Advice Of The Council Of Ministers?

- In some States, the Governor has **special powers to advance tribal welfare**.
- A Governor can **reserve a bill passed by the legislature for the consideration of the President** of India, and he or she can recommend President's rule in a State.

- If the Chief Minister and his Council of Ministers lose their majority, or they refuse to recommend a session in six months, or there is a reasonable doubt about their majority, the Governor could demand a session.
- In event of a **Chief Minister and his Council of Ministers losing the majority**, the Governor can use his or her discretion to either explore the formation of a new government or dissolve the House.
- The Governor **invites a person who he thinks has the legislative majority to form a government**, but the use of this power cannot be arbitrary. If there is a Council of Ministers with a majority, the Governor has to go by its recommendation to dissolve the legislature.

The Constituent Assembly very consciously limited the Governor's discretionary powers. The misuse of the Governor's office by parties in power at the Centre to disturb State governments in control of the Opposition has remained a scourge. But the constitutional scheme is very clear, as stated in the 2016 Supreme Court judgment that a Governor "cannot have an overriding authority, over the representatives of the people, who constitute... the state legislature... and/or even the executive government functioning under the council of ministers with the Chief Minister as the head".

Committee On Content Regulation In Government Advertising (CCRGA)

- Supreme Court-mandated committee on content regulation in government advertising (CCRGA) **issued a notice to the Delhi government over a front page advertisement that was published in multiple newspapers**, publicising performance of Delhi government schools in Class 12 board exams.
- The committee has sought an explanation from the Delhi government within 60 days, explaining how this advertisement does not violate the Supreme Court guidelines of avoiding glorification of political personalities.

Supreme Court Guidelines on Government Advertising

- According to new guidelines on content regulation in government advertisements, issued by the Supreme Court in 2015, the content of the government advertisements **should be relevant to constitutional and legal obligations as well as the citizens' rights and entitlements**.
- The advertisement materials should be presented in an objective, fair and presentable manner and are designed to meet the objectives of the campaign to ensure maximum reach in a cost effective way, accurate information in the ads and **not presenting pre-existing policies and products as new**.
- The advertisement content **should not promote the political interests of the ruling party**, which may include *avoiding glorification of political personalities* and maintaining political neutrality, attacking opposition and displaying party political logos.
- The advertising campaigns should be efficient, need-based and cost effective and must comply with legal requirements.

The SC-mandated Committee

- In line with Supreme Court directions, the Central government had on April 2016 set up a three-member panel to look into content regulation in government-funded advertisements on all media platforms.
- The committee either addresses complaints from the public on advertisements deemed as a violation of the Supreme Court guidelines or takes suo motu cognisance of any violations to issue recommendations.

- The panel is the **only body that looks at content regulation of government advertisements**, and there was no authority to look at such content regulation before it was formed.

Appoint Govt. Servants As Gram Panchayat Administrator

The Bombay High Court passed an interim order directing that a **government servant or officer of the local authority be appointed as an administrator for nearly 15,000 gram panchayats** where the terms of these officers have ended or would be ending.

Background:

- Two petitions were filed challenging the **Maharashtra Village Panchayat (Amendment) Ordinance, 2020**, and the government resolutions (GR) through which the state government ordered **appointment of private individuals as administrators of gram panchayats**.
- The GRs said that a private person, who is resident of the same village and whose name is in the voters' list, can be appointed as administrator.
- The petitioner argued that the appointments of private administrators is **not warranted in law** and such mass appointments will have a lasting **adverse impact on the local governance**.
- There are enough officers from different departments of the State and local authorities to be appointed as administrators, and this excuse is **only to achieve certain political ends**.

The High Court Ruling

- Because of the pandemic, elections are not being held and **if administrator is not appointed, the working of the gram panchayat will be affected**.
- There is no reason why government servants or officers from the local authorities should not be the first choice for the State for appointment as an administrator.
- As an interim measure, the administrator to be appointed under the ordinance and resolutions, **should be a government servant or an officer from the local authority**.
- If not available and the **appointment of a private individual is to be made**, then each such order shall record the reasons in writing setting out the circumstances in which such officer was not available to function as an administrator for the gram panchayat.

Criminalization of Politics

About a **quarter of the sitting Rajya Sabha members** have declared criminal cases against themselves, according to an analysis by the Association for Democratic Reforms (ADR) released recently.

Findings

- ADR report said an analysis of 229 of the 233 Rajya Sabha seats that represent the States and Union Territories showed that **54 MPs or 24% had declared criminal cases**.
- Out of the 229 MPs, which also included the newly-elected representatives, 28 or 12% had declared serious criminal cases.
- 203 of the 229 MPs or 89% of those analyzed had declared assets over ₹1crore.

For more coverage on Criminalization of Politics, please refer The Recitals – Jan 2020.

Dichotomy In Animal Protection Law

The Supreme Court agreed to examine the constitutional validity of **Kerala Animals and Bird Sacrifices Prohibition Act of 1968** that prohibits sacrifice of animals and birds in temples to ‘please’ the deity.

Supreme Court’s Observation

- Chief Justice of India (CJI) highlighted the “**dichotomy**” in animal protection law that allows killing of animals for food but does not permit “killing of animals for offer to a deity and then consumption”.
- CJI said how the **Prevention of Cruelty to Animals Act of 1960** allows killing of animals but prohibits cruelty to animals.

Petitioner’s Arguments

- The oral remarks came in an appeal filed by Shakthi worshippers, and for whom, animal sacrifice is an integral part of the worship. They contended that after the ban, they “are unable to perform ‘bali’ rituals which they believe is diminishing” the family deity’s power.
- **The 1968 State law criminalizes the intent behind the animal sacrifice, and not animal sacrifice per se.** If the sacrifice is not for propitiating any deity but for personal consumption even in the precincts of temple, it is not forbidden. This **arbitrary classification is violative of Article 14** of the Constitution.
- The petitioners claimed that the **Act violates right to equality** because identical practices by other religious communities are not prohibited by the Act.
- Section 28 of the Prevention of Cruelty to Animals, 1960 **does not make killing of animals for religious purposes an offence.**
- The appellants said if killing of animals and birds was to be prohibited, let it be so for all purposes - religious or otherwise.

ASEEM portal

- The **Ministry of Skill Development and Entrepreneurship (MSDE)** has launched ‘Aatmanirbhar Skilled Employee Employer Mapping’ (ASEEM) portal to help skilled people find sustainable livelihood opportunities.
- ASEEM is developed and managed by **National Skill Development Corporation** in collaboration with Bengaluru-based company **Betterplace** specialising in blue collar employee management.
- The initiative aims to accelerate India’s journey towards recovery by mapping skilled workforce and connecting them with relevant livelihood opportunities in their local communities, especially in the post Covid era.
- It will also enable policymakers take more objective view of various sectors.

Features of ASEEM

- ASEEM will help in providing real-time data analytics to NSDC and its Sector Skill Councils about the demand and supply patterns including - industry requirements, skill gap analysis, demand per district/state/cluster, key workforce suppliers, key consumers, migration patterns and multiple potential career prospects for candidates.
- Apart from recruiting a skilled workforce, the platform will strengthen their career pathways by handholding them through their journeys to attain industry-relevant skills.

- The platform will also ensure close convergence and coordination across various schemes and programs operating in the skill ecosystem.
- This will ensure monitoring of any sort of duplication of data and further re-engineer the vocational training landscape in country ensuring skilling, up-skilling and re-skilling in a more organised set up.
- Database of labour migrants in Indian states and overseas citizens who returned to India under the Vande Bharat Mission and filled SWADES Skill Card has also been integrated with the ASEEM portal.

Sample Registration System Bulletin (Based on data collected for 2018)

The Registrar General and Census commissioner of India, recently released its **Sample Registration System (SRS) bulletin** based on data collected for 2018. The SRS is a demographic survey for providing reliable annual estimates of infant mortality rate, birth rate, death rate and other indicators at the national and sub-national levels.

Deaths In 0-4 Year Age Group

- Deaths in the 0-4 year age group account for **20% of total deaths** (or one in every five) in Madhya Pradesh. In contrast, deaths in this age group account for just **2% of total deaths** (or one in fifty) in Kerala.
- A high proportion of deaths in the 0-4 age group is not unique to MP and is the case among states with poor development indices, which include Uttar Pradesh, Rajasthan and Bihar in that order.
- Such a high proportion of deaths in this age group is clearly because of the high under-five mortality rate in these states. **Madhya Pradesh** has the highest under-five mortality rate of 56 and **Kerala** has the lowest of 10.
- Other than Kerala, the proportion of deaths in the 0-4 age group is low in Tamil Nadu, Punjab, Himachal Pradesh and Maharashtra in that order. Expectedly, these states also have relatively low under-five mortality rates.
- In India as a whole and in most states, the deaths in the 0-4 age group constitute a higher proportion of total deaths in rural than in urban areas. This gap could be an indication of very poor health facilities in rural areas compared to the urban centres of a state.

Population Under-25 Shrinking

- As India's fertility rate goes down steadily along with a rise in life expectancy, the proportion of its young population is shrinking and the median age has been increasing.
- For the first time, more than half of India's population, irrespective of gender or whether it's in urban or rural areas, is now 25 years or older.
- Overall, the population under 25 constituted 46.9% of the population, with 47.4% males and 46.3% females in that age group.
- Due to low fertility rate in urban areas, the population under the age of 25 years is less in urban areas as compared to rural areas. Migration for work to urban areas could also be playing a part in this.

Correlation Between Fertility Rate And Under 25 Population

- There are still several states, those that continue to have high fertility rates, where the proportion of under 25 population is much higher. Thus, Bihar, with the highest fertility rate of 3.2, had the highest proportion of its population below 25 years at 57.2%.
- Bihar is followed by UP with the second-highest fertility rate of 2.9, where the under-25 year population was 52.7%.

- Further, the longer a state has had low fertility rates and relatively high life expectancy, the smaller the proportion of its population below 25 years.
- This explains why Kerala had 37.4% (in 2018) or just over a third of its population, below 25 years, as Kerala’s fertility rate had fallen to 1.8 in 1991.
- Though TN, Andhra Pradesh, Telangana, J&K, HP and Punjab now have a lower fertility of 1.6 compared to Kerala’s 1.7, the fertility rates of these states was more than 3 in 1991, except TN (2.2). As a result, they have a higher proportion of under-25s than Kerala.

UP, BIHAR HAVE YOUNGEST POPULATION

State	Total	Male	Female
States With Lowest Under-25 Population (as % of total)			
Kerala	37.4	39.6	35.5
Tamil Nadu	37.8	38.1	37.4
Andhra Pradesh	38.8	38.9	38.9
States With Highest Under-25 Population			
Jharkhand	51.9	52.6	51.1
Uttar Pradesh	52.7	53.1	52
Bihar	57.2	57.4	56.9

India’s Increasing Demographic Dividend

- As per the report, India’s much-discussed demographic dividend continues to grow, due to an increase in the share of working-age population in the country’s total population.
- Demographic dividend is the economic growth potential that can result from shifts in a population’s age structure, mainly when the share of the working-age population is larger than the non-working-age share of the population.
- In 2018, nearly two-thirds of the population, or 66%, was between the age group of 15 and 59. Moreover, this proportion has increased each year, since 2013. At the national level, the age group 15-59 contributes 64.5 percent in rural areas and 69.1 percent population in urban areas.
- In general, States widely considered less developed had a lower proportion of their population in the working-age groups. This is because most of these states have also had relatively high fertility rates and hence a relatively larger base of very young individuals.
- States that already have higher proportions of working-age populations have seen that share grow faster than the others. Thus, those that started off with a better demographic dividend five years ago now have even more of it.

Data On Marriage Of Women

- The percentage of women marrying at age 21 years and above is as high as 64.5% at the national level. At the national level, the mean age of marriage for females in the year 2018 is 22.3 years and varies from 21.8 years in rural areas to 23.4 years in urban areas.
- However, the data points at a worrisome fact that the percentage of girls who were married before reaching 18 years of age was 2.3%, which is the legal age of marriage for a woman.
- In rural India, 2.6% girls were married before the age of 18 and in urban areas, the percentage was 1.6%. Among states the percentage of below 18 - year - old married girls ranged from 0.9% in Kerala to 3.7% in West Bengal.

Registrar General and Census Commissioner of India

- Registrar General and Census Commissioner of India, was founded in 1961 for arranging, conducting and analysing the results of the demographic surveys of India including Census of India and Linguistic Survey of India.

- The Registrar General and Census Commissioner of India functions under the Ministry of Home Affairs.

Decline in MMR

- The Maternal Mortality Ratio (MMR) in India has declined to 113 in 2016-18 from 122 in 2015-17 and 130 in 2014-2016, registering a 7.4 % decline. MMR is defined as the number of maternal deaths per 1,00,000 live births.
- As per the World Health Organization, maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management.
- The country has been witnessing a progressive reduction in MMR from 167 in 2011-2013, 130 in 2014-2016, to 113 in 2016-18.
- With this persistent decline, India is on track to achieve the Sustainable Development Goals (SDG) of 70/ lakh live births by 2030 and National Health Policy (NHP) target of 100/ live births by 2020.
- The number of states which have achieved the SDG target has now risen from 3 to 5. These are Kerala (43), Maharashtra (46) Tamil Nadu (60), Telangana (63) and Andhra Pradesh (65).
- Moreover, there are eleven (11) States that have achieved the target of MMR set by the NHP which includes the above 5 and the states of Jharkhand (71), Gujarat (75), Haryana (91), Karnataka (92), West Bengal (98) and Uttarakhand (99).
- The success can be attributed to the intensive endeavour of the government in achieving impressive gains in institutional deliveries as well as focusing on quality and coverage of services under National Health Mission (NHM) through various schemes.

Swachh Survekshan 2021

- The **Ministry of Housing Affairs** recently launched the Swachh Survekshan 2021, the sixth edition of the annual cleanliness survey.
- According to the Ministry, state ranking will also be announced under the survey, to be measured based on their fund utilisation and support to respective local bodies, among others.
- The Ministry also announced a new category of awards titled '**Prerak Daaur Samman**' as part of Swachh Survekshan 2021.
- The Prerak Daaur Samman has five additional sub-categories - *Divya (Platinum)*, *Anupam (Gold)*, *Ujjwal (Silver)*, *Udit (Bronze)*, *Aarohi (Aspiring)* - with top three cities being recognised in each.
- In a departure from the present criteria of evaluating cities on 'population category', this new category will categorize cities on the basis of six select indicator wise performance criteria which are as follows:
 - Segregation of waste into Wet, Dry and Hazard categories
 - Processing capacity against wet waste generated
 - Processing and recycling of wet and dry waste
 - Construction & Demolition (C&D) waste processing
 - Percentage of waste going to landfills
 - Sanitation status of cities

- An integrated **Swachh Bharat Mission-Urban Management Information System portal** has also been launched.
- It will bring the numerous digital initiatives on a single platform thus ensuring a unified and hassle-free experience for States and cities.

Swachh Survekshan

- Swachh Survekshan is a ranking exercise to assess rural & urban areas for their levels of cleanliness and active implementation of Swachhata mission initiatives in a timely and innovative manner.
- The objective is to encourage large scale citizen participation and create awareness amongst all sections of society.
- Additionally, the survey also intends to foster a spirit of healthy competition among towns and cities to improve their service delivery to citizens, towards creating cleaner cities and towns.
- The Ministry of Housing and Urban Affairs, takes up the Swachh Survekshan in urban areas and the Ministry of Jal Shakti in rural areas.

Voluntary National Review

- India recently presented its Voluntary National Review (VNR) 2020 report released by NITI Aayog at the United Nations High-level Political Forum (HLPF) on Sustainable Development, 2020.
- The title of the report is “**Decade of Action: Taking SDGs from Global to Local**”. The report is a comprehensive account of the adoption and implementation of 2030 Agenda in India.
- The report also discusses the policy and enabling environment, India’s approach to localising SDGs, and strengthening means of implementation.
- In its second VNR, India has made a paradigm shift to a “**whole-of-society**” approach with the government engaging sub-national and local governments, civil society organizations, local communities, people in vulnerable situations and the private sector.

Highlights Of The Report

A. Migrant Vulnerability

- The report highlighted that migration has always been the result of mismatch between quantitative and qualitative aspects of labour supply and demand. It has often exposed migrants to labour market uncertainties and social security risks.
- Rapid economic growth and capital and labour mobility in urban areas have also led to significant growth in migration.
- The Covid-19 pandemic-induced lockdown of economic activities has further impacted the situation of migrant labour.

B. Vulnerability of Elders

- The report has also highlighted the vulnerability of the elderly to health crisis such as Covid-19. India is home to over 103.9 million people aged 60 and above who constitute 8.6% of the total population.
- By 2026, this population segment is expected to increase to 173.2 million or 12.4% of the population, with consequent increase in the dependency ratio.
- Locomotor disability and visual disability are most prevalent among the elderly. Higher morbidity and greater burden of illness makes this group vulnerable to health shocks as seen during the covid-19 outbreak.

C. Financing

- The report states that India needs to increase its SDG spending by an additional **6.2 % of its GDP** until 2030. The ways and means for this additional financing needs to be identified. At the same time, it is crucial to make sure that the budget allocations align with SDG priorities.
- The report also reiterates that the developed countries have an obligation to provide financial assistance to the developing countries, especially for global public goods such as climate change mitigation and control of pandemics, such as COVID-19, so that they can fully achieve the SDGs.

D. Monitoring

- Further, the realisation of the 2030 Agenda needs state-of-the-art reporting and monitoring tools to measure progress under the framework and make improvements.
- The current **National Indicator Framework (NIF)** does not include indicators for 36 out of the 169 SDG targets. To ensure that the NIF is a comprehensive tool to monitor the whole of SDGs, the missing indicators will be identified or designed, following a consultative process, and added to the NIF.
- The report, further, said that India needs to undertake surveys at shorter intervals to help monitor progress of SDGs across the board periodically.
- It is also essential to collect and present data disaggregated by gender, social category, income groups, among others for sharper SDG monitoring which will lead to focused policy advice.

E. Innovation Led Improvement

- The role of innovation is critical in designing solutions for SDG acceleration. Today, India is home to the third largest start-up ecosystem in the world, with the third largest number of unicorns.
- It is believed that these disruptions in the innovation and entrepreneurial ecosystem will accelerate the pace of achieving the SDGs.

HLPF

- The HLPF is the foremost international platform for follow-up and review of progress on the 17 Sustainable Development Goals (SDGs).
- The HLPF meets annually in July under the auspices of the Economic and Social Council (ECOSOC) of the UN.
- The VNRs presented by Member States at the HLPF are a critical component of the review of progress and implementation of the 2030 Agenda and the SDGs.
- The reviews are voluntary and state-led and are aimed at facilitating the sharing of experiences, including successes, challenges and lessons learned.

Household Social Consumption On Education Survey

The report of Household Social Consumption: Education survey conducted by National Statistical Office was recently released. The survey covered 1.13 lakh households and 1.52 lakh students in over 8,000 villages and 6,000 urban blocks between July 2017 and June 2018.

Findings Of The Survey**A. Preference for English Medium Instruction**

- The survey found an increasing trend in the preference for English as a medium of instruction at different levels of education.

- Over 50 % of pre-primary schoolchildren (nursery, KG) who spoke one of 13 regional languages at home, including Tamil, Malayalam, Kannada and Punjabi, were enrolled in English medium schools.
- However, the share of Hindi-speaking students in English-medium schools at the primary level has come down from 18.3 % in 2014 to 18.2 % in 2018.
- The percentage of students enrolled in the English medium at various levels are: Primary (23.2%), Upper Primary (21%), Secondary (20.9%) and Higher Secondary (29%).

STUDENTS AT SECONDARY LEVEL TAKE PRIVATE COACHING THE MOST

Rural+urban (%)	Level	Male	Female	All India
	Pre-primary	12.4	10.6	11.6
	Primary	16.6	16.2	16.4
	Upper primary/middle level	23	20.6	21.9
	Secondary	31.1	29.1	30.2
	Higher secondary	29.6	24.7	27.5
	Diploma certificate	7.2	7.7	7.3
	Graduate & above level	13.8	13	13.5
	All (pre-primary and above level)	20.5	19	19.8

Source: MOSPI

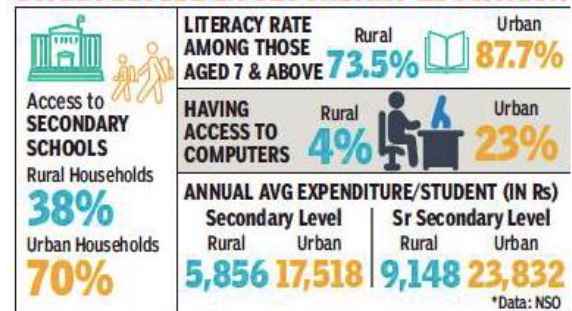
B. Status Of Private Coaching

- The report shows that nearly 20% students attending pre-primary and above level (20.5% of males and 19% of females) were taking private coaching.
- The percentage of students taking private tuitions at various levels are: Pre-Primary (11.6%), Primary (16.4%), Upper Primary (21.9%), Secondary (30.2%) and Higher Secondary (27.5%).
- Private coaching is a multi-million rupee industry in India. According to an earlier 2016 NSSO report, more than 7.1 crore students were taking private coaching or tuition classes in addition to their basic education.
- According to experts, students take private coaching due to the lack of quality teaching in schools, especially in government schools. Only a sincere effort to improve quality of teaching in schools will change this scenario and reduce the financial burden on families, who want to give their children a decent education.

C. Rural Urban Gap In Education

- **Total Literacy:** The all India literacy rate among persons aged 7 years and above is 77.7%. However, for the same age group, the rural literacy is 73.5% and in the urban areas it is 87.7%.
- While 92.7% of rural households have a primary school within 1 km compared to 87.2% in urban areas, only 38% of rural household have access to secondary school compared to 70% in the urban areas.
- **Computer Access:** The digital divide between rural and urban households is significant with just 4% of the rural population having access to computers, as compared to 23% in urban areas.

STARK DIVIDE IN SECONDARY EDUCATION



- **Internet Access:** While 15% of the surveyed population in the rural areas has internet access, 42% of the surveyed students in the urban areas have access to the internet.
- Only 24% of the persons between age 15-29 years in rural areas are able to operate a computer as compared to 56% in urban areas.
- Digital learning is growing significantly in India today, however, the numbers show that steps must also be taken to ensure that the technology divide does not become a learning divide.

D. Gap In Annual Average Expenditure

- The report highlights that up until higher secondary education, the average cost of education in a rural household is Rs 28,157, and that for an urban household is Rs 84,712 — this could be attributed to urban households using private schools for education.
- According to the survey, 76.1 per cent of students from rural households attend primary and middle schools run by the government as opposed to a meagre 38 per cent of students from urban houses.
- The average expenditure per student during an academic session for basic courses was nearly Rs 8,331 for general courses and Rs 50,307 for technical and professional courses.
- However, in Hindi-speaking states, the per capita expenditure on education is lower than the national average: Chhattisgarh (Rs 3,575), Bihar (Rs 4,379), Jharkhand (Rs 4,840), Madhya Pradesh (Rs 5,769), Uttar Pradesh (Rs 6,301) and Rajasthan (Rs 7,835).

World Youth Skills Day

- World Youth Skills Day (WYSD) 2020 is observed on 15th July with an aim to raise awareness about the importance of technical, vocational education training and the development of other skills relevant to both local and global economies.
- The day, designated by United Nations General Assembly in 2014, also highlights the important role of skilled youth in addressing current and future global challenges.
- Rising youth unemployment is one of the most significant problems facing economies and societies in today's world, for developed and developing countries alike.
- The latest Global Employment Trends for Youth 2020: Technology and the future of jobs shows that since 2017, there has been an upward trend in the number of youth not in employment, education or training (NEET).
- In 2016 there were 259 million young people classified as NEET – a number that rose to an estimated 267 million in 2019, and is projected to continue climbing to around 273 million in 2021.
- The theme for this year is '**Skills for a Resilient Youth**'. In the short term, it will aim to prepare young people to develop their capacities to respond to rapid changes in employment and entrepreneurship in sectors that are hardest hit by the Covid crisis.
- In the longer term, this implies helping skill development systems adapt to changes in the world economy that the pandemic and recession will bring.

Unnat Bharat Abhiyan

- The Tribal Cooperative Marketing Development Federation of India (TRIFED) has entered into a partnership with IIT Delhi under the 'Unnat Bharat Abhiyan' (UBA) to boost livelihood opportunities and income generation for tribal communities.
- To formalise this partnership, a tripartite Memorandum of Understanding (MoU) was signed between TRIFED, IIT Delhi and Vijnana Bharati, a swadeshi science movement.
- Together with IIT Delhi, which is the National Coordinating Institute (NCI) for the UBA, TRIFED envisages promoting tribal livelihoods and income-generating programmes.
- Under TRIFED's '**Van Dhan**' programme, tribal entrepreneurs will now be able to get access to the expertise of the entire network of more than 2,600 academic and research institutions under the UBA.

- With the partnership, tribal forest dwellers will get exposure to newer processing technologies, product innovation, mentorship, transformational digital systems and handholding.
- The IIT Delhi-TRIFED partnership will also benefit from the expertise and experience of Vijnana Bharati (VIBHA). VIBHA will map and reach out to various stakeholders for convergence with the focus to strengthen the 'Van Dhan Yojana' through its local chapters.
- It will help in gathering and passing critical information on needs and possible intervention to TRIFED, UBA and tribal communities.

Unnat Bharat Abhiyan

- Unnat Bharat Abhiyan (UBA) is a flagship national programme of the **Ministry of Human Resource Development (MHRD)**. It connects higher education institutions with villages for the economic and social betterment of rural communities.
- Unnat Bharat Abhiyan 2.0 is the upgraded version of Unnat Bharat Abhiyan 1.0, wherein the scheme was extended to all educational institutes.
- However, under Unnat Bharat Abhiyan 2.0 participating institutes are selected based on the fulfillment of certain criteria.

Transgender Persons (Protection of Rights) Rules, 2020

- The Ministry of Social Justice and Empowerment has issued a notification publishing the draft Transgender Persons (Protection of Rights) Rules, 2020.
- The Transgender Persons (Protection of Rights) Act, 2019, was passed last year in Parliament amid criticism from transgender rights activists and protests by the LGBTQ community.

Provisions Under Draft Rules

The Rules make it mandatory for all establishments, public and private, to have equal opportunity policies which include transgender persons and provide for facilities on their premises such as unisex toilets.

A. Prevent Discrimination

- The “appropriate government” is also required to take adequate steps to “prohibit discrimination in any government or private organisation or establishment.
- States will be responsible for “timely prosecution of individuals” under Section 18 of the Act which prohibits offences against the transgender community. The offences would be punishable with imprisonment from six months upto two years, with a fine.
- State governments will have to set up a Transgender Protection Cell under the District Magistrate and Director General of Police to monitor cases of offences against transgender persons.
- According to the Rules, all educational institutions should have a committee which transgender persons can approach in case of any harassment or discrimination.

B. Certification of Identity

- The Centre has removed the requirement of a medical examination for trans persons applying for a certificate of identity.
- As per the rules, a **District Magistrate** would issue a transgender identity certificate and card based on an affidavit by the applicant, but without any medical examination.

- In case of change of gender, the application for new identification certificate would require a certificate from the medical superintendent or chief medical officer of the medical institution where the applicant underwent the intervention.

Issues

- As per the transgender community, the fight is about self-identification, where the transgender person can identify themselves. Instead they have to fill forms and be certified as a transgender or any other category by a District Magistrate.
- An application to the DM to be certified as a transgender can be rejected. And while there are processes for appeals, the process for the certification and appeal is both laborious as well as lengthy.
- The community had approached the Supreme Court and the matter is pending. Since there has been no stay from the court, the government could go ahead with the formulation of the rules.
- However, since the transgender certificate will provide access to various social security schemes and health benefits from the government, many believe that the certificate is necessary.
- The fear is that if this check is not kept, people might start availing these benefits fraudulently by pretending to be a member of the community.

State of World Population 2020

The United Nations Population Fund (UNFPA), recently released the State of World Population 2020 report titled, '*Against My Will : Defying The Practices That Harm Women And Girls And Undermine Equality*'.

Harmful Practices Against Women

- Every year, millions of girls globally are subjected to practices that harm them physically and emotionally, with the full knowledge and consent of their families, friends and communities.
- Harmful practices against girls cause profound and lasting trauma, robbing them of their right to reach their full potential.
- The report focuses on the three most prevalent practices: female genital mutilation, child marriage, and extreme bias against daughters in favour of sons.
- As per the report, this year an estimated 4.1 million girls will be subjected to female genital mutilation.

Missing Women

- According to estimates of missing females averaged over a five- year period (2013-17), annually, there were 1.2 million missing females at a global level.
- Missing females are women missing from the population at given dates due to the cumulative effect of postnatal and prenatal sex selection (preference for a son).
- China (50%) and India (40%) together account for about 90 per cent of the estimated 1.2 million missing female births annually worldwide. India had about 460,000 girls 'missing' at birth each year.
- As per the report, gender-biased (pre-natal) sex selection accounts for about 2 out of 3 of the total missing girls in India, and post-birth female mortality accounts for about 1 in 3.

Marriage Squeeze

- This demographic imbalance will have an inevitable impact on marriage systems. In countries where marriage is nearly universal, many men may need to delay or forego marriage because they will be unable to find a spouse.

- This so-called “marriage squeeze”, where prospective grooms outnumber prospective brides, has already been observed in some countries and affects mostly young men from lower economic strata.
- At the same time, the marriage squeeze could result in more child marriages.

Impact of Covid-19

- The report says that while progress has been made in ending some harmful practices worldwide, the Covid-19 pandemic threatens to reverse the gains.
- If services and programmes remain closed for six months, an additional 13 million girls may be forced into marriage and 2 million more girls may be subjected to female genital mutilation between now and 2030.

Way Ahead

- This reality is grim and unacceptable and needs to change immediately. Change can only come about by transforming unequal power relations, structures and norms to ensure value for women and girls.
- Ending child marriage and female genital mutilation worldwide is possible within 10 years by scaling up efforts to keep girls in school longer and teach them life skills and to engage men and boys in social change.
- Investments totalling USD 3.4 billion a year through 2030 would end these two harmful practices and end the suffering of an estimated 84 million girls.

UNFPA

- UNFPA is the United Nations sexual and reproductive health agency. It is a member of the United Nations Development Group and part of its executive committee.
- The agency began operations in 1969 as the United Nations Fund for Population Activities. Its name was changed into United Nations Population Fund in 1987. However, the shortened term of UNFPA has been retained.
- Its mission is to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled.
- UNFPA supports access to a wide range of sexual and reproductive health services – including voluntary family planning, maternal health care and comprehensive sexuality education.

Schemes For Development Of Medical Devices

- The government has released the guidelines of two incentive schemes for the development of medical device parks across the country.
- The production linked incentive schemes were approved by the Cabinet in March 2020 and have been conceptualised for making India self-reliant in the pharma sector.

Status Of Medical Devices In India

- Domestic medical devices market in India is heavily dependent on imports, as around 85% of the medical devices used in India are imported.
- India's medical devices manufacturing sector suffers various disabilities like:
 - Lack of adequate infrastructure, domestic supply chain and logistics.
 - High cost of finance.
 - Inadequate availability of quality power.

- Limited design capabilities.
- Low focus on R&D and skill development.

A. Production Linked Incentive Scheme for Promoting Domestic Manufacturing of Medical Devices.

- The objective of the scheme is to boost domestic manufacturing and attract large investments in the medical devices sector.
- Under the scheme, financial incentive will be given to selected companies at the rate of 5% of incremental sales (over Base Year 2019-20) of goods manufactured in India.
- The **tenure** of the scheme is from Financial Year 2020- 21 to Financial Year 2026-27.
- Total financial outlay of the Scheme is Rs. 3,420 crore.
- **Eligibility**
 - Financial incentive under the scheme shall be provided only to companies engaged in manufacturing of goods covered under specified target segments in India.
 - Only greenfield projects are eligible under scheme. A greenfield project is a project where minimum specified investment is made under this scheme in a new production facility or in a new plant in the premises of an existing production facility.
 - The applicant should not have been declared as bankrupt or defaulter or reported as fraud by any bank or financial institution or non-banking financial company

B. Scheme for Promotion of Medical Devices Parks

- The objective of the scheme is to create world class infrastructure facilities in order to make Indian medical device industry a global leader.
- Under the Scheme, a one-time grant-in-aid will be provided for creation of common infrastructure facilities in selected Medical Device Park proposed by a State Government.
- For the purpose of this Scheme, a **Medical Device Park** means a designated contiguous (continuous) area of land with common infrastructure facilities for the exclusive manufacturing of medical devices.
- **Common Infrastructure Facility (CIF):** The common facilities with capacity up to the expected number and type of medical device manufacturing units in the park.
- Four Medical Device Parks will be supported under the Scheme, with the total financial outlay of Rs. **400 Crore**. Maximum allocation for one Medical Device Park will be limited to Rs 100 crore.
- The grant-in-aid will be **70% of the project cost** of the CIF. In case of North Eastern States and Hilly States (i.e. Himachal Pradesh, Uttarakhand, UT of Jammu & Kashmir and UT of Ladakh), the grant-in-aid will be 90% of the CIF.
- The Scheme will be implemented through a State Implementing Agency (SIA), a legal entity, set up by the concerned State Government. The duration of the Scheme is from FY 2020-2021 to FY 2024-2025.

Schemes For Development Of Bulk Drugs

The government has released the guidelines of two incentive schemes for the development of bulk drugs across the country. The production linked incentive schemes were approved by the Cabinet in March 2020 and have been conceptualised for making India self-reliant in the pharma sector.

Status Of Drug Manufacturing In India

- Indian pharmaceutical industry is the 3rd largest in the world by volume and 14th largest in terms of value. India contributes 3.5% of total drugs and medicines exported globally.
- However, despite these achievements, India is significantly dependent on import of some of the basic raw materials, viz., bulk drugs that are used to produce medicines. Bulk drugs accounted for 63% of the total pharmaceutical imports in the country during FY 2018-19.
- Drugs play a major role in healthcare delivery in the country. Continuous supply of drugs is necessary to ensure delivery of affordable healthcare to the citizens. Any disturbance in supply of drugs can have significant adverse impact on drug security of the country.

A. Production Linked Incentive (PLI) Scheme for Promotion Of Domestic Manufacturing Of Critical Key Starting Materials (KSMs)/ Drug Intermediates(DIs) and Active Pharmaceutical Ingredients (APIs) In India

- The objective of the scheme is to boost domestic manufacturing of identified KSMs, Drug Intermediates and APIs by attracting large investments in the sector and reducing India's import dependence in critical APIs.
- Under the Scheme, financial incentives shall be given based on sales of 41 identified products. These 41 products, will cover 53 Active Pharmaceutical Ingredients (APIs).
- The tenure of the scheme is from FY 2020-21 to FY 2029-30 and the total financial outlay of the scheme is Rs. 6,940 crore.
- **Eligibility**
 - Support under the scheme shall be provided only to manufacturers of critical identified KSMs/DIs and APIs registered in India.
 - Eligibility shall be subject to minimum investment in green field projects.

API, DI and KSM

- All drugs are made up of two core components: the API (also called the bulk drug) and the excipient. The API, is the central ingredient in any drug which produces the required effects in the body.
- Excipients are substances other than the API, that help to deliver the medication in the body. Excipients are chemically inactive substances, such as lactose or mineral oil in the pill.
- **Drug Intermediate (DI):** A material produced during intermediate steps in the development of an API that has to undergo further molecular change or processing before it becomes an API.
- **Key Starting Material (KSM):** A raw material or intermediate that is used in the production of an API

B. Scheme for Promotion of Bulk Drug Parks

- The objective of the scheme is to set up bulk drug parks in the country to reduce the manufacturing cost of bulk drugs and make India self-reliant in bulk drugs.
- To help industry meet the standards of environment at a reduced cost through innovative methods of common waste management system.

Details Of The Scheme

- Under the scheme, a one-time grant-in-aid will be provided for creation of common infrastructure facilities in selected Bulk Drug Park proposed by a State Government.

- Three bulk drug parks will be supported under the scheme, with the total financial outlay of Rs. 3000 Crore. Maximum grant-in-aid for one bulk drug park will be limited to Rs 1000 crore. The duration of the Scheme is from FY 2020-2021 to FY 2024-2025.
- The scheme will be implemented through a State Implementing Agency (SIA), a legal entity, set up by the concerned State Government.
- The grant-in-aid will be 70% of the project cost of the CIF. In case of North Eastern States and Hilly States (i.e Himachal Pradesh Uttarakhand, UT of Jammu & Kashmir and UT of Ladakh), the grant-in-aid will be 90% of the cost of CIF.

Affordable Rental Housing Complexes

- The Union cabinet has approved the development of affordable rental housing complexes (ARHCs) for urban migrants. Approximately, 3 lakh beneficiaries will be covered initially.
- Usually, these migrants live in slums, informal or unauthorised colonies or peri-urban areas. ARHCs will create a new ecosystem in urban areas making housing available at affordable rent close to the place of work.
- The ARHC scheme under the **Ministry Of Housing And Urban Affairs** will be a sub-scheme under the **Pradhan Mantri Awas Yojana (Urban)**.

Details Of The Scheme

- The ARHC scheme will operate under two modes. In the first mode, existing vacant government-funded housing complexes will be converted into ARHCs through concession agreements for 25 years. The States and Union Territories would invite bids to select concessionaires.
- Concessionaire will make the complexes liveable by repair/retrofit and maintenance of rooms and filling up infrastructure gaps like water, sewer/ septage, sanitation, road etc.
- The complexes will revert to urban local bodies after 25 years to restart the next cycle like earlier, or run on their own.
- In the second mode, special incentives like use permission, 50% additional Floor Area Ratio or Floor Space Index, concessional loan at priority sector lending rates, tax reliefs at par with affordable housing will be offered to private and public entities to develop ARHCs on their own available vacant land for 25 years.
- An expenditure of ₹600 crore is estimated in the form of technology innovation grant which will be released for projects using identified innovative technologies for construction.
- The urban local bodies in cities would decide the rent amount to be charged from the migrants.

World Bank's Assistance For MSMEs

- India recently signed a \$750 million agreement with World Bank for the MSME Emergency Response Program to support funding to micro, small, and medium enterprises (MSMEs), severely impacted by the COVID-19 pandemic.
- The \$750 million loan, from the International Bank for Reconstruction and Development (IBRD), has a maturity of 19 years including a 5-year grace period.
- The World Bank has till now committed \$2.75 billion to support India's emergency COVID-19 response, including the new MSME project. The first \$1 billion emergency support was announced in April this year for immediate support to India's health sector.

- Another \$1 billion project was approved in May to increase cash transfers and food benefits to the poor and vulnerable.

Impact Of The Program

- The program will support government's efforts to channel the liquidity to the MSME sector by de-risking lending from banks and Non-Banking Financial Companies (NBFCs) to MSMEs through a range of instruments, including credit guarantees.
- Improving the funding capacity of key market-oriented channels of credit, such as the NBFCs and Small Finance Bank (SFBs), will help them respond to the urgent and varied needs of the MSMEs.
- Currently, about 8 % of MSMEs are served by formal credit channels. The program will incentivize and mainstream the use of fintech and digital financial services in MSME lending and payments.
- Digital platforms will play an important role by enabling lenders, suppliers, and buyers to reach firms faster and at a lower cost, especially small enterprises who currently may not have access to the formal channels.

India's Top Trading Partner

- According to the data of commerce ministry, US remained India's top trading partner for the second consecutive fiscal in 2019-20, which shows increasing economic ties between the two countries.
- In 2019-20, the bilateral trade between the US and India stood at \$88.75 billion as against \$87.96 billion in 2018-19.
- The US is one of the few countries with which India has a trade surplus. The trade gap between the countries has increased to \$17.42 billion in 2019-20 from \$16.86 billion in 2018-19. Presence of Indian diaspora in the US is one of the main reasons for this increasing bilateral trade.
- China was India's top trading partner since 2013-14 till 2017-18, however, in 2018-19, the US first surpassed China to become India's top trading partner. Before China, UAE was the country's largest trading nation.
- The bilateral trade between India and China has dipped to \$81.87 billion in 2019-20 from \$87.08 billion in 2018-19. Further, trade deficit between the two neighbours has declined to \$48.66 billion in 2019-20 from \$53.57 billion in the previous fiscal.

Future Outlook

- There is huge potential to boost bilateral trade between the countries on account of increasing anti-China sentiment in both the nations. Because of the anti-China sentiment, several US companies are exploring new suppliers in countries like India to cut dependence on China.
- Trade experts believe that the trend of widening trade ties between India and U.S. will continue in the coming years also as both the sides are engaged in further deepening the economic ties.
- India and the US are negotiating a limited trade pact with a view to iron out differences at trade front and boost commercial ties.
- India is seeking relaxation in US visa regime, exemption from high duties imposed by the US on certain steel and aluminium products, and greater market access for its products from sectors such as agriculture, automobile, automobile components and engineering.
- On the other hand, the US wants greater market access for its farm and manufacturing products, dairy items, medical devices, and data localisation, apart from cut on import duties on some information and communication technology products.

Rewa Solar Power Plant

- Prime Minister Narendra Modi recently inaugurated the 750- megawatt Rewa solar Power Plant in Madhya Pradesh.
- The Rewa solar plant was set up by the Rewa Ultra Mega Solar Limited, a joint venture between Madhya Pradesh Urja Vikas Nigam Limited and the Centre's Solar Energy Corporation of India (SECI).
- It is the first renewable energy project to supply to institutional customers outside the state, including Delhi Metro, which will get 24 per cent of energy from the project. The remaining 76 per cent is being supplied to the state distribution companies of Madhya Pradesh.
- The project is expected to reduce carbon emissions equivalent to about 15 lakh tonnes of CO2 every year.
- Clean energy projects now account for more than a fifth of India's installed power generation capacity. India has 34.6 gigawatt (GW) of solar power, with an aim to have 100 GW of solar capacity by 2022.

Significance Of The Project

- The project is also the country's first power plant to break the grid parity barrier. Grid parity occurs when an alternative energy source (such as solar) can generate power at a cost that is less than or equal to the price of power from conventional sources such as coal, oil and natural gas (i.e., fossil fuels).
- The Rewa project had caught global attention, by landing a then (Feb 2017) record low-winning bid of ₹2.97 per kilowatt-hour (kWh) in the country. The reason for falling tariffs was the lower cost of raising finances, and the falling solar module prices.
- Not only did the plant receive the **World Bank Group President's Award** but it is also the first project to get funding from The World Bank and Clean Technology Fund in India.

Note

- While it is one of the largest single-site solar power plants in India, it is not the largest in Asia.
- The distinction of the world's second largest photovoltaic power station goes to the Bhadla Solar Park, with a capacity of 2,245 MW, in Jodhpur district in Rajasthan, and the Pavagada Solar Park in Tumkur district, Karnataka, which has a capacity of 2,050 MW.

GI Tag for Basmati

The All India Rice Exporters' Association (AIREA) has appealed to the government to protect the integrity of Basmati rice, after Madhya Pradesh has put pressure on the central government for seeking Geographical Indication (GI) tag for Basmati produced in 13 districts of MP.

GI Tag Of Basmati Rice

- In 2010, Agricultural and Processed Food Products Export Development Authority (APEDA), got the GI tag for Basmati rice for the region located in Indo-Gangetic Plains (IGP) below the foothills of the Himalayas.
- The region is spread across seven states — Himachal Pradesh, J&K, Punjab, Haryana, Uttarakhand, Western UP (26 districts) and Delhi.
- According to APEDA, the origin and reputation of Basmati rice as a 'long grain, aromatic rice' from the IGP is found in tradition, folklore, scientific and culinary literature and political and historical records. It has been grown in this region from time immemorial.

- MP started cultivation of varieties of Basmati rice only around the middle of the first decade of this century. The state claims that this rice possesses the same characteristics and qualities as that of the rice grown in the IGP.

Reasons For Not Giving GI Tag To MP

- Under WTO's TRIPs (trade-related aspects of intellectual property rights) agreement, physical attributes are not enough for a product to earn GI tag.
- As per GI of Goods (Registration & Protection) Act in 2003, 'reputation' to a geographical area is central to the recognition of a GI product and only seven states have that reputation.
- Even if the rice grown in MP has all the required characteristics, it would still not be entitled to qualify as Basmati.

Implications Of Giving GI Tag To MP

- No other country (other than 18 districts of Pakistan) can call any of its rice as Basmati. As per AIREA if MP is included in the GI list of Basmati crop then it will not only harm the reputation of Indian Basmati as a whole, but also the national interest.
- It will nullify APEDA's efforts made earlier to secure and protect Indian Basmati since 1995 by taking up over a 1,000 legal actions in nearly 50 countries, spread across all the continents.
- If MP is given the GI tag, Pakistan and China will take this as an opportunity to start sowing Basmati all across their countries.
- If Basmati loses its premium tag it will deprive over 20 lakh farmers of seven states from the economic premium of growing this unique product. Hence, the commercial considerations cannot be sacrificed to expand the area of GI.

GI Tag

- According to APEDA, it is an agricultural, natural or a manufactured product, originating from a specific geographical area due to which it possesses unique characteristics and qualities.
- GI tag is basically an assurance that the product is coming from that specific area and acts as a trademark in the international market.

Curbs On Public Procurement

- The government has amended the General Financial Rules, 2017 to impose curbs on public procurement from bidders of countries that share a land border with India.
- This latest move by the government, on grounds of defence and national security, is expected to affect mainly Chinese entities.

Previous Anti-China Measures

- The government has been taking a series of measures in recent months to restrict the inflow of Chinese investments and products into the country.
- In June, the government made it mandatory for sellers on the Government e-Marketplace (GeM) portal to clarify the country of origin of their goods when registering new products.
- The government had also announced an interim ban on 59 apps with Chinese links.
- Earlier in April, the government had amended the FDI rules mandating prior approval for investment by entities in countries that share land borders with India.

The New Order

- Bidders from these countries will be eligible only if they are registered with the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).
- They will also be required to take mandatory political and security clearance from the Ministries of External and Home Affairs, respectively.
- The order takes into its ambit public sector banks and financial institutions, autonomous bodies, Central Public Sector Enterprises (CPSEs) and public private partnership projects receiving financial support from the government or its undertakings. It does not apply to procurement by the private sector.
- The central government has invoked the provisions of Article 257(1) of the Constitution to direct state governments to implement this order for all public procurement.

Exceptions To The Order

- Relaxation will be provided for the procurement of medical supplies for containment of COVID-19 global pandemic till December 31.
- Also, the order for prior registration will not apply for countries to which the Indian government extends lines of credit or provides development assistance, even if it shares a land border with India.
- India shares its border with China, Nepal, Bhutan, Pakistan, Bangladesh and Myanmar. Out of these land-border sharing countries, the government has extended lines of credit to Bangladesh, Nepal, Myanmar.
- India has extended lines of credit totalling \$30.59 billion with 64 countries—including 41 from Africa.
- The order will also not apply to cases where orders have been placed or a contract has been concluded or letter of acceptance has been issued, but new tenders will be covered under this order.

General Financial Rules

- General Financial Rules (GFRs) are a compilation of rules and orders of Government of India to be followed by all, while dealing with matters involving public finances i.e. matters relating to revenue and expenditure of government.
- These rules and orders are treated as executive instructions. They were first introduced in 1947 and modified thereafter in 1963, 2005 and 2017.

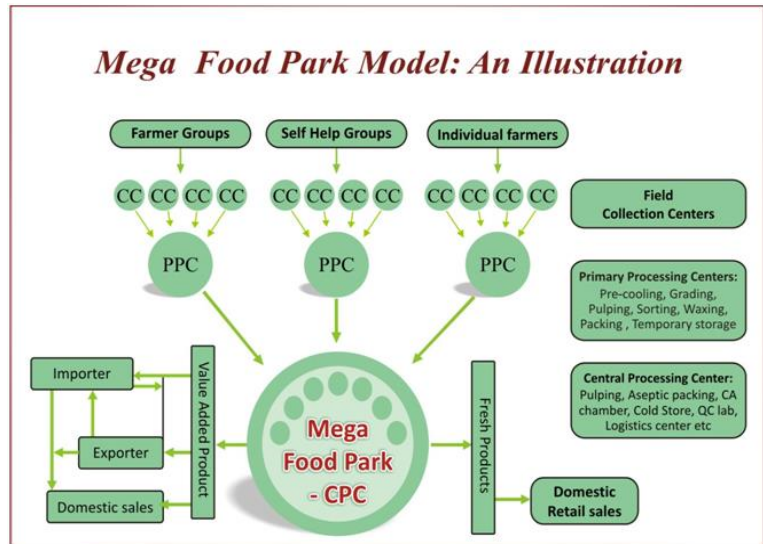
Zoram Mega Food Park Scheme

- The Ministry of Food Processing Industries recently operationalised the Zoram Mega Food Park (MFP), which is the **first MFP in the state of Mizoram**.
- The modern infrastructure for food processing created at the Zoram MFP will prove to be a big boost to the growth of the food processing sector in Mizoram.
- It will provide direct and indirect employment to 5,000 persons and benefit about 25,000 farmers in the CPC (Core Processing Centre) and PPC (primary processing Centre) catchment areas.
- It will also help in enhancing the income of farmers and ensuring fair price of farm produce.

Mega Food Park Scheme

- The Scheme of Mega Food Park aims at providing a mechanism to link agricultural production to the market by bringing together farmers, processors and retailers.

- By doing so it aims to maximize value addition, minimize wastage, increase farmers income and create employment opportunities particularly in rural sector.
- The scheme is based on “Cluster” approach and envisages creation of state of art support infrastructure in a well-defined agri / horticultural zone for setting up of modern food processing units.
- A mega food park typically consist of supply chain infrastructure including collection centers, primary processing centers, central processing centers, cold chain and around 25-30 fully developed plots for entrepreneurs to set up food processing units.
- Under the MFP Scheme, the Union government provides financial assistance upto Rs. 50 crore per MFP project. It is implemented by a Special Purpose Vehicle (SPV) which is a Body Corporate registered under the Companies Act.
- Presently, 18 MFP Projects are under implementation in various states and 19 Mega Food Parks have already become functional. 6 of them are in the North eastern region.



ICAT

- International Centre of Automotive Technology (ICAT) is developing a technology platform for automotive industry called **ASPIRE - Automotive Solutions Portal for Industry, Research and Education**.
- It is a part of a mission by **Department of Heavy Industry (DHI)**, to promote innovation, R&D and product development in India for various sectors.
- A step towards this mission is the creation of technology platform e-portals where such technology development, information exchange and innovation can be facilitated.

Details of ASPIRE Portal

- The key objective of the ASPIRE portal is to facilitate the Indian automotive industry to become self-reliant by assisting in innovation and adoption of global technological advancements by bringing together the stakeholders from various associated avenues.
- The activities would include research and development, product technology development, technological innovations, technical and quality problem resolution for the industry and manufacturing and process technology development.
- This includes bringing together the automotive original equipment manufacturers (OEMs), tier 1, 2 and 3 companies, R&D institutions and academia on matters involving technology advancements.

ICAT

- ICAT was established in 2006, as a leading world class automotive testing, certification and R&D service provider under the aegis of NATRiP (National Automotive Testing and R&D Infrastructure Project).

- National Automotive Testing and R&D Infrastructure Project (NATRiP), is a fully Government of India funded project. The project aims at creating core global competencies in automotive sector in India by facilitating seamless integration of Indian automotive industry with the world.

Special Window for Affordable and Mid Income Housing

- The finance minister recently reviewed the performance of Special Window for Affordable and Mid Income Housing (SWAMIH) fund.
- Eight months after the cabinet approved a ₹25,000 crore special window to provide funding to housing projects that are stuck with the aim of reviving the real estate sector, 81 projects have been approved so far, with an investment of ₹8767 crore.

SWAMIH

- The fund has been constituted to complete construction of stalled, RERA-registered affordable and mid-income category housing projects.
- It would provide relief to developers that require funding to complete a set of unfinished projects and consequently ensure delivery of homes to the home-buyers.
- The approval, under the SWAMIH Investment Fund I, will enable the completion of nearly 60,000 homes across India. These projects are spread across both large cities as well as Tier 2 locations
- The fund has been set up as a Category-II AIF (Alternate Investment Fund) debt fund registered with SEBI.
- The Investment Manager of the Fund is SBICAP Ventures, a wholly-owned subsidiary of SBI Capital Markets, which in turn is a wholly-owned subsidiary of the State Bank of India.

Financial Stability Report

The Reserve Bank of India has released the Financial Stability Report (FSR). The report reflects the collective assessment of the sub-committee of the Financial Stability and Development Council (FSDC) on risks to financial stability and the resilience of the financial system.

Highlights Of The Report

A. Increase in NPA

- The central bank has warned that the gross nonperforming assets (GNPA) ratio of all scheduled commercial banks (SCBs) may increase from 8.5 per cent in March 2020 to 12.5 per cent by March 2021.
- And if the macroeconomic environment worsens further, the GNPA ratio may escalate to 14.7 per cent under very severe stress.

B. CRAR/CAR

- The capital to risk-weighted assets ratio (CRAR) of Scheduled Commercial Banks edged down to 14.8% in March, from 15% in September 2019.
- The RBI projected that this ratio could slide to down to 13.3% in March 2021 under the baseline scenario and to 11.8% under very severe stress scenario.
- Capital to Risk-Weighted Assets Ratio also called as the Capital Adequacy Ratio (CAR) is the ratio of a bank's capital in relation to its risk-weighted assets and current liabilities. In other words, it measures how much capital does a bank has with it as a percentage of its total credit exposure.

- Bank regulators enforce this ratio to ensure credit discipline in order to protect depositors and promote stability and efficiency in the financial system.

C. Credit Status

- Bank credit which had considerably weakened during the first half of 2019-20, slid down further to 5.9% by March 2020 and remained muted up to early June 2020. This moderation was broad-based across all bank groups.
- Inter-bank exposure: As per network analysis, the total outstanding bilateral exposures among constituents of the financial system narrowed during 2019-20 with the inter-bank market continuing to shrink.

Future Outlook

- The report emphasised that the financial system in India remains sound. Nonetheless, in the current environment, the need for financial intermediaries to proactively augment capital and improve their resilience has acquired top priority.
- While risk management has to be done wisely, extreme risk aversion would have adverse outcomes for all.
- Going forward, the major challenges include pandemic-proofing large sections of society, especially those that tend to get excluded in formal financial intermediation.
- Full restoration in economic activity would depend upon the support for robust health infrastructure, recovery in demand conditions and fixing of supply dislocations, in addition to the state of global factors like trade and financial conditions.

AIM-iCREST

- NITI Aayog's Atal Innovation Mission (AIM), has launched AIM iCREST – an Incubator Capabilities enhancement program for a Robust Ecosystem.
- It has been designed to enable the incubation ecosystem in the country and work towards the growth of AIM's Atal and Established incubators across the country.
- For this, AIM has joined hands with Bill & Melinda Gates Foundation and Wadhvani Foundation - organizations that will give credible support and expertise in the entrepreneurship and innovation space.
- Under the initiative training will be provided to entrepreneurs, through technology driven processes and platforms.
- Further, it will focus on supporting start-up entrepreneurs in knowledge creation and dissemination as well as in developing robust and active networks.

Incubators

- Business incubators are institutions that support entrepreneurs in developing their businesses, especially in initial stages. These are organizations that work towards speeding up the growth and success of start-ups and early stage companies.
- Incubation support includes providing technological facilities and advices, initial growth funds, network and linkages, co-working spaces, lab facilities, mentoring and advisory support.

Atal Innovation Mission

For details on AIM, please refer The Recitals- April 2020.

Antibiotic Use In Dairy Industry

- The Centre for Science and Environment recently held a meeting to share findings on antibiotic use in the Indian dairy sector. India is **world's largest milk producer**, producing 188 million tonnes in 2018-19.
- The assessment shows that dairy farmers indiscriminately use antibiotics for diseases such as mastitis (infection/inflammation of the udder), a common ailment in dairy animals.
- Often, these include critically important antibiotics (CIAs) for humans. The World Health Organization (WHO) has warned that these antibiotics should be preserved in view of the growing crisis of antibiotic resistance.
- Despite a law, these antibiotics are easily available without the prescription of registered veterinarian. Farmers often inject animals based on their own judgement of signs and symptoms of a disease without any veterinary supervision.
- Moreover, farmers often sell milk while the animal is under treatment, which increases the chances of antibiotic residues in the milk.
- While milk sold directly to consumers is not tested, researchers point towards inadequate focus on testing for antibiotic residues in the milk collected by some state milk federations, which process it and sell packaged milk under various brands.
- Information shared by various organisations and experts suggest that ethno-veterinary medicines, better management of sub-clinical mastitis and good farm management could contribute towards reducing antibiotic misuse.

Dhamma Chakra Day

- The International Buddhist Confederation (IBC) in partnership with Ministry of Culture, recently celebrated the Asadha Poornima (on July 4) as Dharma Chakra Day.
- Asadha Poornima falls on the first full moon day of the month of Asadha as per Indian sun calendar. It is also known as Esala Poya in Sri Lanka and Asanha Bucha in Thailand.
- It is the second most sacred day for Buddhists after the Buddha Poornima or Vesak. The day is also observed as Guru Poornima by both Buddhists and Hindus as a day to mark reverence to their Gurus.
- The day marks Buddha's first teaching after attaining Enlightenment to the first five ascetic disciples (pañcavargika) on the full-moon day of Asadha in Sarnath, near Varanasi.
- This teaching of Dharma Chakra Pravartana Sutra (Sanskrit) is also known as the First Turning of Wheels of Dharma and comprised of the Four Noble Truths and Noble Eightfold Path.
- The Four Noble Truths: suffering exists; suffering has a cause; the cause of suffering can end; and the path to the end of suffering.
- The method for attaining the end of suffering, is known as the Noble Eightfold Path. It includes right view, right intention, right speech, right action, right livelihood, right effort, right mindfulness and right concentration.

Constitutional Amendments in Russia

- In a recently held referendum, Russian citizens **supported a set of constitutional** amendments. It was put to vote on 1 July, 2020.

- These reforms will **bring sweeping changes** in the Russian constitution such as extending Presidential term limits, allowing President to fire federal judges, effectively banning gay marriage etc.
- Under current Russian legislation, these amendments **did not require an all-Russian vote**. However, to assess the attitude of public towards the proposed changes, Putin used the referendum process.

Key Changes

1. Presidential Term

- Current Constitution allows for two consecutive terms as president. The new constitution **does not change the two-term limit**. However, it **hits the reset button**.
- In other words, with the enactment of new constitution, Putin will be eligible for two additional six-year terms after the current term expires in 2024. As a result, Putin can stay in power until 2036.

It should be noted that, Putin came into power for the first time in 2000. After completing his two terms, Putin swapped the presidency with Mr. Dmitry Medvedv. Medvedv after completing one term stepped aside and Putin once again became the President. His second term as president will expire in 2024.

2. Stronger-man Presidentialism

- Since 1993, Russia's constitution has created the ultimate strongman president, placing more constitutional power in the president than most countries in the world.
- Recent amendments cement this further **centralisation of power**. In particular, they give the President new powers, including the authority to remove judges, appoint some members of the parliament for life and name regional prosecutors.

3. Strong Federal Centre

- Russia spans eight time zones and is constitutionally a highly diverse federal state with almost 100 subnational entities including regions and cities.
- However, over a period of time, legislation and fiscal reform has moved financial and decision-making power to Moscow and made the regions mere transmission belts of policy.
- The current amendments placed even **more formal constitutional power in the federal centre**.

4. Constitutional Patriotism

- Russia's 1993 constitution omits references to Russian nationalism. However, the current amendments change this.
- They give the **Russian Constitutional Court constitutional power to nullify the decisions of international tribunals**.
- The amendments also place **strict limitations on Russians who hold foreign citizenship** or residency from serving public office. These constitutional restrictions block any individual who has ever held foreign residency or citizenship from ever running for President.
- The amendments also declare the **importance of a belief in God**. It has also termed Russia as the successor state to the Soviet Union.

Analysis:

- Russia's **centralised and personalised constitutional system** has a singular focus on Vladimir Putin. It has ultimately weakened domestic institutions and contributed to growing corruption.

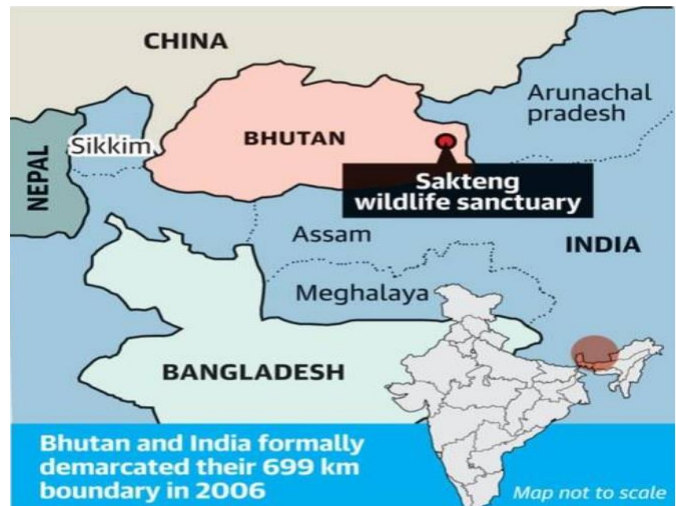
- The dysfunctionality of this system has been more apparent in Russia's response to the COVID-19 pandemic. Not only that, according to IMF, the economy hasn't expanded in dollar terms for a decade.
- Analysts all over the world fear that in order to mask domestic dysfunction, **Russia will continue its aggressive, spoiler form of foreign policy.**
- From **interfering in foreign elections to annexing Crimea**, this kind of foreign policy has been used to shore up the legitimacy of the Russian state in the eyes of the Russian people.

Bhutan Demarches China

Bhutan has issued a demarche to China over its attempt to declare a Bhutanese wildlife sanctuary as a disputed territory. The Sakteng wildlife sanctuary lies in Eastern Bhutan.

Background:

- At the **58th Global Environment Facility Council**, the Chinese member raised objections to the Sakteng Wildlife Sanctuary project. China argued that it was in a disputed area between China and Bhutan.
- Sakteng lies in a zone of Bhutan that borders Arunachal Pradesh and China.
- At the meeting, Bhutan strongly objected to the references made by China against its sovereignty.



Chinese Position:

- China claims that the boundary between China and Bhutan has never been delimited. There have been disputes over the eastern, central and western sectors for a long time.
- Addition of eastern region in the list of disputed territories between Bhutan and China has surprised many as there has been **no mention of Eastern Bhutan in 24 previous rounds** of boundary negotiations held between the two countries between 1984 and 2016.
- This **eastern sector of Bhutan has a large Bhutanese population**, traditional Dzongs (Medieval Fortresses) and two Bhutanese districts since time immemorial.

Boundary Negotiation between Bhutan and China

- Bhutan and China have no formal diplomatic relations but have held 24 rounds of boundary talks between 198 and 2016.
- During this, talks concentrated on north and west Bhutan regions and Eastern Bhutan was never parts of the talks.
- The talks got stalled after 2016 because of Doklam border tensions and now because of the coronavirus pandemic.

US Out of World Health Organization

President Donald Trump has formally moved to withdraw the US from the World Health Organization (WHO). US has been a party to WHO Constitution since June 1948. The Trump administration has formally notified the United Nations in this regard.

Why US Decided To Pull Out

- As per US, China has total control over WHO. It also accused the WHO of siding with China on the outbreak of the virus, which originated in the Chinese city of Wuhan.
- WHO has failed to initiate reforms which is need of the hour. In April 2020, US stopped funding to WHO and later it announced that US was terminating its relationship with WHO.

The US is the single largest contributor to the WHO, providing over **USD 450 million per annum**.

China's contribution to the global health body is about USD 40 million.

Analysis

- The departure of the U.S. will be a significant blow to the WHO in terms of loss of technical expertise and an annual funding of about \$450 million.
- US will lose a seat at the table to determine the virus strain to be used for developing influenza vaccines, and have no access to new influenza virus samples for research.
- With no more U.S. scientists embedded in the WHO in key roles, US will lose out on health intelligence that will compromise the country's response to international disease outbreaks.

China Tells USA to Close Consulate in Chengdu

- China has ordered the United States to close its consulate in the western city of Chengdu. The order followed the U.S. closure of the Chinese consulate in Houston.
- In recent days, Washington and Beijing have been fighting over a slew of issues ranging from trade to the Coronavirus pandemic and China's policies on Hong Kong, Xinjiang and the South China Sea.

Background

- Earlier, the Trump administration had ordered the Houston consulate closed within 72 hours.
- It alleged Chinese agents tried to steal data from facilities in Texas including the Texas A&M medical system.
- This decision came after the US Justice Department unveiled the indictment of two Chinese nationals for allegedly hacking hundreds of companies and attempting to steal coronavirus vaccine research.
- The United States has an **embassy in Beijing** and consulates in five other mainland cities — Shanghai, Guangzhou, Chengdu, Shenyang and Wuhan. It also has a consulate in Hong Kong, a Chinese territory.

Australia Unveils Plan to Force Google and Facebook to Pay for News

- The Australian government has unveiled its plan to **force tech giants such as Google and Facebook to pay news outlets for their content**.
- In this regard, a code of conduct has been drafted by Australia's competition regulator, which would be debated by the parliament.
- The law once enacted would make **Australia the first country** to require Facebook and Google to pay for news content provided by media companies under a royalty-style system.

Key Highlights:

- The Australian Competition and Consumer Commission draft calls on tech companies to pay for content.

- It would allow news companies to negotiate as a bloc with tech giants for content which appears in their news feeds and search results.
- If negotiations fail, the matter could be arbitrated by the Australian Communications and Media Authority.
- Penalties could be up to A\$10m (£5m; \$7m) per breach, or 10% of the company's local turnover.
- The code also covers issues like access to user data, transparency of algorithms and ranking of content in the platforms' news feeds and search results.
- The code will initially focus on Google and Facebook but could be expanded to other tech companies.

Rationale Behind This Step:

- A study carried on Australian market estimated that about 3,000 journalism jobs were lost in Australia in the past 10 years.
- This is due to the fact that the traditional media companies pay advertising revenue to Google and Facebook which paid nothing in return for news content.
- It has been estimated that for every 100 Australian Dollar spent on online ads in Australia, excluding matrimonial and local advertisements, nearly a third goes to Google and Facebook.
- Basically, it is about a fair go for Australian news media businesses. It is about increased competition, increased consumer protection and a sustainable media landscape.

China Halts Hong Kong Extradition Treaties With Canada, Australia, UK

China has suspended Hong Kong's extradition treaties with Canada, Australia and Britain. This step has been treated in response to similar decisions made by those countries.

Background

- The three countries had all suspended extradition treaties with Hong Kong.
- This was done after Beijing **imposed a broad new security law** that criminalises many forms of political dissent. China termed this as an interference in its internal affairs.

Turkey Approves Social Media Law

Turkey's parliament approved a law that gives authorities greater power to regulate social media.

Key Highlights:

- The law requires major social media companies such as Facebook and Twitter to **keep representative offices in Turkey** to deal with complaints against content on their platforms.
- If a social media company refuses to designate an official representative, the legislation mandates steep fines, advertising bans and bandwidth reductions. With a court ruling, bandwidth would be halved, and then cut further.
- The legislation also requires **social media providers to store user data in Turkey**.

Criticism

- It will create a “**chilling effect**” on **dissenting voices** who have resorted to Twitter and other online platforms.
- The legislation would be used to remove content critical of the government rather than to protect users which is clear violation of right to freedom of expression online.

- Turkey leads the world in removal requests to Twitter, with more than 6,000 demands in the first half of 2019. More than 408,000 websites are blocked in Turkey.

Britain Bans China's Huawei

The United Kingdom has **banned Huawei from its 5G telecom network** thereby reversing its earlier decision to allow the Chinese tech company a limited role in building the country's super-fast wireless infrastructure.

Key Highlights:

- Operators such as BT and Vodafone have been given until 2027 to remove existing Huawei equipment from their 5G networks.
- In the lead up to this complete removal of all Huawei kit from UK networks, there will be a total ban on purchase of any new 5G kit after December 31, 2020.
- UK is also seeking to legislate with a new Telecoms Security Bill to put in place the powers necessary to implement the telecoms security framework.

Why UK Decided to ban?

- The decision was taken after a review by the country's National Cyber Security Centre (NCSC) on the impact of US sanctions against the Chinese telecom giant.
- Technical experts concluded that Huawei will need to do a major reconfiguration of its supply chain as it will no longer have access to the technology on which it currently relies and there are no reliable alternatives.
- They found the new restrictions make it impossible to continue to guarantee the security of Huawei equipment in future.

UAE Keen on Open-Sky Policy with India

The United Arab Emirates is keen to have an **open-sky agreement with India**. It is also ready to partner with India to create aviation hubs within the country.

Contention Between These Two Countries

- UAE blames India of being protective when it comes to the Open Sky. India cannot aspire to build international aviation hubs in India without having a true Open Sky regime.
- The **issue of fifth and sixth freedoms of air** has been the point of contention between airlines in India and the UAE.

Open Sky Air Service Agreement:

- An open sky air service agreement allows for airlines from the two countries to have an unlimited number of flights as well as seats to each other's jurisdictions.
- This agreement encourages connectivity and passenger travel between the two countries and also results in reduction in airfares on these routes.

India & Open-sky Agreement

- **The National Civil Aviation Policy, 2016**, allows India to enter into an 'open sky' air services agreement on a reciprocal basis **with SAARC nations** as well as **countries beyond a 5,000-kilometre radius from New Delhi**.

- So far, India has signed open sky agreements with Greece, Jamaica, Guyana, Czech Republic, Finland, Spain and Sri Lanka.

Freedoms Of Air

International air travel is governed by various freedoms of air. These are:

- The **first freedom of air** allows a carrier to take off from its home state, the **second freedom of air allows** it to land in a second country.
- **The third and fourth freedoms of air** allow the airline to take off from the country it has landed in and come back to land at its home base.
- The **fifth and sixth freedoms** allow airlines to carry passengers picked from one country and fly them to a third country rather than the country from which the airline originated.

[For detailed discussion on India-UAE relation, please refer Yellow book of International Relation]

Parcel Train to Bangladesh

- The Indian Railways has operated its first-ever special parcel train to Bangladesh.
- It transported dry chillies from Andhra Pradesh's Guntur district to the neighbouring country.
- Earlier, the mode of transportation was road. However, due to lockdown, railways was pressed into service.
- It also helped in **reducing the cost of transportation**. Sending the chillies to the neighbouring country by road cost around ₹7,000 per tonne while the expense for carrying the same by goods trains has come out to be ₹4,608 per tonne.

India Hands Over Ten Locomotives to Bangladesh

- Indian Railways has handed over **ten broad-gauge locomotives to Bangladesh**.
- The locomotives were handed out under the grant assistance from the Indian Government. The commitment in this regard was made during the Bangladeshi Prime Minister Sheikh Hasina's visit to India last year.
- India's **concessional lines of credit of nearly \$10 billion** for Bangladesh are the largest provided to any country. Dhaka's exports to India increased by 43% to cross the \$1-billion mark in 2019.

India-Bhutan Open New Trade Route

- India and Bhutan have opened a **new trade route between Jaigaon in West Bengal and Pasakha in Bhutan**.
- An additional Land Customs station has been opened at Ahllay, Pasakha by Gol in this regard.
- It will boost bilateral trade and commerce and lead to decongestion of vehicular traffic along the Jaigaon-Phuentsholing route.
- Bhutan is a key buffer state between India and China and critical for India's security in the region.
- India is Bhutan's **largest trading partner**. The bilateral trade **stood at Rs 9,227 crore** in 2018. Bhutan imports mineral products, machinery and mechanical appliances, electrical equipment, base metals, vehicles, vegetable products, plastics and articles from India.
- Bhutan exports electricity, portland cement, dolomite, timber and wood products, potatoes, cardamom and fruit products to India.

Resumption Of Afghan Exports To India Through Wagah Border

- Pakistan has announced resumption of Afghanistan's export to India through Wagah Border. This was done at the special request of Kabul and to facilitate Afghan transit trade.
- Pakistan allows Afghanistan's export to India through Wagah-Attari Border under the **Afghanistan–Pakistan Transit Trade Agreement (APTTA)**. However, Afghanistan cannot import from India using this route.
- Pakistan had closed the Wagah border with India in mid-March in the wake of the coronavirus pandemic.

Pakistan and Afghanistan share 18 crossing points. The most commonly used one are Torkhan in Khyber tribal region and Chaman in Balochistan.

Two-way trade with Afghanistan

Pakistani authorities continue to oppose any proposal to allow India to use the border for two-way trade with Afghanistan. Fears have been raised in Pakistan that this move will hurt Pakistani industries and businesses.

Currency Swap Pact with Central Bank of Sri Lanka

- The Reserve Bank of India has signed an agreement for extending a \$400-million currency swap facility to Sri Lanka. This has been done to boost the foreign reserves and ensure financial stability of the country, which is badly hit by the COVID-19 pandemic.
- Sri Lanka's forex reserves were at \$ 6.7 billion in June 2020 (**India's forex reserves were at a record high of \$ 517.63 billion as on July 17**).
- The currency swap arrangement will remain available till November 2022. The agreement was made under the SAARC framework.
- Sri Lanka has made an additional request to India for a special \$1.1 billion currency swap facility.

Swap Agreement and India

- The RBI offers swap lines to **central banks in the SAARC region** within a **total corpus of \$2 billion**.
- It came into operation on November 15, 2012 to provide a **backstop line of funding for short-term foreign exchange liquidity requirements or balance of payment crises** until longer term arrangements were made.
- Under the framework for 2019-22, the RBI will continue to offer a swap arrangement within the overall corpus of \$2 billion. Other countries can withdraw funds in the US dollar, the euro, or the Indian rupee.
- **India already has a \$75 billion bilateral currency swap line with Japan**, which has the second highest dollar reserves after China.

What is Currency Swap Agreement?

- In the swap arrangement, **a country provides dollars to a foreign central bank**, which, at the same time, **provides the equivalent funds in its currency to the former**, based on the market exchange rate at the time of the transaction.
- The parties **agree to swap back these quantities of their two currencies** at a specified date in the future, which could be the next day or even two years later, **using the same exchange rate as in the first transaction**. In Sri Lanka's case, it's more than two years.

- The **absence of an exchange rate risk** is the major benefit of such a facility. This facility provides the country, which is getting the dollars, with the flexibility to use these reserves at any time in order to maintain an appropriate level of balance of payments or short-term liquidity.

Cotton Warehouse in Vietnam

- The Cotton Corporation of India (CCI) is planning to set up its own warehouse in Vietnam with an aim to increase exports to Vietnam.
- CCI has surplus stocks of cotton ahead of the next harvest season and is trying to boost exports to Vietnam and Bangladesh.

Steps Taken by CCI:

- A memorandum of understanding is being worked out to export 1.5-2 million bales (of 170 kilogrammes each) of cotton to Bangladesh.
- Also, CCI will set up its own warehouse in Vietnam.
- Farmers in Tamil Nadu, especially those in delta areas who harvested cotton summer crop this year, faced low demand and prices because of the lockdown and COVID-19 impact. However, CCI stepped in and purchased over 40 per cent of the crop, offering relief to farmers.

Why Only Bangladesh and Vietnam?

- Bangladesh and Vietnam have duty-free access to markets of US, Europe, and China. This gives them competitive advantage over Indian Yarn and garment exporters who pay comparatively higher duties.
- Also, the Bangladesh and Vietnam have higher demand for Indian cotton.

India-Russia Joint Technology Assessment and Accelerated Commercialization Program

- The Department of Science and Technology has launched the India-Russia Joint Technology Assessment and Accelerated Commercialization Program
- It is in partnership with the **Federation of Indian Chambers of Commerce and Industry (FICCI)** and **Foundation for Assistance to Small Innovative Enterprises (FASIE)** of the Russian Federation.
- The program will connect Indian, and Russian Science & Technology (S&T) led SMEs and Start-ups for joint R&D for technology development and for crosscountry technology adaptation.
- The programme will run through two annual cycles with up to five projects to be funded under each cycle. Projects are being sought on leading S&T focus areas.

PROGRAMME BENEFITS	
Funding Support to Indian and Russian Entrepreneurs	Grants for Joint R&D/Technology Adaptation
Technology Evaluation by Experts	Capacity Building Support
Mentoring by Experts	Technology Showcasing Opportunities
Business Networking Opportunities	

New Supreme Court Building in Mauritius

- Prime Minister Modi jointly inaugurated the **new Supreme Court building of Mauritius** with his Mauritian counterpart Pravind Jugnauth. The inauguration took place through video conference.

- The Supreme Court building has been constructed with **Indian grant assistance of 30 US million dollars**.
- It has been constructed under the India-assisted infrastructure project in the capital city of Port Louis after the outbreak of Coronavirus.
- It is also **one of the 5 projects being implemented by India in Mauritius** under the social economic package.
- This reflects India's commitment to the vision SAGAR enunciated by PM Modi in 2015. SAGAR, which stands for **security and growth for all in the region**, is India's high-level articulation towards its vision of participatory developmental works in the Indian Ocean.

India, Indonesia Defence Ministers' Dialogue

- Defence Ministers' Dialogue between India and Indonesia was held in **New Delhi**. India side was headed by Defence Minister Rajnath Singh while the Indonesian delegation was led by their **Defence Minister General Prabowo Subianto**.
- The Defence Minister of Indonesia was in India for strengthening ties between the two maritime neighbours.
- The issue of **possible export of BrahMos cruise missile** to Indonesia and ways to further **deepen maritime security cooperation** figured prominently in the talks.
- Potential areas of cooperation in the field of defence industries and defence technology were also identified by the two countries.

Joint Exercises between India and Indonesia:

- **Exercise Samudra Shakti** - bilateral maritime exercise.
- **Garuda Shakti** - joint military exercise

India and Indonesia inked a **new defence cooperation agreement in 2018** during Prime Minister Modi's visit to Indonesia. The pact was aimed at reflecting the elevation of relationship between the two countries to a **comprehensive strategic partnership**.

Gandhi-King Scholarly Exchange Initiative Act

The foreign affairs committee of the US House of Representatives has passed a legislation - **Gandhi-King Scholarly Exchange Initiative Act** – to promote the legacies of Mahatma Gandhi and Martin Luther King Jr.

Key Highlights:

The act would:

- Create an **annual educational forum** held in the U.S. and India that focuses on the social justice, civil and human rights legacies of Mohandas Gandhi and Martin Luther King, Jr.;
- Create a **student exchange program** for students in the U.S. and India at all academic levels;
- Establish a **professional development training program** called the Gandhi-King Global Academy within the U.S. Institute of Peace (USIP);
- Establish the **U.S.-India Gandhi-King Development Foundation** within the U.S. Agency for International Development (USAID) which would provide grants to private nongovernmental entities to address critical humanitarian, environmental, and development issues in India.

15th India-EU Summit

The 15th Summit between India and the European Union (EU) was held in virtual format on 15th July 2020.

Key Highlights:

- EU expressed its desire to work with India during its G20 Presidency in 2022 and congratulated India for its membership in the UN Security Council in 2021-2022.
- The leaders discussed prospects for global collaboration and sustained funding for developing and deploying and accessibility of effective diagnostics, treatments and vaccines for COVID-19. They called for the future **COVID-19 vaccine to become a global common good**.
- The leaders agreed to further develop their trade and investment relations to unleash their full potential particularly in the context of post-COVID-19 economic recovery.
- They also agreed to establish a regular **High-Level Dialogue at ministerial level** to provide guidance to the bilateral trade and investment relations and to address multilateral issues of mutual interest.
- The High-Level Dialogue will aim at fostering progress on the trade and investment agreements, addressing trade irritants and improving conditions for traders and investors on both sides as well as discuss supply chain linkages.
- The leaders welcomed the G20 Action Plan to support the global economy and underlined the need to assist the most vulnerable countries.
- The Leaders welcomed the ongoing cooperation between India and the EU under the **Clean Energy and Climate Partnership**.
- India and the EU will reinforce their cooperation in the **International Solar Alliance (ISA)** to promote the deployment of solar energy, and in the **International Platform on Sustainable Finance (IPSF)** to mobilise private capital towards environmentally sustainable investments.
- The EU looks forward to cooperating with the **Coalition for Disaster Resilient Infrastructure (CDRI)** launched by India to ensure that infrastructures are resilient to climate change.
- India and the EU will enhance their partnership in **support of sustainable modernisation**. They agreed to jointly **tackle water issues, air pollution, plastic and marine litter**.
- The leaders welcomed the continued fusion research cooperation within the ITER project.
- India and the EU will upgrade their dialogue and cooperation on technology. They will **engage on 5G and artificial intelligence** including to promote global standards and to foster their safe and ethical deployment.
- They welcomed the ongoing activity in India of the **European Investment Bank** and the upcoming planned investments **of €550 million in the Pune and Bhopal Metro Rail Projects**.
- The leaders agreed to launch a dialogue on **maritime security and consultations on security and defence**, and to enhance naval cooperation.
- They welcomed the launch of negotiations on a **working arrangement between the Central Bureau of Investigations and Europol** to support law enforcement authorities of India and the Member States of the EU in **preventing and combating organised crime and terrorism**.
- The leaders adopted the "**India-EU Strategic Partnership: A Roadmap to 2025**" to guide cooperation between India and the EU over the next five years.
- They welcomed the **signing of the India-EURATOM Agreement** on research and development cooperation in the peaceful uses of nuclear energy.

- They also adopted a **Joint Declaration on Resource Efficiency and Circular Economy** and welcomed the upcoming **renewal of the India-EU Science and Technology Agreement for another five years.**

Analysis:

- Against the backdrop of COVID-19 and Chinese aggression, the India-EU summit was loud in delivering its message that the **effort to reform and rebuild a multilateral world order** has only just begun. This is evident from their emphasis on multilateral, rule based global order.
- As the world moves away from a global supply chain that is overly dependent on China, **India emerges as the most natural ally for the EU** in this regard.
- Europe's dependence on Asia for life-saving health goods has been starkly revealed during the current pandemic. With **India's vast drug manufacturing capabilities** and the **EU's technical expertise**, a partnership between the two for the exchange of ideas, innovations, and capabilities in the health sector will benefit both regions.
- However, a **free trade deal** that India and the European Union have been planning since 2007 remained elusive at the 15th India-EU summit.
- **No time frame** was set for the conclusion of the **Bilateral Trade and Investment Agreement (BTIA)** but both sides have agreed that the two ministers (**high-level dialogue at the ministerial level**) mandated to take the discussions forward would meet as early as possible.
- An important aspect of the "Roadmap to 2025" was the reactivation of the India-EU human rights dialogue. This is described as a "key tool to promote shared values of human rights and fundamental freedoms, and convene regular meetings to forge mutual understanding and discuss human rights issues – including women's rights and empowerment and child rights.

EU is India's largest trading partner for **goods with trade exceeding \$100 billion**. India also has a **large services trade of approximately \$40 billion**.

The EU is also **one of the largest investors** in India with cumulative **investment of over \$91 billion**.

Despite this, **India represents only about 2% of EU external trade**.

India-UN Development Partnership Fund

The India-UN Development Partnership Fund is supporting various projects to respond to the COVID-19 pandemic. It is helping in areas of boosting national healthcare capacities, reducing risk of transmission, mitigating socio-economic impact and catalysing transformative recovery.

Recent Initiatives:

- A **one-million-dollar budget has been approved for United Nations Development Programme (UNDP)** implementation of the project, which aims to develop a food security strategy, identifying vulnerable households and develop mechanisms for cash-transfers and in-kind support.
- **In Palau**, medical supplies, equipment and testing capacity have been approved with a budget of USD 153,000.
- **In Grenada**, with a budget of USD 100,000, the project approved will see purchasing and installing of new incinerator for proper management of biomedical waste.
- **In Guyana**, the project's focus is strengthening clinical management of COVID-19 patients and reducing the risk of virus transmission among healthcare workers with a budget of \$1 million.
- **In Saint Lucia**, with a budget of USD 1 million, the project is approved for implementation by UNDP and World Food Program.

- **In Nauru**, a USD 1 million project, approved for implementation by the UNDP and the WHO, will focus on procuring medical equipment and Personal Protection Equipment.

About India-UN Development Partnership Fund

- It is a dedicated facility within the **United Nations Fund for South-South Cooperation**.
- It is **supported and led by the Government of India**, managed by the **United Nations Office for South-South Cooperation**, and implemented in collaboration with the United Nations system.
- It was **established in 2017** and has an ambitious agenda of promoting multilateralism and shared prosperity.
- The Fund project portfolio aims to contribute to the efforts of developing countries towards the realization of the 2030 Agenda for Sustainable Development.
- The Fund now **encompasses 36 projects**, approved in partnership with nine United Nations agencies in 37 countries.
- It has made significant strides in advancing the national development goals and commitments of the 2030 Agenda in the least developed countries, landlocked developing countries and small island developing States by enlisting the global presence and operational capabilities of the United Nations system.

BRICS Environment Ministers' Meeting

The Environment Ministers of all the BRICS countries took part in the **6th BRICS Environment meeting**. It was held online under the presidency of Russia.

Key Highlights:

- All participating leaders expressed their concern that the impact of COVID-19 pandemic poses a serious threat to achieving the 2030 Agenda for SDGs.
- The Ministers called for initiatives to improve the environment, promote the Circular Economy to be included in national plans for economic recovery after COVID-19.
- Ministers welcomed the establishment of **BRICS Environmentally Sound Technology (BEST) Platform**. The platform will facilitate the exchange of information, views and sharing of the best practices on BRICS countries including post COVID-19 environment/sustainable development recovery programmes.
- The Ministers acknowledged the importance of working together to **adopt the Post-2020 Global Biodiversity Framework** at CBD COP15.
- The 15th Conference of the Parties to the Convention on Biological Diversity (CBD COP15) was scheduled to take place in Kunming, China in October 2020. It has been postponed due to the COVID-19 pandemic.

India is scheduled to take over the BRICS Presidency in 2021.
--

India's Stand during the Meeting:

- India was represented by the Union Environment Minister Prakash Javadekar.
- India reaffirmed its stand that **Equity, Common but differentiated responsibilities, finance and technology partnerships** are key pillars for attaining global goals of climate change mitigation and adaptation.
- Some of the steps taken by India (highlighted at the meeting) -

- Air Quality Index Monitoring System was launched in 2015 in 10 cities initially. It has been extended to 122 cities today.
- In 2019, National Clean Air Programme was launched. The goal of this programme is to reduce particulate pollution by 20-30 per cent relative to 2017 levels by 2024.

G20 Digital Minister's Meeting

- Union Minister of Information Technology Ravi Shankar Prasad addressed the G20 Digital Minister's meeting. The meeting was held online under the presidency of Saudi Arabia.
- **Theme** - Realizing Opportunities of the 21st Century for All
- The theme included **three important agendas** under it: first is to empower people, second is to safeguard the planet, and third is to shaping new frontiers.

[For detailed discussion on G20, please refer the topic "G20 Summit" from June 2019 edition of CA magazine. One can also refer the question based on G20 from Mains Q&A section in September 2019 edition of CA magazine]

UN General Assembly to go Virtual

- For 1st Time In 75 Years, UN General Assembly Annual (UNGA) Meet will go virtual. The landmark **75th session of the UN General Assembly** will begin on September 15.
- The General Assembly meeting to commemorate the 75th anniversary of the United Nations will take place on September 21 and the Declaration will be formally adopted at the meeting. The General Debate of the 75th session of the Assembly will commence from September 22.
- World leaders will submit pre-recorded video statements for the UNGA as heads of state and government will not be physically attending the annual gathering due to the coronavirus pandemic.
- New York, where the UN is situated, has been the epicentre of the pandemic in the US.

Fourth Highest Opium Seizure in 2018 reported from India

After Iran, Afghanistan and Pakistan, the fourth highest seizure of opium in 2018 was reported from India. This fact has been highlighted by the latest World Drug Report of the United Nations Office on Drugs and Crime (UNODC).

Key Highlights:

- The maximum of 644 tonnes of opium was seized in **Iran**, followed by 27 tonnes in **Afghanistan** and 19 tonnes in **Pakistan**.
- In **India**, the figure stood at only **four tonne** in 2018. In terms of **heroin seizure** (1.3 tonnes), India was at the **12th position** in the world.
- Close to **97% of the total global production** of opium in the past five years came from only three countries. **Afghanistan** accounted for 84% of the global opium production, Myanmar accounted for 7% and Mexico accounted for 6%.
- The report said that the global area under **opium poppy cultivation declined for the second year in a row** in 2019. It went down by 17% in 2018 and by 30% in 2019.

[For detailed discussion, please refer prelims section (topic - World Drug Report 2020) from CA magazine of June 2020]

Panel to Probe Alleged Violations by Rajiv Gandhi Foundation

The Ministry of Home Affairs has ordered an **inter-ministerial committee** to investigate *Rajiv Gandhi Foundation, Rajiv Gandhi Charitable Trust and Indira Gandhi Memorial Trust*. The probe committee will be headed by a Special Director of Enforcement Directorate.

Why this investigation?

- It has been alleged that the said foundation has violated various legal provisions of PMLA, I-T Act, FCRA etc.
- Also, the Indira Gandhi Memorial Trust is not a FCRA registered association. Despite this, it has been allegedly receiving donations including foreign donations.

About FCRA:

- Foreign Contribution and Regulation Act 2010 (FCRA) was enacted with the primary purpose of **regulating the inflow of foreign contributions**. It also ensures that the received foreign contributions are not utilized for illegal purposes.
- All charitable organizations in India receiving foreign contributions come under the purview of this Act.

The Home Ministry has been scrutinizing the flow of foreign funds to all charitable organizations in India.

It has also **cancelled the licenses of over 8000 charitable organizations** due to non-compliance with the reporting requirements stipulated under the Act.

Who cannot receive foreign contribution?

As defined in Section 3(1) of FCRA, 2010, the following are prohibited to receive foreign contribution:

- A candidate for election;
- Correspondent, columnist, cartoonist, editor, owner, printer or publisher of a registered newspaper;
- Judge, government servant or employee of any Corporation or any other body controlled or owned by the Government;
- Member of any legislature;
- Political party or office bearer thereof;
- Organization of a political nature as may be specified under sub-section (1) of Section 5 by the Central Government.
- Correspondent or columnist, cartoonist, editor, owner of the association or company referred to above point.

FCRA: A tool with potential to be misused

- FCRA prohibits the receipt of foreign contribution “for any activities detrimental to the national interest”. However, it fails to **define what constitutes national interest**.
- Under the act, the government can refuse permission if it believes that the will adversely affect “public interest” or the “economic interest of the state”. There is **no clear definition of public interest**.
- The FCRA restrictions have serious consequences on both the rights to free speech and freedom of association under Articles 19(1)(a) and 19(1)(c) of the Constitution.

[For detailed discussion on PMLA, please refer Yellow Book on Internal Security]

APT29

- **APT29, also known as Cozy Bear**, is a **cyberespionage group** allegedly linked to Russian state intelligence agencies.
- In a July 2020 report, the UK and its allies publicly blamed APT29 for cyber-attacks on organizations involved in coronavirus vaccine development. Earlier, this group had hacked into election networks before the 2016 U.S. presidential election.

Russian Cyberwarriors

Russia employs cyberwarriors within its military and intelligence services. The cyberespionage groups dubbed APT28 (aka Fancy Bear) and APT29 (aka Cozy Bear and The Dukes) are believed to correspond to Russia's military intelligence agency GRU and its state security organization FSB, respectively.

These warriors have been involved in many sophisticated cyber-attacks in the past. They attacked **critical systems in Estonia in 2007** over the relocation of a Soviet-era memorial. The **2015 cyberattack on three of Ukraine's regional power distribution** companies knocked out power to almost a quarter-million people.

UN Report on Terrorism

- A UN report on terrorism has warned that there are significant numbers of ISIS terrorists in Kerala and Karnataka.
- It highlighted that the **al-Qaida in the Indian Subcontinent (AQIS)** terror group has between 150 and 200 militants from India, Pakistan, Bangladesh and Myanmar. This group is planning attacks in the region.
- The AQIS operates under the Taliban umbrella from Nimruz, Helmand and Kandahar provinces of Afghanistan.
- In May 2019, the Islamic State (also known as ISIS, ISIL or Daesh) terror group claimed to have established a new "province" in India. This was the first of its kind announcement that came after clashes between militants and security forces in Kashmir.

Anti-tank Guided Missile 'Dhruvastra'

- Developed by DRDO, this anti-tank guided missile is meant to be launched from a helicopter.
- Dhruvastra can be fired in two different modes - direct attack and top attack. It works on fire and forget principle.
- Dhruvastra is the helicopter version of 'Nag Helina' with several new features and meant to be fired from air to destroy enemy bunkers, armoured vehicles and main battle tanks.

Covid-19 and T-Cell

A new study has found that even the sickest **Covid-19 patients produce T cells** that help fight the virus. The study cites its findings as further evidence that a Covid-19 vaccine (whenever developed) will need to elicit T cells to work alongside antibodies.

- T cell, also called **T lymphocyte**, a type of **leukocyte (white blood cell)** that is an essential part of the immune system. T cells are one of **two primary types of lymphocytes—B cells** being the second

type—that determine the **specificity** of immune response to **antigens** (foreign substances) in the body.

- T cells are a key component of the **immune system** and their roles include killing infected host cells, activating other immune cells, and regulating the immune response.
- T cells **originate** in the **bone marrow** and **mature** in the **thymus**.

Titbits Related To CoVID

- **SHUDDH**: IIT Kanpur develops UV sanitizing device 'SHUDDH' (**Smartphone operated Handy Ultraviolet Disinfection Helper**) to make a room COVID free.
- **RCF SAFEROLA**: Rashtriya Chemicals and Fertilizers Limited (RCF), a PSU under the Ministry of Chemicals and Fertilizers, has introduced a **Hand Cleansing IPA Gel 'RCF SAFEROLA'**. This Hand Cleansing Gel is a **skin friendly** moisturizer-based hand-sanitizer which contains **IsoPropyl Alcohol (IPA)** and **Aloe Vera** extract. It is enriched with **Vitamin-E** and has a fresh lime fragrance.
- **Itolizumab** is another drug to be approved by Drug Controller General of India (DCGI) for “restricted emergency use” to treat Covid-19 patients. It is used for skin disorder psoriasis, rheumatoid arthritis, multiple sclerosis, and autoimmune disorders. Itolizumab is a monoclonal antibody which is used to treat acute psoriasis. Monoclonal antibodies are proteins cloned in the lab to mimic antibodies produced by the immune system to counter an infection. A monoclonal antibody can be made by isolating specific antibodies and multiplying them via various techniques.
- **Corona Kavach**: The IRDAI has allowed 30 general and health insurers to launch short-term 'Corona Kavach' health insurance policies for persons between the age of 18 to 65 years to cover medical expenses incurred due to coronavirus disease. The sum insured amount of the policy ranges between Rs. 50,000 to Rs. 5 Lakh. The policy shall also cover prehospitalisation expenses for 15 days and post hospitalisation expenses of 30 days.
- **Compact XL**: Pune-based molecular diagnostics company, Mylab Discovery Solutions, has launched 'Compact XL' - **India's first machine to automate the manual processes of molecular diagnostic tests** such as RT-PCR tests for Covid-19. Compact XL is a compact bench-top machine that will automate lab processes from sample handling to preparing RT-PCR ready tubes.
- **Drug Discovery Hackathon 2020**: It was launched by the Union Minister for Human Resource Development and Union Minister for Health and Family Welfare. It is a joint initiative of MHRD, All India Council for Technical Education (AICTE) and the Council of Scientific and Industrial Research (CSIR) and supported by partners like Centre for Development of Advanced Computing (CDAC), MyGov, Schrodinger and ChemAxon. The objective is to identify drug candidates against SARS-CoV-2 by **in-silico drug discovery** through the hackathon and follow up by chemical synthesis and biological testing. In-silico drug discovery utilizes computational methods such as machine learning, AI and big data which will help in accelerating this process.
- **MegaLab**, the world's largest genetic testing lab being built by the IIT Alumni Council, announced a Rs 500-crore incubator to intensify offensive against Covid in the Mumbai University campus. 'MegaLab Mumbai' will start operations from July 2020. The MegaIncumbator will be the world's first and largest engineered bio-molecule focused incubator to involve start-ups, other existing incubators and accelerators.
- **MediCAB**: A start-up incubated in the Indian Institute of Technology (IIT), Madras, has developed a portable hospital that can be used to screen, isolate and treat COVID-19 patients even in remote locations.

- ICMR approves **IIT-Delhi's** low-cost COVID-19 test kit **Corosure**. It will cost Rs 650 and delivers results in three hours. Claimed to be the **world's most affordable diagnostic kit** for coronavirus, the base price of the **indigenously** developed RT-PCR assay is Rs 399. Even after adding the RNA isolation and laboratory charges, the cost per test will go up to Rs 650.
- DRDO has established a **COVID-19** testing facility at the **Leh-based Defence Institute of High Altitude Research (DIHAR)** to enhance the rate of testing to identify coronavirus cases in the Union Territory of Ladakh. DIHAR is one of the **life sciences laboratories of the DRDO** working on cold arid **agro-animal technologies**.
- **Manodarpan Initiative:** With an aim to provide psycho- social support and counselling to students for their mental health and well- being, the Ministry of Human Resource Development has launched the Manodarpan initiative, under the Atmanirbhar Bharat Abhiyan. Under the initiative, a toll-free national helpline number, a website of Manodarpan and a handbook on 21st century life skills, for students has been launched.

Dilophosaurus

- Dilophosaurus lived in what is now **North America** during the **Early Jurassic**, about 183 million years ago. The first fossils were discovered in **Arizona (US State)** in the 1940s.
- Now, a new comprehensive analysis of Dilophosaurus fossils is helping create a more complete description. Among the new findings, one was that Dilophosaurs had **much in common with modern birds**. Some **bones were mottled with air pockets**, which would have helped reinforce the skeleton, including its dual crest. Modern birds — and the world's most massive dinosaurs — also have bones filled with air. In both cases, the air sacs lightened the load, which helped big dinosaurs manage their bulky bodies and birds take to the skies.
- The real Dilophosaurus had **no neck frills**, was a monster at a length of 20 ft, and **did not spit venom**.
- In the 1993 film Jurassic Park as well as the novel it is based on, one of the dinosaurs depicted is the Dilophosaurus. The film shows it with a frill around its neck.



India Digitization Fund

- Technology giant **Google** will invest **\$10 billion (₹75,000 crore)** in India over the next **five-seven** years with a focus on digitising the economy and building **India-first products and services**, as said by CEO of **Alphabet (Google's parent firm) Sundar Pichai**.
- Investment will focus on four areas important to digitization including
 - Enabling affordable access and information for every Indian in their own language,
 - Building products and services that are deeply relevant to India's unique needs,
 - Empowering businesses in their digital transformation journey and
 - Leveraging technology and AI for social good, in areas like health, education, and agriculture.
- In April, social networking major **Facebook** bought 9.9% stake in **Jio Platform** for ₹43,573.62 crore, while **e-commerce** giant **Amazon** had in January announced **\$1 billion** investment over five years to help **digitise small and medium businesses**.

Elyments App

- Vice President launched **Elyments app, a new social media platform** under **Aatmanirbhar Bharat campaign** to rival Facebook, WhatsApp.
- The **homegrown** app has been made keeping in mind Indian audiences as it is available in **eight different regional languages**. It lets the users make audio and video calls including conference calls. A unique feature is that you can give **commands in regional languages** as well.
- One of the main selling points of the app is **privacy**. Data security has been an issue with various foreign and local apps but Elyments' creators claim that their data will not be shared with third parties without the user's consent.

CogX 2020

- AI enabled **MyGov Corona Helpdesk** has bagged two awards at the recently held CogX 2020 under categories:
 - Best Innovation for Covid-19 – Society
 - People's Choice Covid-19 Overall Winner
- The awards were won by Technical Partner of Mygov, **JioHaptik Technologies Limited**.
- MyGov is the world's largest **citizen engagement platform**, which facilitates two-way communication between the Government and Citizen and facilitates **participatory governance** in India. MyGov Corona Helpdesk was **developed in partnership with JioHaptik and WhatsApp**.
- CogX is a prestigious Global Leadership Summit and Festival of AI & Emerging Technology held annually in **London**. The **Cogx Awards** are given out to the best-of-the-best in AI and emerging technologies across the world.

Low-Cost Supercapitor

- Scientists at the **International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI)** have developed a **simple, low-cost, environmentally friendly, and sustainable supercapacitor** electrode derived from industrial waste cotton which can be used as an energy harvester storage device.
- ARCI is an **autonomous organization** of the **Department of Science and Technology**, Govt. of India.
- To develop these supercapacitor devices, scientists at ARCI have converted **industrial waste cotton into highly porous carbon fibers by activation process** and then utilised the porous carbon fibers to make high-performance supercapacitor electrodes.
- For the first time, natural seawater is explored as an environmentally friendly, cost-effective, scalable, and alternative aqueous electrolyte, which may replace the existing aqueous-based electrolytes for the economic fabrication of supercapacitors.
- Supercapacitor is a **next-generation energy storage device** that has received extensive research attention owing to advantages such as high-power density, long durability, and ultrafast charging characteristics as compared to conventional capacitors and lithium-ion batteries (LIB).
- The successful demonstration of the device revealed that solar-powered supercapacitors can not only **store the electrical energy** but also overcome the drawbacks of the intermittent nature of the solar irradiation. Hence, the integrated solar cell with supercapacitor can be used as an energy harvester storage device due to their **long cycle life and maintenance-free power supply**.

OneWeb

- A U.K. government consortium led by **Bharti Enterprises** has won the bid to acquire bankrupt **satellite technology company OneWeb**. Bharti's overseas arm Bharti Global would invest \$500 million as part of the acquisition, with the U.K. putting in a similar amount.
- OneWeb was formed with a **mission to offer high speed, low latency wireless broadband access** to billions of people across the globe, especially in rural areas through a constellation of satellites in low earth orbit.

Biosafety Levels

A biosafety level (BSL) is a set of **biocontainment precautions** required to isolate dangerous biological agents in an enclosed laboratory facility. The levels of containment range from the lowest biosafety level 1 (BSL-1) to the highest at level 4 (BSL-4). Biosafety levels are assigned to a facility **depending on the pathogen** it deals with.

- Biosafety level 1 (BSL-1)** applies to laboratory settings in which personnel work with **low-risk microbes** that pose little to no threat of infection in healthy adults. An example of a microbe that is typically worked with at a BSL-1 is a **non-pathogenic strain of E. coli**.
- Biosafety level 2 (BSL-2)** covers laboratories that work with **agents associated with human diseases** (i.e. pathogenic or infectious organisms) that pose a moderate health hazard. Examples of agents typically worked with in a BSL-2 include **equine encephalitis viruses and HIV**, as well as *Staphylococcus aureus* (staph infections).
- Biosafety level 3 (BSL-3)** laboratory typically includes work on **microbes that are either indigenous or exotic and can cause serious or potentially lethal disease through inhalation**. Examples of microbes worked with in a BSL-3 includes **yellow fever, West Nile virus**, and the bacteria that causes **tuberculosis**.
- Biosafety Level 4 (BSL-4)** lab consists of work with **highly dangerous and exotic microbes**. Infections caused by these types of microbes are frequently fatal and come **without treatment or vaccines**. Two examples of such microbes include **Ebola and Marburg viruses**.

Lithium Production in Stars

- Scientists from the **Indian Institute of Astrophysics (IIA)** have provided robust observational evidence for the first time that **Li production is common among low mass Sun-like stars** during their He-core burning phase.
- IIA is an **autonomous institute** of the **Department of Science & Technology**, Government of India
- They identified "**He flash**" (on-set of He-ignition at the star's core via violent eruption), at the end of the star's core hydrogen-burning phase, as the **source of Li production**. The Sun will reach this phase in about 6-7 billion years.
- The study also suggests **new limits (A(Li) > -0.9~dex) for classifying stars as Li-rich**, which is 250 times below the threshold (A(Li) > 1.5~dex) used till now.
- **Light inflammable**, metal lithium (Li) has brought about transformation in modern **communication devices and transportation**. A great deal of today's technology is powered by lithium in its various shades.
- The origin of much of the Li can be traced to a single event, the **Big-Bang** that happened about 13.7 Billion years ago, from which the present-day Universe was also born.

- Over the course of time, Li content in the physical Universe has **increased by about a factor of four**, which is meagre compared to the rest of the elements carbon, nitrogen, oxygen, iron, nickel and so on which grew about a million times over the lifetime of the Universe.
- Stars are primary contributors to this significant enhancement of heavier elements through **mass ejections** and **stellar explosions**. Li, however, understood to be an exemption. As per the current understanding, lithium in stars like our Sun only gets destroyed over their lifetime.
- The composition of all the elements in the Sun and the Earth is similar. But, the measured **content of Li in the Sun is a factor of 100 lower than that of the Earth**, though both are known to have formed together.
- This discovery challenges the long-held idea that stars only destroy lithium during their lifetime implying the Sun itself will manufacture lithium in the future, which is not predicted by models, indicating that there is some physical process missing in stellar theory.

Moon Is More Metallic

- NASA's **Lunar Reconnaissance Orbiter (LRO) spacecraft** had found evidence that the **Moon's subsurface might have greater quantities of metals** such as iron and titanium than thought before.
- The metallic distribution was observed by the **Miniature Radio Frequency (Mini-RF) instrument** aboard the LRO.
- Out on a mission to look for ice in polar lunar craters, the LRO's Mini-RF instrument was measuring an electrical property within lunar soil in crater floors in the Moon's northern hemisphere. The property, known as the **dielectric constant**, is the ratio of the electric permeability of a material to the electric permeability of a vacuum.
- The findings raise the possibility that the **dielectric constant increased in larger craters** because the meteors that created them dug up dust containing iron and titanium oxides from beneath the Moon's surface. Dielectric properties are directly linked to the concentration of these metal minerals.
- If true, it would imply that beyond a few meters of the Moon's upper surface– which relatively has lower metal deposits– **lie large unknown quantities of iron and titanium oxides**.
- The Mini-RF findings were backed by metal oxide maps from the **LRO Wide-Angle Camera, Japan's Kaguya mission** and **NASA's Lunar Prospector spacecraft**. The maps suggested that more quantities of iron and titanium oxides were dug up from 0.5 to 2 km below the Moon's surface as compared from the first 0.2 to 0.5 km.

Lunar Reconnaissance Orbiter (LRO)

- The Lunar Reconnaissance Orbiter (LRO) is a NASA robotic spacecraft currently **orbiting the Moon in an eccentric polar mapping orbit**.
- LRO's primary goal was to make a 3D map of the Moon's surface from lunar polar orbit as part of a **high-resolution mapping program** to identify landing sites and potential resources, to investigate the radiation environment, and to prove new technologies in anticipation of future automated and human missions to the surface of the Moon.

NEOWISE Comet

- The recently discovered comet called **C/2020 F3**, also known as **NEOWISE** after the NASA telescope that discovered it, will make its closest approach to the Earth on July 22.
- On July 3, the comet was closest to the sun at 43 million km. On this day, the comet cruised inside Mercury's orbit and, due to its proximity to the sun, its outer layer was released creating an atmosphere – **referred to as coma** – of gas and dust from its icy surface.
- **Comets or “dirty snowballs”** are mostly made of dust, rocks and ice, the remnants from time the solar system was formed over 4.6 billion years ago.
- The word comet comes from the Latin word “**Cometa**” which means “long-haired” and the **earliest known record of a comet sighting** was made in **1059 BC**.
- Comets can range in their width from a few miles to tens of miles wide. As they orbit closer to the sun, like in the case of C/2020 F3, they **heat up and release debris of dust and gases** that forms into a “glowing head” that can often be larger than a planet.
- The debris forms a tail that can stretch out to millions of miles. Each time a comet passes the sun, it loses some of its material and it will **eventually disappear** completely as a result.
- Comets may be occasionally pushed into orbits closer to the sun and the Earth's neighborhood due to forces of gravity of other planets.
- Comets **do not have light of their own** and what humans are able to see from Earth is the reflection of the sun's light off the comet as well as the **energy released by the gas molecules** after it is absorbed from the sun. They are not large enough to be seen with the naked eye.
- Short-period comets are those that **take less than 200 years to orbit around the sun** and **are predictable** since they have passed by before. These can be found in the **Kuiper belt, where many comets orbit the sun in the realm of Pluto**. One of the most famous short-period comets is called **Halley's Comet** that reappears every 76 years. Halley's will be sighted next in 2062.
- The less-predictable comets can be found in the **Oort cloud** that is about 100,000 AU from the sun, or 100,000 times the distance between the Earth and the sun.
- Astronomers study comets since they believe that they hold important clues about the **formation of the solar system** and it is possible that comets brought water and other organic compounds, which are the building blocks of life to Earth.
- Further, NASA tracks all Near Earth Objects (NEOs) that includes comets and asteroids using telescopes placed all around the Earth, as part of its **NEO Observation Program**. This program aims to find, track and characterise NEOs that are 140 meters or larger in size since they can pose a risk to the Earth because of the devastation a potential impact can cause.

DAC Approves New Defence Weapons

- Defence Acquisition Council (DAC) chaired by Defence Minister has recently cleared several proposals worth Rs 39,000 crore that will **boost the combat capabilities of all three services—Army, Navy and the Air Force**.
- The most prominent of these proposals include missile systems for the three services, and additional fighter jets for the Air Force. The aircraft will be bought from Russia, and also from the domestic Hindustan Aeronautics Limited.

Pinaka Missile System

- Pinaka is a **Multi-Barrel Rocket System** developed by the Defence Research and Development Organisation (DRDO).
- The initial version of Pinaka missile system **Mark-I has a maximum range of 40 km** and the upgraded **Mark-II variant has 75 km range**.
- It is an **all-weather, indirect fire, free flight artillery rocket system** which provides a unique capability to accurately deliver a devastatingly lethal and responsive fire against a variety of area targets such as exposed enemy troops, armored and soft skin vehicles, communication centres, air terminal complexes, fuel and ammunition dumps.
- The Navigation system of the missile is aided by **Indian Regional Navigation Satellite System (IRNSS)**.

Astra Missiles

- Astra is an indigenous **Beyond Visual Range (BVR) air-to-air missile** developed by the **DRDO**, along with other public and private organisations.
- It is designed to be **mounted on a fighter aircraft** and is also designed to engage and **destroy highly manoeuvring supersonic aircraft**.
- Astra has a **range of over 70 km** and can fly towards its target at a speed of over 5,555 km per hour. The missile has **all-weather day and night capability**.
- The ASTRA Mk-I Weapon System integrated with SU-30 Mk-I aircraft is being inducted into the Indian Air Force (IAF). It can be launched in autonomous and buddy mode of operation with features for **Lock-On-Before Launch (LOBL)** and **Lock-On After Launch (LOAL)**.

MIG 29 & Su-30 MKI Fighter jets

- MIG-29 is a **twin-engine, multirole fighter jet**, developed by the Soviets in the 1970s, but has been upgraded since.
- The Su-30 MKI is a state-of-the-art **all-weather multi-role fighter aircraft** capable of undertaking varied air defence, ground attack and maritime missions. It was developed by **Russia's Sukhoi Aviation Corporation**.

Development of Long-Range Land Attack Cruise Missile Systems (LRLACM)

- It is **developed by the DRDO** which is aimed at enhancing India's firing range from between **400 km and 500 km of the Brahmos to 1000 km**.
- Presently critical cruise missile technologies such as aerodynamic configuration, vertical launch using solid booster, thrust vector control system, booster separation, in-flight wing deployment, in-flight engine start and long-range way-point navigation system have been developed.
- The proposed development of fully indigenous long-range land attack cruise missiles can greatly **enhance the operational capability of services**.

Spike-LR Anti-Tank Guided Missiles

- The Army is set to place a repeat order for **Spike-LR (Long Range) Anti-Tank Guided Missiles (ATGM)** from Israel as part of emergency procurement.
- The **emergency procurements** come in the backdrop of continuing tensions on the **Line of Actual Control (LAC)** with China. Under the new emergency powers, armed forces were given a free hand

to procure equipment worth up to **₹300 crore on a priority basis** with deliveries stipulated to be completed in three months but extendable up to six months.

- Spike is an **Israeli fire-and-forget anti-tank guided missile** and **anti-personnel missile**, developed and designed by the Rafael Advanced Defense Systems.
- It is a **4th Gen missile** that uses **electro-optical** and **fibre-optic technologies** and can engage a target with precision at ranges up to 4 km and is available in **man-portable, vehicle-launched, and helicopter-launched variants**.
- The Army has a much larger requirement for ATGMs which will be met through indigenous **Man Portable ATGM** under development by the Defence Research and Development Organisation (DRDO).

Winter Diesel

- State-owned **Indian Oil Corporation (IOC)** has sought approval from the **Directorate General of Quality Assurance (DGQA)** of the armed forces to approve winter diesel for operations in high altitude areas.
- The winter grade diesel has been produced by **Panipat Refinery** for the first time. It meets the Bureau of Indian Standards (BIS) specifications for **BS VI grade diesel**.
- **Winter diesel** is a specialised fuel that was introduced by IOCL last year specifically for high altitude regions and low-temperature regions such as Ladakh, Kargil, Kaza and Keylong, where consumer face the **problem of freezing of diesel in their vehicles** when winter temperatures reach -30 degree Celsius.
- Regular diesel fuel **contains paraffin wax** which is added for improving viscosity and lubrication. At low temperatures, the **paraffin wax thickens or “gels”** and hinders the flow of the fuel in the car engine.
- The winter-grade diesel contains additives to **maintain lower viscosity** and also has a **low pour point** (the temperature below which the liquid loses its flow characteristics) of -33° Celsius, making it capable of withstanding the extreme winter weather conditions.
- It has **higher cetane rating** — an indicator of the combustion speed of diesel and compression needed for ignition— and **lower sulphur content**, which would lead to lower deposits in engines and better performance.
- Before the launch of winter diesel, consumers in areas that reached such low temperatures were **using kerosene to dilute diesel to make it usable**, which would lead to more air pollution.

Other Fuels Used Till Now In Low Temperature Regions

- Until now, IOCL, Bharat Petroleum Corporation Ltd and Hindustan Petroleum Corporation Ltd, have been providing Diesel High sulphur Pour Point (DHPP) to armed forces for operations in these areas which also has a pour point of -30°C.
- Moreover, consumers in areas that reached such low temperatures were using kerosene to dilute diesel to make it usable, which would lead to more air pollution.

AH-64E Apache Helicopters

- The AH-64E Apache is one of the world’s most **advanced multi-role combat helicopters** used by the U.S army. These helicopters are **day/night, all-weather capable** and have high agility and survivability against battle damage.

- The helicopter is capable of delivering a variety of weapons which include **air to ground Hellfire missiles**, 70 mm Hydra rockets and **air to air Stinger missiles**.
- It carries **fire control radar**, which has a 360° coverage and **nose-mounted sensor suite** for target acquisition and night vision systems.
- Along with the capability to shoot **fire and forget anti-tank guided missiles**, air to air missiles, rockets and other ammunition and it also has modern **Electronic Warfare (EW)** capabilities to provide versatility to helicopters in network-centric aerial warfare.
- These are easily maintainable even in field conditions and are capable of prolonged operations in **tropical and desert regions**.
- The helicopter has been **customised to suit the IAF's future requirements** and would have significant **capability in mountainous terrain**.
- India has contracted 22 Apache helicopters and 15 Chinook helicopters from Boeing through the **Foreign Military Sales programme** of the U.S. government in **September 2015** under a \$3 billion deal.

ChAdOx1 COVID-19 Vaccine

- In early human trials of a Covid-19 vaccine, **ChAdOx1**, developed by the **University of Oxford** and drugmaker **AstraZeneca** has been found safe. The vaccine belongs to a category called **non-replicating viral vector vaccines**.
- When someone is infected with the **Covid-19 virus (SARS-CoV-2)**, the reason it spreads in the body easily is because of the spikes on its surface. These spikes, known as the '**spike protein**', allow the virus to penetrate cells and, thereafter, multiply.
- The vaccine tries to **build the body's immunity against this spike protein**. It creates antibodies to fight this spiked surface so that the virus does not even have the chance to penetrate the cells.
- The vaccine uses a different virus — in this case, a weakened version of a **common cold virus (adenovirus)** that infects chimpanzees — to carry just the code to make the spike protein. The adenovirus, genetically modified so that it cannot replicate in humans, will enter the cell and release the code to **make only the spike protein**.
- The body's immune system is expected to recognise the spike protein as a potentially harmful foreign substance, and starts building antibodies against it. Once immunity is built, the antibodies will attack the real virus if it tries to infect the body.
- Another potential positive was that it **increased the number of T cells** — a type of white blood cell that protects the body from pathogens and cancer cells and works to actively destroy infected cells.

ZyCov-D

- **Biotechnology Research Assistance Council (BIRAC)** has announced the initiation of Phase I/ II clinical trials of **ZyCoV-D**, the plasmid DNA vaccine designed and developed by Zydus and partially funded by the **Department of Biotechnology**, in healthy subjects.
- The adaptive Phase I/II dose escalation, multi-centric study will assess the safety, tolerability and immunogenicity of the vaccine.
- It is the **first indigenously developed vaccine** for COVID-19 to be administered in humans in India.
- The vaccine has been developed as part of the **accelerated vaccine development programme**, announced in February 2020 for COVID-19, under the **National Biopharma Mission**.

- In the pre-clinical phase, the vaccine was found to elicit a strong immune response in multiple animal species like mice, rats, guinea pigs and rabbits. The antibodies produced by the vaccine were able to neutralize the wild type virus in virus neutralization assay indicating the protective potential of the vaccine candidate.

National Biopharma Mission

- It is the **Industry-Academia collaborative Mission** of the **Department of Biotechnology (DBT)** in collaboration with the **World Bank** for accelerating discovery research to early **development for biopharmaceuticals**.
- The mission, **approved in 2017** at a total cost of Rs 1500 crore, is **50% co-funded by World Bank loan** and is being **implemented by the BIRAC**.
- This program is dedicated to **deliver affordable products to the nation** with an aim to improve the health standards of India's population.
- Vaccines, medical devices and diagnostics and biotherapeutics are few of its most important domains, besides, strengthening the clinical trial capacity and building technology transfer capabilities in the country.
- Under this Mission, the Government has launched **Innovate in India (i3) programme** to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the sector.

Biotechnology Research Assistance Council (BIRAC)

BIRAC is a **not-for-profit Public Sector Enterprise** set up by the DBT as an interface agency to **strengthen and empower the emerging Biotech enterprise** to undertake strategic research and innovation, addressing nationally relevant product development needs.

Rise In COVID-19 Spread Towards Winter

- As per a study conducted by **IIT-Bhubaneswar** and **AIIMS-Bhubaneswar**, surface air temperature is closely related to COVID-19 and its spread.
- According to it, fall in temperature with seasonal progression towards winter will environmentally favour COVID-19 transmission in India. **Low temperature and high humidity appear to favour the spread of the disease**. An increase in temperature by one degree leads to a 0.99% decrease in the number of COVID-19 cases.
- In terms of doubling time, a one-degree rise in temperature leads to slowing by 1.13 days. Similarly, an increase in 10% relative humidity leads to an increase in doubling time by 1.18 days.
- It recommended that the policymakers should take targeted decisions that may also include environmental information to slow the spread. The actual spread will eventually depend on human intervention, such as **strict enforcement of universal masking, physical distancing, and improved hand hygiene** and possible **commencement of herd immunity**.

PLPro

- A new study has found that **pharmacological inhibition of PLpro blocks virus replication** and also strengthens our immune response.
- When the coronavirus SARS-CoV-2 enters a human cell, it hijacks the cell mechanism. One of its **proteins, called PLpro**, is produced by the human cell itself after the virus hijacks the cell mechanism. PLpro is essential for replication of the virus.

- When SARS-CoV-2 infects us, the infected body cells release messenger substances known as type 1 interferons. These attract our killer cells, which kill the infected cells. SARS-CoV-2 fights back by letting the human cell produce PLpro. This protein suppresses the development of type 1 interferons, which would have attracted our killer cells.

Lyfas

- A Bangalore based startup has introduced a **mobile app for detection and risk assessment of Covid-19** infected individuals. The technology has been developed with the support of the Department of Science and Technology.
- This technology will detect the possible infection in **asymptomatic individuals** and carry out a risk assessment with the use of **smartphone** processors and sensors which will capture a bunch of body signals.
- The Department of Science and Technology has selected **Acculi Labs** to develop a Covid risk assessment profile called Lyfas COVID score under the Centre for Augmenting WAR with COVID-19 Health Crisis, **CAWACH initiative**.
- Lyfas is an android application in which, when any person keeps the index finger on the rear phone camera of a mobile phone for five minutes, it captures the **capillary pulse and blood volume change**.
- The technology is focused on population screening, monitoring of quarantined individuals and surveillance at the community level. KAWACH initiative is supporting market-ready innovations for the control of COVID-19.

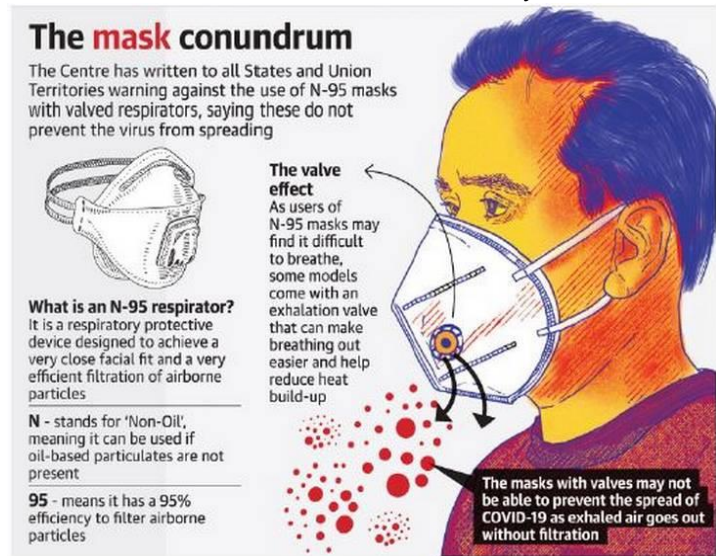
To Read more About CAWACH initiatives, please refer to Recitals April- 2020.

Latency of the SARS-CoV-2 Virus

- Ever since cases of '**reinfection**' (people who had tested negative for COVID-19 testing positive again after a while) emerged in early January, the question of latency of the SARS-CoV-2 virus is being hotly debated.
- A **latent infection** is when the virus in the body is **dormant and does not replicate** within the host. It however possesses the capacity to be reactivated at some point, causing a **flare-up of the disease much later**.
- As opposed to **active infections**, where a virus is actively replicating and potentially causing symptoms, **latent** (or persistent; but not chronic) infections are essentially static which last the life of the host and occur when the primary infection is not cleared by the adaptive immune response.
- **Examples** are Herpes simplex viruses type 1 and 2, varicella-zoster virus, HIV, Epstein-Barr virus (human herpesvirus 4), and cytomegalovirus.
- Latent viral infections can be reactivated into a **lytic form (the replication of a viral genome)**. The ability to move back and forth from latent to lytic infections helps the virus spread from infected individuals to uninfected individuals.
- Viruses fall into two broad categories: **chronic** and **acute**; while a chronic virus will infect its host for extended periods of time, often through the lifetime of the host. An acute infecting virus, such as influenza and rotavirus, is cleared from the body after a few days or weeks.

N-95 Valved Respirator/Masks

- The **Union Health Ministry** cautioned against the use of N-95 valve respirator/ masks, stating that it doesn't offer the desired protection against the spread of COVID-19.
- N95 masks are **personal protective equipment** that protects the wearer from airborne particles and from liquid contaminating the face. N95 masks are worn mostly by healthcare workers.
- N95 masks **filter about 95 percent of particles** smaller than 300 nanometres. SARS-CoV-2, the virus that causes Covid-19, however, is in the size range of 65-125 nm.
- The valve or the raised plastic gasket found in some N95 mask models basically **filters the air inhaled by the person and blocks the entry of pathogens** suspended in the air.
- The valves allow **easier exhalation** than traditional masks, prevent humidity, reduce heat and carbon dioxide build-up inside the mask.
- However, **concerns** are raised as the valve is basically a **'one-way valve'** that only protects the person wearing it and doesn't filter the aerosols coming out. Hence, an asymptomatic carrier of the novel coronavirus can easily spread the infection to others when the valve releases the unfiltered exhaled air in the immediate surroundings.



WHO Guidelines on Comprehensive Surveillance

- The **World Health Organisation (WHO)** in its **Guidance Note on Public Health Criteria to Adjust Public Health and Social Measures in the Context of COVID-19** has advised comprehensive surveillance of suspected cases.
- While explaining the concept of 'comprehensive surveillance' and testing of suspect cases, the WHO said that a **country needs 140 tests per day per million population**.
- In India, 22 States and Union Territories are reported to be already conducting 140 and more tests per day per million. As of July 2020, the number of persons being tested for the disease in India has crossed **8,994 per million with 865 labs** in the government sector and 358 private labs, the total number of testing labs is 1223.
- In addition to the **RT PCR test, CBNAAT and TrueNat** are also being used to augment the testing capabilities.

To Read more about different tests, please refer to Recitals April, May and June 2020.

Pneumococcal Polysaccharide Conjugate Vaccine

- Drug Controller General of India (DCGI) has given approval to the **first fully indigenously developed Pneumococcal Polysaccharide Conjugate Vaccine**. This vaccine is used for **active immunization** against invasive disease and **pneumonia** caused by **"Streptococcus Pneumonia"** in infants.

- The vaccine is administered in an **intramuscular manner** and developed by Serum Institute of India, Pune.

Streptococcus Pneumonia

- Streptococcus pneumoniae (pneumococcus) is a **Gram-positive bacterium** that is responsible for the majority of **community-acquired pneumonia**.
- It is a **commensal organism** in the human respiratory tract, meaning that it benefits from the human body, without harming it.
- However, infection by pneumococcus may be dangerous, causing not only pneumonia, but also bronchitis, otitis media, septicemia, and meningitis.
- S. pneumoniae is **alpha-hemolytic**, meaning that it can break down red blood cells through the production of hydrogen peroxide (H₂O₂). The production of H₂O₂ by the bacterial infection can also cause damage to DNA, and kill cells within the lungs.
- Pneumococcal infection is responsible for **1-2 million infant deaths** worldwide, every year.

Human Growth Hormone

- In a first-of-its-kind case, **Pardeep Singh**, who is a 2018 Commonwealth Games silver medallist, has been handed a provisional four-year suspension after his blood sample tested positive for **human Growth Hormone (hGH)**.
- Human Growth Hormone (hGH) is a hormone that is **naturally produced** in the body and **secreted by the pituitary gland near the base of the brain**. hGH helps in bone, organ and cartilage growth and also helps in repairing damaged muscles.
- When the gland releases the growth hormone, it results in the **secretion of a protein called IGF-1** from the **liver**. hGH helps in **repairing tissues quicker** and is used along with other performance enhancing drugs for better results. It also **increases lean body mass** and decreases total body fat.
- hGH is known to increase **muscle mass, strength** as well as **tissue-repairing** effects, which has been used as a doping agent in power and endurance sports. The IGF-1 protein is what ultimately stimulates the growth of bones, muscle, and other tissues.
- hGH is given to both children and adults with hormone deficiency. It is given as an injection.
- However, hGH is **banned both in-competition as well as out-of-competition**. One of the ways to check is to track protein levels found in **blood plasma**.
- Diabetes, cardiovascular diseases, muscle, joint and bone pain and hypertension are the side effects of hGH abuse. In some cases, abnormal growth of organs is also observed.

AJO-Neo

- Scientists from the **S.N. Bose National Centre For Basic Sciences (SNBNCBS), Kolkata, an autonomous research Institute** under the Department of Science and Technology (DST), Government of India, have developed a device called "**AJO-Neo** " to measure neonatal bilirubin level.
- It is a **non-contact and non-invasive spectrometry-based technique** for measurement of neonatal bilirubin level without limitations of other available bilirubin meters.

Bilirubin

- Bilirubin is a yellowish substance in our blood. It forms after red blood cells break down, and it travels through our liver, gallbladder, and digestive tract before being excreted.
- It is excreted in **bile and urine**, and elevated levels may indicate certain diseases. It is responsible for the **yellow colour of bruises** and the yellow discoloration in **jaundice**.
- Normal levels of bilirubin in blood are below 1.0 mg/dL, while levels over 2–3 mg/dL (34-51 µmol/L) is called hyperbilirubinemia that typically results in **jaundice** (also known as **icterus**).
- The prevalence of jaundice in adults is rare, while jaundice in babies is common with an estimated eighty percent affected during their first week of life.

Solar Orbiter Mission

- The **NASA and European Space Agency (NASA-ESA) Solar Orbiter Mission** has delivered the closest photos ever taken of the sun's surface. It has revealed a landscape rife with thousands of **tiny solar flares** that scientists dubbed “**campfires**”.
- The photographs **offer clues about the extreme heat of the outermost part of the sun's atmosphere**, which is important for understanding how it drives space weather near the Earth and throughout the solar system.
- An instrument called the **Extreme Ultraviolet Imager (EUI)** on the Solar Orbiter captured this first image, showing "campfires" during its first **perihelion**.
- The “campfires” are believed to be **tiny explosions, called nanoflares**, and could explain **why the sun's outer shield, the corona, is 300 times hotter than the star's surface**.
- Scientists typically have relied upon Earth-based telescopes for close-ups of the sun's surface. But Earth's atmosphere limits the amount of visible light needed to glean views as intimate as those obtained by the Solar Orbiter.

Please refer The Recitals - Feb 2020 for Solar Orbiter Mission.

Dare to Dream 2.0

- Defence Research and Development Organisation (**DRDO**) has launched its **innovation contest ‘Dare to Dream 2.0’** on the 5th death anniversary of former President and noted scientist **Dr APJ Abdul Kalam**.
- It is an **open challenge** scheme to promote the Indian innovators and startups for **innovations in defence and aerospace technologies**. The winners will be decided after due evaluation by an expert committee. **Award** money, up to Rs 10 lakh for startup and Rs 5 lakh to individual category, will be given to the winners.
- Dr. **APJ Abdul Kalam** is known as the **missile man** and was **11th President** of India (2002-2007).

Foundation Day of Ministry of Earth Sciences (MoES)

- The Ministry of Earth Sciences (MoES) celebrates its Foundation Day on **27th July**.
- The Ministry of Earth Sciences was formed in the year **2006** from a merger of the **India Meteorological Department (IMD)**, the **National Centre for Medium Range Weather Forecasting (NCMRWF)**, the **Indian Institute of Tropical Meteorology (IITM)**, **Pune**, and **Earth Risk Evaluation Centre (EREC)**, and the **Ministry of Ocean Development**.

- The Ministry's **mandate** is to look after Atmospheric Sciences, Ocean Science & Technology and Seismology in an integrated manner. The Ministry also deals with exploration and sustainable harnessing of ocean resources (living and non-living), and plays a nodal role for Antarctic/Arctic/Himalayas and Southern Ocean research.
- On the occasion, **MoES-Knowledge Resource Centre Network (KRCNet)** and **mobile App "Mausam"** for **India Meteorological Department**, were also launched.

MoES-Knowledge Resource Centre Network (KRCNet)

- Under the Digital India initiative of the Government of India, the Ministry of Earth Sciences (MoES) aims to develop a **World-Class Knowledge Resource Centre Network (KRCNet)**.
- Keeping in mind the spectacular developments in information technology, the **traditional libraries** of the MoES system will be upgraded into a top-notch **Knowledge Resource Centres (KRC)**.
- KRCs will be connected with each other and **integrated into the KRCNet portal**. It will be a **single point entry to the intellectual world** of the Ministry of Earth Sciences (MoES).

'Mausam' Mobile App

- Earth Sciences Minister launched a mobile application which will provide **city-wise weather forecasts, nowcasts and other warnings**.
- It has been designed and developed jointly by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the Indian Institute of Tropical Meteorology (IITM), Pune and the IMD.
- It will provide **current weather information**, including temperature, humidity, wind speed and direction, for **200 cities**. The information will be **updated eight times a day**.
- It will also issue nowcasts, **three-hourly warnings**, for local weather phenomena and their intensity for about **800 stations and districts**.
- It also has a system which will issue **colour-coded alerts (red, yellow, orange)** for all districts twice a day for up to five days to warn people ahead of dangerous weather.

5G

- **Reliance Industries** CMD Mukesh Ambani announced that the company's telecom venture Jio has designed and developed from scratch, a complete **indigenous 5G** solution ready for deployment. This will enable Jio to export 5G solutions to other telecom players globally.
- In telecommunications, 5G is the **fifth-generation** technology standard for cellular networks, which cellular phone companies began deploying worldwide in 2019.
- 5G networks are **cellular networks**, in which the service area is divided into **small geographical areas called cells**.
- All 5G wireless devices in a cell are **connected to the Internet and telephone network by radio waves** through a local antenna in the cell.
- 5G speeds will range from ~50 Mbit/s to over a gigabit/s and Latency is 8–12 milliseconds. Latency is the time it takes for a specific block of data on a data track to rotate around to the read/write head.

<p>1G delivered analog voice (introduced Mobile voice calls); 2G introduced digital voice (Mobile voice calls and SMS); 3G brought mobile data (Mobile web browsing); 4G LTE ushered in the era of mobile broadband (Mobile video consumption and higher data speed)</p>
--

- The main **advantage** of the new networks is that they will have **greater bandwidth**, giving **higher download speeds**, eventually **up to 10 gigabits per second (Gbit/s)**.
- Due to the increased bandwidth, it is expected that the new networks will not just **serve cell phones** like existing cellular networks, but also be used as general **internet service providers** for laptops and desktop computers, competing with existing ISPs such as cable internet, and also will make possible new applications in **internet of things (IoT)** and machine to machine areas.
- Current 4G cell phones will not be able to use the new networks, which will require new 5G enabled wireless devices.
- The industry consortium setting standards for **5G is the 3rd Generation Partnership Project (3GPP)**.
 - It defines any system using 5G NR (5G New Radio) software as "5G", a definition that came into general use by late 2018.
 - Minimum standards are set by the **International Telecommunications Union (ITU)**. Previously, some reserved the term 5G for systems that deliver download speeds of 20 Gbit/s as specified in the ITU's IMT-2020 document.

Common Services Centre (CSC) WiFi Choupal

- Union IT Minister said, in 40 days, starting from 10th June, **CSC WiFi Choupal** has provided 1 Lakh FTTH (Fiber to the home (FTTH) broadband connections in rural areas, across 21 states, using the Bharat Net infrastructure and target is to achieve an ambitious target of 5 Lakh FTTH connections by September.
- In early **2016**, **CSC Wi-Fi Choupal Service India Pvt.** Ltd was introduced for development of **affordable and reliable ICT solutions** in the rural areas. The initiative focuses on enhancement of Internet connectivity at the last mile leveraging of **BharatNet infrastructure**.
- It is an Initiative of '**CSC e-Governance Services India Limited**', a **Special Purpose Vehicle (SPV)** set up in 2016 by the Ministry of Electronics & IT under the Companies Act, 1956 to oversee implementation of the Common Service Centres (CSC) scheme.
- **Fiber To The home (FTTH)**, also called "**Fiber To The Premises**" (**FTTP**), is the installation and use of optical fiber from a central point directly to individual buildings such as residences, apartment buildings and businesses to provide high-speed Internet access.

Non-Personal Data

- A government **committee** headed by Infosys co-founder **Kris Gopalakrishnan** has suggested that **non-personal** data generated in the country be **allowed to be harnessed** by various domestic companies and entities.
- It has also suggested setting up of a **new authority** which would be empowered to monitor the use and mining of such non-personal data.
- In its most basic form, **non-personal data is any set of data which does not contain personally identifiable information**. This in essence means that no individual or living person can be identified by looking at such data.
- For example, while order details collected by a food delivery service will have the name, age, gender, and other contact information of an individual, it will become non-personal data if the identifiers such as name and contact information are taken out.

- Depending on the source of the data and whether it is anonymised in a way that no individual can be re-identified from the data set, the **three categories** have been divided.
- The government committee, which submitted its report has classified non-personal data into **three main categories**, namely **public non-personal data**, **community non-personal data** and **private non-personal data**.
 1. **Public Non-Personal Data:** All the **data collected by government and its agencies** such as census, data collected by municipal corporations on the total tax receipts in a particular period or any information collected during execution of all publicly funded works has been kept under the umbrella of public non-personal data.
 2. **Community Non-Personal Data:** Any **data identifiers about a set of people** who have either the same geographic location, religion, job, or other common social interests will form the community non-personal data. For example, the metadata collected by ride-hailing apps, telecom companies, electricity distribution companies among others have been put under the community non-personal data category by the committee.
 3. **Private Non-Personal Data:** It can be defined as those which are produced by **individuals** which can be derived from application of proprietary software or knowledge.

Economic Survey for 2018-19 on Data

- It called for **Data 'of the people, by the people, for the people'** must become the mantra for the government, which **needs to view data as a 'public good' and make necessary investments**.
- It asserted that the **benefits of creating data as a public good** can be generated within the legal framework of data privacy
- It emphasised that the **data and information highway** must be viewed as equally important infrastructure as the physical highways
- It said that since data for **social welfare** may not be generated by the private sector in optimal quantity, the **government** needs to view data as a public good and make the necessary investments.
- It noted that India, through the **unique identification programme Aadhaar**, has been at the forefront of the data and technology revolution which is unfolding.

Kakrapar Atomic Plant

- The third unit of the Kakrapar Atomic Power Project (KAPP-3) in Tapi district, **Gujarat** achieved its **first criticality of 700-Megawatt Electric Unit (MWe)**.
- **Criticality** is the first step towards power production. A reactor is said to be critical when the **nuclear fuel inside a reactor sustains a fission chain reaction**, where each fission event releases a sufficient number of neutrons to sustain a series of reactions.
- The first two units at Kakrapar of 220 MWe (Megawatt electric) each were based on Canadian technology. The **third unit is fully indigenous**.
- This is a landmark event in India's domestic civilian nuclear programme given that KAPP-3 is the country's first 700 MWe unit, and the biggest indigenously developed variant of the **Pressurised Heavy Water Reactor (PHWR)**.
 - The PHWRs use **natural uranium as fuel** and **heavy water as moderator** and are the mainstay of India's nuclear reactor fleet.
 - Until now, the biggest reactor size of indigenous design was the **540 MWe PHWR**, two of which have been deployed in **Tarapur, Maharashtra**.

- The first PHWR of 220 MWe was commissioned on May 6, 1993, while the second unit of similar capacity was commissioned on September 1, 1995.
- The indigenous 700 MWe PHWRs have **advanced safety features** like steel lined inner containment, passive decay heat removal system, containment spray system, hydrogen management system, among others.
- The operationalisation of India's first 700MWe reactor also marks a **significant scale-up in technology**, both in terms of **optimisation of its PHWR design** — the new 700MWe unit addresses the issue of excess thermal margins — and an improvement in the **economies of scale**, without significant changes to the design of the 540 MWe reactor.
- Four units of the 700MWe reactor are currently being built at Kakrapar (KAPP-3 and 4) and Rawatbhata (RAPS-7 and 8).

International Thermonuclear Experimental Reactor

- ITER (originally the **International Thermonuclear Experimental Reactor**) is an **international nuclear fusion research and engineering megaproject**, which will be the **world's largest magnetic confinement plasma physics experiment**.
- It is an experimental **tokamak nuclear fusion reactor** that is being built in **France**.
- The ITER **thermonuclear fusion reactor** has been designed to create a plasma of 500 megawatts (thermal) for around twenty minutes while 50 megawatts of thermal power are injected into the tokamak, resulting in a ten-fold gain of plasma heating power.
- Thereby the machine aims to demonstrate, for the **first time in a fusion reactor**, the principle of producing more thermal power than is used to heat the plasma.
- The project is funded and run by **seven member entities—the European Union, China, India, Japan, Russia, South Korea and the United States**.
- Construction of the ITER tokamak complex **started in 2013** and the US Department of Energy has estimated the **total construction costs by 2025 to be \$65 billion**.
- **The objectives of the ITER project include bootstrapping the global nuclear fusion industry.**

Rafale Fighter Aircrafts

- The **Indian Air Force (IAF)** has received the **first five of the 36 Rafale fighter jets** to India as part of \$8.78 billion (Rs 59,000 crore) deal signed in 2016.
- The induction of Rafale aircraft into the Indian Air Force lends **air superiority to the IAF** and will add immensely to India's air power, making it **one of the four countries to possess this next-gen fighter jet**.

Specifications:

- The state-of-the-art **4.5 Generation Rafale jet** is an '**Omni role**' aircraft (can take on several missions in one sortie) and can reach almost double the speed of sound, with a **top speed of 1.8 Mach**.
- The fully versatile Rafale can **carry out all combat aviation missions**, including air defence, close air support, in-depth strikes, dynamic targeting, air-to-ground precision strike, reconnaissance, anti-ship strikes and nuclear deterrence.
- It can jam enemy radars, **detect targets anywhere including sea, ground and air**.

- Its 'delta wings' makes it **far superior to its competitors due to extremely stable and supersonic speed.**
- The aircraft is **superior to Sukhoi 30 MK1** in terms of carrying ammunition. While Sukhoi 30 MK1 can carry ammunition up to 8,000 kg, Rafale can easily **carry bombs up to 9,500 kg.**
- The advanced Rafale aircraft can **carry a nuclear weapon**, and **deploy** next-gen air-to-air **MICA missile**; long-range air-to-air **Meteor missile**; anti-ship AM39 **EXOCET missile**; **laser-guided bombs** with different warheads; **non-guided classic bombs.**
- The Rafale jets also come with **SCALP, the air-to-ground cruise missile with a range over 300 km.** It is a long-range deep strike missile. While SCALP can destroy still objects, MICA's stealth power can hit targets **beyond visual range (over 100 km).**
- Rafale can also **carry more fuel and weapons than China's J20 Chengdu jets.**
- The Rafale is combat proven, having been used by the French Air Force for its missions in **Afghanistan, Libya and Mali.** It has also been used for missions in the Central African Republic, Iraq and Syria.

T-90 Tanks

- The Acquisition Wing of the **Ministry of Defence (MoD)** signed a **₹557-crore contract** with the **Bharat Earth Movers Limited (BEML)** for the procurement of **1,512 mine ploughs for T-90 Tanks.** The induction is expected to be **completed by 2027.**
- These mine ploughs will be fitted on T-90 Tanks of the Indian Armoured Corps which will facilitate individual mobility to the tanks while negotiating mine fields.
- The **mobility of the tank fleet will enhance manifolds** which in turn would extend the reach of the armoured formations deep into enemy territory without becoming a mine casualty.
- It will also give a major **boost to the 'Make in India'** initiative of the government. As per the procedure, the contract has **Buy and Make (Indian) categorisation with a minimum of 50% indigenous content in the Make portion.**

Passage Exercise (PASSEX)

- **Indian naval ships** conducted a **Passage Exercise (PASSEX)** with the **United States Navy's USS Nimitz carrier strike group** near the **Andaman and Nicobar (A&N) islands** as it is transiting the Indian Ocean. The exercise comes amidst high alert by the Navy in the Indian Ocean Region (IOR) due to the ongoing stand-off with China along the border in Ladakh.
- As part of this, four Indian naval ships, including a stealth corvette, teamed up with USS Nimitz and three other U.S. ships. **USS Nimitz is the world's largest aircraft carrier.**
- As part of this exercise, **four frontline naval ships, Shivalik, Sahyadri, Kamorta and Rana** including a stealth corvette, teamed up with carrier **USS Nimitz** and three other U.S. ships, Ticonderoga-class guided missile cruiser USS Princeton (CG 59) and Arleigh Burke-class guided missile destroyers USS Sterett (DDG 104) and USS Ralph Johnson (DDG 114).

Rosalind Franklin

- The 100th birth anniversary of Rosalind Franklin was observed on 25th July.

- **Rosalind Elsie Franklin (25 July 1920 – 16 April 1958)** was an English chemist and X-ray crystallographer whose work was central to the understanding of the molecular structures of DNA (deoxyribonucleic acid), RNA (ribonucleic acid), viruses, coal, and graphite.
- She is best known for her work on the **X-ray diffraction images of DNA**, particularly **Photo 51**, which led to the discovery of the DNA double helix for which James Watson, Francis Crick and Maurice Wilkins shared the Nobel Prize in Physiology or Medicine in 1962.
- She would have ideally been awarded a Nobel Prize in Chemistry, but the Nobel is not awarded posthumously.
- The image was tagged "**photo 51**" because it was the **51st diffraction photograph** that Franklin and Gosling had taken. It was **critical evidence** in identifying the structure of DNA.

Global e-waste

- According to a new United Nations University (UNU) report, Global e-waste — discarded electrical and electronic equipment — **will increase by 38 per cent in the decade between 2020 and 2030**.
- There was 53.6 million tonnes (MT) e-waste in 2019, that is nearly 21% increase in five years. **Asia generated the greatest volume of e-waste in 2019**, followed by the Americas and Europe.
- E-waste is a health and environmental hazard, containing toxic additives or hazardous substances such as mercury, which damages the human brain and / or coordination system.

No Recycling

- Less than 18% of the e-waste generated in 2019 was collected and recycled. This means that e-waste consisting gold, silver, copper, platinum and other **high-value, recoverable materials worth at least \$57 billion was mostly dumped or burned** rather than being collected for treatment and reuse.
- The number of countries that have adopted a national e-waste policy, legislation or regulation has **increased from 61 to 78** and includes **India**. However, this is far from the target set by the **International Telecommunication Union** to raise the percentage of countries with an e-waste legislation to 50 per cent.
- There are 312 authorised recyclers of e-waste in India, with the capacity for treating approximately 800 kilotonnes annually. However, formal recycling capacity remains under utilised, as **about 90 % of the country's e-waste is recycled in the informal sector**.

Virtual Ministerial Meet on Climate Action

- The **4th edition of the virtual Ministerial Meet on Climate Action** has been held recently to advance discussions on the full implementation of the Paris Climate Agreement.
- The meeting was **co-chaired by European Union, China and Canada**.
- India called upon developed country parties to do their part as envisaged under UNFCCC and its Paris Agreement, for extending financial and technological support to developing countries. The promise of USD 1 trillion by 2020 has not been fulfilled so far.

India's Efforts To Combat Climate Change

- **Provided 80 million LPG connections in rural areas**, providing them with clean cooking fuel and healthy environment.

- **More than 360 million LED bulbs have been distributed** under UJALA scheme, which has led to energy saving of 47 billion units of electricity per year and reduction of 38 million tonnes of CO₂ per year.
- India has also **leapfrogged from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI)** emission norms by April 1, 2020 which was earlier to be adopted by 2024.
- **India had levied a coal cess of INR 400/-** as part of one of the most explicit green initiatives & this is now subsumed under Goods and Services Tax (GST).
- Under Smart Cities Mission, **Climate Smart Cities Assessment Framework 2019** has been launched which intends to provide clear roadmap for cities and urban India towards combating climate change.

India's Achievements

- India has achieved **reduction of 21% in emission intensity of its GDP** between 2005 and 2014, thereby achieving its pre-2020 voluntary target.
- India's **renewable energy installed capacity has increased by 226% in last 5 years** and stands at more than 87 Gigawatt.
- The share of non-fossil sources in installed capacity of electricity generation increased from 30.5% in March 2015 to 37.7% in May 2020.
- India's total forest and tree cover is 24.56% of the total geographical area of the country.

National Mission for Clean Ganga (NMCG)

- The World Bank has approved a five-year loan to the NMCG to develop and improve infrastructure projects to abate pollution in the river basin.
- National Mission for Clean Ganga (NMCG) was registered as a society in 2011 under the Societies Registration Act 1860.
- **The aims and objectives of NMCG**
 - To ensure effective abatement of pollution and rejuvenation of river Ganga by adopting a river basin approach to promote inter-sectoral co-ordination for comprehensive planning and management and
 - To maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.
- It acted as **implementation arm of National Ganga River Basin Authority (NGRBA)** which was constituted under the provisions of the **Environment (Protection) Act (EPA), 1986**. NGRBA has since been dissolved with effect from October 2016.
- The area of operation of NMCG shall be the Ganga River Basin, including the states through which Ganga flows, as well as the National Capital Territory of Delhi.

Tillari Conservation Reserve

- Maharashtra state forest department declared 29.53 sqkm area of Dodamarg forest range in Sindhudurg district as 'Tillari Conservation Reserve'.
- Tillari will be the seventh corridor in the state to be declared as a 'conservation reserve'.

Conservation Reserves & Community Reserves:

- Conservation reserves and community reserves in India are **terms denoting protected areas of India** which typically act as buffer zones to or connectors and migration corridors between established national parks, wildlife sanctuaries and reserved and protected forests of India.
- Such areas are designated as **conservation areas if they are uninhabited and completely owned by the Government of India** but used for subsistence by communities and **community areas if part of the lands are privately owned.**
- These protected area categories were first introduced in the **Wildlife (Protection) Amendment Act of 2002** – the amendment to the Wildlife Protection Act of 1972.
- These categories were added because of reduced protection in and around existing or proposed protected areas due to private ownership of land, and land use.

Globba Andersonii

- Researchers have “rediscovered” a rare and **critically endangered plant species** called *Globba andersonii* from the Sikkim Himalayas after a gap of nearly 136 years.
- The plant, known commonly as ‘**dancing ladies**’ or ‘**swan flowers**’ was **thought to be extinct after 1875.**
- Classified as “**narrowly endemic**”, the species is **restricted mainly to Teesta River Valley region** which includes the Sikkim Himalayas and Darjeeling hill ranges.
- It is characterized by white flowers, non-appendaged anthers (the part of a stamen that contains the pollen) and a “yellowish lip”.
- The plant usually **grows in a dense colony as a lithophyte** (plant growing on a bare rock or stone) on rocky slopes in the outskirts of evergreen forests.

**New Species of Butterfly**

- Lepidopterists have discovered two species of butterflies – the **Striped Hairstreak** and **Elusive Prince** – in **Arunachal Pradesh**. India now has 1,327 species, up from 1,318 in 2015.
- **Striped Hairstreak:** It was located in Vijaynagar bordering Myanmar. It was first recorded by Japanese entomologists in **Hainan province of China.**
- **Elusive Prince:** It was found in Miao on the periphery of the **Namdapha National Park**. Initially it was considered as a variant of the Black Prince, found in the Eastern Himalayas. But the dissection of the specimen revealed, it was different and not recorded in India before.
- The recording of the two butterflies follows the “**rediscovery**” of the **Assam Keelback**, a non-venomous snake from the Gelling area of Arunachal Pradesh after 129 years.



About Assam Keelback

- It is a small brown **non-venomous snake endemic to Upper Assam.**
- It belongs to the **genus Herpetoreas**, which has only three other known members, and not Hebius.
- First known as **Hebius pealii**, it was named after Edward Peal, a British tea planter who first collected **two specimens of this snake from upper Assam, 129 years ago.**
- The two specimens were kept in the Zoological Survey of India (ZSI), Kolkata, and the Natural History Museum, London.

Golden Birdwing

- A Himalayan butterfly named Golden Birdwing is **now India’s largest butterfly.**
- The hitherto largest Indian butterfly was an individual of the Southern Birdwing (Troides minos), which was recorded in 1932. It was then treated as a subspecies of the Common Birdwing .
- With a wingspan of 194 mm, the **female of the species is marginally larger than the Southern Birdwing** (190 mm). The only measurement used in the study of Lepidoptera is wingspan.
- **The smallest is the Quaker** (Neopithecops zalmora) with a wingspan of 18 mm.



Ophicordyceps Nutans

- Researchers have **found fungi- Ophicordyceps nutans for the first time in central India** and show how it infects a stink bug.
- The fungus was found on its **specific host insect Halyomorpha halys**. Also called **the stink bug**, this insect is a pest to forest trees and agricultural crops. The fungi infects the insect when alive, developing fungal mycelium inside its thorax, and when it is time for the spores to come out, kill the bug.

Significance

- These fungi can be used as a **biological pest control agent**. The stink bug is known to damage the flower and fruits of soybean, green beans, apple, pear, and exploring these fungi as a pesticide will help reduce the harmful effect of chemicals in our fields.
- Several species of the Ophicordyceps fungi have **medicinal properties**. **China** has been traditionally using it; and in the Western Ghats, the local people use it as an immune stimulator.
- Studies from across the globe have noted that these **fungi is rich in biologically active metabolites, vitamin C, phenolic compounds**, and also has **anti-inflammatory and antioxidant properties**. They also claim that it contains a component called ‘**cordycepin**’ which has **anticancer properties**.



Rare Orchid Species — Eulophia Obtuse

- A rare orchid species — Eulophia obtusa — also known as ground orchid has been rediscovered in India after 118-year hiatus in Dudhwa Tiger Reserve.
- In India, the species — **listed as “critically endangered”** in the IUCN Red List of endangered species — was last recorded in Pilibhit in 1902.
- It was originally described from Uttarakhand in the 19th century. It was collected by botanists from Gangetic plains but **there have been no sightings in the past 100 years.**
- In 2008, the plant species was sighted in Bangladesh for the first time.



Himalayan Viagra- Ophiocordyceps Sinensis

- **The world’s costliest fungus** — Ophiocordyceps sinensis — also known as Himalayan Viagra, **has entered the International Union for Conservation of Nature’s (IUCN) Red List of Threatened Species.**
- IUCN has placed the fungus in the ‘**vulnerable**’ category as its spread has **declined by at least 30% over the past 15 years as a result of overharvesting.**
- It sells in international markets for upwards of **Rs 20 lakh per kg.** The fungus is known for its aphrodisiac and rejuvenation properties.
- It is **endemic to the Himalayan and Tibetan plateau** and is found in China, Bhutan, Nepal and India. In India, it is primarily found in Uttarakhand in the higher reaches of districts like Pithoragarh and Chamoli.



Red Coral Kukri

- A "very rare" **Red Coral Kukri snake** was spotted in the **Dudhwa National Park** in Uttar Pradesh's Lakhimpur Kheri.
- It was seen last year for the **first time after a gap of almost 82 years.** It was first sighted in Dudhwa in 1936 and even its **zoological name "oligodon Kheriensis"** finds its roots in its Kheri-specific location.
- Red Coral Kukri is a **nocturnal non-venomous reptile** feeding on insects and worms. It gets its name from its red orange colour and its teeth, which are shaped like Nepali "khukri" to break eggs.



High Levels Of Ammonia In Yamuna

- Delhi Jal Board (DJB) had to reduce water production capacity by 25 per cent after high levels of ammonia (3 parts per million (ppm)) were detected in the Yamuna river.

- **The acceptable maximum limit of ammonia in drinking water**, as per the Bureau of Indian Standards, is **0.5 ppm**. The DJB presently has the capacity to treat approximately 0.9 ppm.
- The most likely source of Ammonia is believed to be effluents from dye units, distilleries and other factories in Panipat and Sonapat districts in Haryana, and also sewage from some unsewered colonies in this stretch of the river.

What Is Ammonia And What Are Its Effects?

- Ammonia is a **colourless gas and is used as an industrial chemical** in the production of fertilisers, plastics, synthetic fibres, dyes and other products.
- Ammonia occurs naturally in the environment from the breakdown of organic waste matter, and may also find its way to ground and surface water sources through industrial effluents or through contamination by sewage.
- If the concentration of **ammonia in water is above 1 ppm it is toxic to fishes**. In humans, long term ingestion of water having ammonia levels of 1 ppm or above may **cause damage to internal organs**.

Long-Term Solution To The Problem

- **Stringent implementation of guidelines against dumping harmful waste into the river**, and making sure untreated sewage does not enter the water are two things pollution control bodies are expected to do.
- **Maintain a sustainable minimum flow, called the ecological flow**. This is the minimum amount of water that should flow throughout the river at all times to sustain underwater and estuarine ecosystems and human livelihoods, and for self-regulation.
- The lack of a minimum ecological flow also means accumulation of other pollutants. After water is extracted from the river for treatment in North East Delhi, what flows is mostly untreated sewage and refuse from homes, run off from storm water drains and effluents from unregulated industry.

Aerial Seeding

The forest department of Haryana has taken up aerial seeding to **plant seeds across Aravalli hills** that are hard to access and makes plantation difficult

What Is Aerial Seeding?

- Aerial seeding is a **technique of plantation** wherein seed balls – seeds covered with a mixture of clay, compost, char and other components – are **sprayed on the ground using aerial devices, including planes, helicopters or drones**.
- The coating of clay or compost provides the required weight for seeds to drop on a predetermined location rather than disperse in the wind. These pellets will then sprout when there is enough rain, with the nutrients present within them helping in the initial growth.
- The species of seeds selected will have to be **native to that area** (as these have higher survival rates) and the correct timing for seeding.

Advantages

- Areas that are inaccessible, have steep slopes, are fragmented or disconnected with no forest routes, making **conventional plantation difficult**, can be targeted with aerial seeding.
- Furthermore, the process of the seed's germination and growth is such that it **requires no attention after it is dispersed** – the reason why seed pellets are known as the “fire and forget” way of plantation.

- They **eliminate the need for ploughing and digging holes** in the soil and the seeds do not need to be planted, since they are already surrounded by soil, nutrients, and microorganisms.
- The clay shell of these pellets along with the other items in the mixture also **protects them from birds, ants and rats.**

Bhagirathi Eco-Sensitive Zone

- In a move that will pave the way for faster execution of the **Char Dham project in Uttarakhand**, the Union Environment Ministry has approved the **Zonal Master Plan (ZMP) for the Bhagirathi Eco-Sensitive Zone.**
- The Char Dham project proposes to connect **Yamnotri, Gangotri, Badrinath and Kedarnath** which host Char Dham Yatra in Uttarakhand. The all-weather Char Dham road has a total 53 projects of 826 km length, involving an investment of Rs 12,000 crore.

Background

- The Bhagirathi eco-sensitive zone notification was **first issued by the Environment Ministry on December 18, 2012.** After years of protests by local environmentalists, the notification sought to **protect the entire fragile Himalayan region by restricting hydropower projects of over 2 MW, riverbed mining and change of land use.**
- The notification was however amended in 2018 following **Uttarakhand government's objections** that the notification was 'anti-development.'
- The amendment approved land use change to meet the local needs including civic amenities and" other infrastructure development in larger public interest and national security with the prior approval of State Government with due study of Environmental Impacts.

Zonal Master Plan

- The ZMP is based on watershed approach and includes **governance in the area of forest and wildlife, watershed management,** irrigation, energy, tourism, public health and sanitation, road infrastructure, etc.
- The approval of ZMP will give a **boost to conservation and ecology of the area** and also to undertake developmental activities as permitted under ZMP.
- **Bhagirathi Eco sensitive zone:** Located in the upper Himalayas, the notified area of the Bhagirathi ecosensitive zone is an interwoven, interdependent fragile GangaHimalayan Basin. Geographically the area falls under the Garhwal lesser Himalayas and Higher Himalayas.

Concerns

- Approval of the ZMP could make the **entire Bhagirathi region extremely vulnerable to natural disasters.**
- The Himalayas are **extremely fragile mountains.** The rocks still haven't consolidated completely. Hill cutting will definitely destabilise hills, if there is forest loss debris would flow into the river affecting the river and making the entire region **extremely vulnerable to landslides.**
- Also, beyond 1800 to 2000 metres altitude its mostly **moraines (unconsolidated glacial debris).** If there is a cloudburst these will add to landslides.
- Himalayas are in **seismic zone V** where a major earthquake can happen anytime.

About Eco-Sensitive Zone(ESZ)

- ESAs are defined as those areas 'that are ecologically and economically important, but vulnerable even to mild disturbances, and hence demand careful management'.
- **Section 3 of the Environment (Protection) Act 1986 (EPA)** gives power to the Central Government to take all measures that it feels are necessary for protecting and improving the quality of the environment and to prevent and control environmental pollution.
- To meet this objective, the Central Government can **restrict areas in which any industries, operations or processes shall not be carried out** or shall be carried out subject to certain safeguards. Thus the government came up with the concept of Eco Sensitive Zones.
- There are **three important categories of attributes** that need to be considered in defining the ecological sensitivity of an area: **physico-climatic features** (geo-climatic features), **biological features** and **social relevance** (including cultural, economic and historical importance) of the area. All these may be grouped as (a) abiotic attributes (b) biotic attributes and (c) anthropological or socio-cultural attributes.
- The Environment Ministry normally notifies areas close to National Parks and Wildlife Sanctuaries as ESZ, aimed at creating "shock absorbers" for protected animals and birds by regulating and managing activities there.

Lonar Lake Turned Pink

- The colour of Lonar lake water in Maharashtra turned pink due to a large presence of the salt-loving '**Haloarchaea**' microbes.
- Haloarchaea or halophilic archaea is a bacteria culture which **produces pink pigment and is found in water saturated with salt**.
- The absence of rain, less human interference and high temperature resulted in the evaporation of water which increased its salinity and pH. The **increased salinity and pH facilitated the growth of halophilic microbes**.
- So basically, it was the biomass of these microbes and because of that the surface of the water turned red or pink and as soon as the biomass subsided, the colour disappeared.
- The oval-shaped Lonar lake formed after a meteorite hit the earth some 50,000 years ago.

**Global Tiger Day**

- The International Tiger Day is celebrated annually on July 29 to spread awareness about the need to protect tigers which are an endangered species. Tigers have lost 90% of their natural habitat and their world population is less than 4,000.
- The day was marked for the first time in November 2010 at the '**Saint Petersburg Tiger Summit**' in Russia. **Thirteen tiger-range countries** participated in the Summit, namely: *India, Bangladesh, Nepal, Bhutan, Myanmar, China, China, Indonesia, Malaysia, Laos, Thailand, Vietnam, Cambodia and Russia*.

India's Tiger Success Story

- India's tiger population now stands at 2967 which is **70 percent of the global tiger population**.
- **India's Project Tiger** was launched in 1973 with just 9 tiger reserves. "Today, India has 50 reserves has 50 reserves having 2,967 tigers.
- With 231 tigers, **Jim Corbett national park Uttarakhand is the largest habitat of the big cats in India**. Corbett's tiger count has been rising — from 137 in 2006 to 74 in 2010 and 215 in 2014. **Sohagi Barwa Wildlife Sanctuary** which used to be a non-tiger zone in Uttar Pradesh, now has one tiger.

Tiger Conservation In India -Challenges

- **Habitat and loss of prey species:** Large-scale habitat destruction and decimation of prey populations are the major long-term threats to the existence of the dwindling tiger population in the country.
- **Hunting, poaching and illegal trade:** For over thousand years, tigers have been hunted as status symbol, decorative item such as wall and floor covering, as souvenirs and curios, and for use in traditional Asian medicines.
- **Conflict with humans:** As tigers continue to lose their habitat and prey species, they are increasingly coming into conflict with humans as they attack domestic animals – and sometimes people. In retaliation, tigers are often killed by angry villagers.
- **Reaching the limits of its management capacity:** With dwindling core forest as well as the shrinking of tiger corridors (strips of land that allow tigers to move unfettered across diverse habitat), **25-35% of India's tigers now lived outside protected reserves**. Recent attempts at translocating tigers to unpopulated reserves, have ended badly, with some of the tigers dying.

Conservation Efforts

- Ministry is working on a programme in which efforts would be made to provide water and fodder to animals in the forest itself to deal with the challenge of human-animal conflict which is causing deaths of animals. For this **LIDAR based survey technology** will be used for the first time. Lidar is a method for measuring distances by illuminating the target with laser light and measuring the reflection with a sensor.
- With the presence of nearly 30 percent of India's tigers outside tiger reserves, India had embarked upon assessing management interventions through the globally developed **Conservation Assured | Tiger Standards (CA|TS) framework**, which will now be extended to all fifty tiger reserves across the country.
- The Heads of the Governments of Tiger Range countries at St. Petersburg, Russia, had resolved to **double tiger numbers across their global range by 2022** by signing the **St. Petersburg declaration on tiger conservation**.
- **Support through TRAFFIC India:** TRAFFIC is a joint programme of WWF and IUCN. In India, it operates as a division of WWF-India with **an aim to monitor and investigate wildlife trade**, and provide information to stakeholders as a basis for effective conservation policies.
- An app named **M-STRiPES** (Monitoring System For Tigers-Intensive Protection and Ecological Status) has been developed by the Wildlife Institute of India to estimate the big cat population.

Conservation Assured | Tiger Standards (CA|TS) Framework

- CA|TS is a conservation tool that sets best practice and standards to manage target species, and encourages assessments to benchmark progress. Tigers are the first species selected for the initiative.

- Launched in 2013, the tool was developed in collaboration with field managers, tiger experts and government agencies engaged in tiger conservation.
- CA|TS is a partnership of tiger range governments, inter-governmental agencies, institutions, NGOs and conservation organizations and is also being adopted for **use beyond tigers, including potentially jaguars, lions, and freshwater dolphins.**
- WWF is helping tiger range countries to implement CA|TS.

RAISE Initiative

- Union Minister for Power launched **Retrofit of Air-conditioning to improve Indoor Air Quality for Safety and Efficiency (RAISE)** national programme.
- It is a joint initiative of **Energy Efficiency Services Limited (EESL)** and US Agency for International Development's (USAID) **MAITREE** programme.
- The pilot focuses on improving indoor air quality (IAQ), thermal comfort, and energy efficiency (EE) in EESL office's air conditioning system.
- Poor air quality has been a concern in India for quite some time and has become more important in light of the Covid-19 pandemic. As people return to their offices and public spaces, **maintaining good indoor air quality is essential** for occupant comfort, well-being, productivity and the overall public health.

Refer The Recitals – June 2020 to read about EESL and MAITREE programme.

KURMA App

- On May 23, 2020, World Turtle Day, a mobile-based application called **KURMA was launched for turtle conservation** which has been hailed by the Government.
- The application has been developed by the **Indian Turtle Conservation Action Network (ITCAN)** in collaboration with the **Turtle Survival Alliance-India** and **Wildlife Conservation Society-India.**
- It not only provides users a database to identify a species but also **provides the location of the nearest rescue centre** for turtles across the country.
- It serves as a digital database, with a built-in digital field guide **covering 29 species of freshwater turtles and tortoises of India**, and information on turtle identification, distribution, vernacular names, and threats.
- Tortoise and freshwater turtles are among the most trafficked in the country. A report released in 2019 by TRAFFIC, an international wildlife trade monitoring organisation, showed that at least 200 tortoises and freshwater turtles fall prey to illicit poaching and smuggling every week, or 11,000 each year, adding up to over 1,11,130 turtles poached or smuggled between September 2009 and September 2019.

Indian Turtle Conservation Action Network (ITCAN)

- It provides a platform for the exchange of vital information on turtles, promises to engage the general public in ground data collection and provide assistance to enforcement agencies / forest departments.
- ITCAN will also help in observing 2020 as the year of the turtle, celebrated across the world by conservation agencies and zoos interested in turtle conservation.

Turtle Survival Alliance(TSA)

- It was formed in 2001 as an International Union for Conservation of Nature (IUCN) partnership for sustainable captive management of freshwater turtles and tortoises.
- The TSA arose in response to the rampant and unsustainable harvest of Asian turtle populations to supply Chinese markets, a situation known as the Asian Turtle Crisis.

Assam's Dehing Patkai Sanctuary To Get National Park Status

- The Assam government decided to **upgrade Dehing Patkai Wildlife Sanctuary into a national park**. Post upgradation, Dehing Patkai will be the **sixth national park in Assam** — the other five being Kaziranga, Nameri, Manas, Orang and Dibru-Saikhowa.
- While the first proposal to accord national park status to the region dates back to 1995, Dehing Patkai was **declared a wildlife sanctuary in 2004**.
- While wildlife sanctuaries are protected areas which permit some activities such as grazing, national parks call for a complete protection status under **The Wildlife Protection Act, 1972**.

About Dehing Patkai Sanctuary

- The 111.942 sq km Dehing Patkai Wildlife Sanctuary is located within the larger **Dehing Patkai Elephant Reserve**.
- It spreads across the coal- and oil-rich districts of Upper Assam (Dibrugarh, Tinsukia and Sivasagar) and is believed to be the **last remaining contiguous patch of lowland rainforest area in Assam**.
- It is home to hundreds of elephants, nearly 300 species of birds, 310 butterfly species. It is also the place with the highest concentration of the **rare endangered White Winged Wood Duck can be found**.

Declaration of National Parks

- Whenever it appears to the **State Government** that an area, whether within a sanctuary or not, is, by reason of its ecological, faunal, floral, geomorphological or zoological association or importance, needed to be constituted as a National Park, it may, by notification, declare its intention to constitute such area as a National Park.
- The **Central government** can also declare a national park via a notification
- No alternation of boundaries in national parks and wildlife sanctuaries can be done without approval of the **National Board for Wildlife (NBWL)**.
- **No grazing of any live-stock shall be permitted** in a National Park.

Dolphin Number Dips In Chambal River

- The latest census report prepared by the Madhya Pradesh forest department says that dolphins' number in Chambal river has **reduced by 13 per cent in four years**. The decreasing trend is continuing from 2016 when there were 78 dolphins.
- There are just 68 dolphins left in 435-kilometre-long Chambal river sanctuary which passes through three states (**Madhya Pradesh, Uttar Pradesh and Rajasthan**).
- The maximum carrying capacity of dolphins in Chambal is 125. It's a rare species of dolphins - **platanista gangetica** - and has been **declared endangered** by International Union for Conservation of Nature (IUCN).

- Perennial problems like **illegal extraction of sand** from the river bed and **water withdrawal projects** in Morena, Dholpur and Kota are disturbing the whole ecosystem of the river and decreasing the water level and flow.

Ganges River dolphin

- **Common Name:** Ganges river dolphin, Blind dolphin, Side-swimming dolphin, Susu, South Asian River Dolphin.
- Gangetic dolphins are one of the four freshwater dolphins in the world. The other three are
 - a) **Baiji** – of the Yangtze river in China,
 - b) **Bhulan** – of the Indus in Pakistan and
 - c) **Boto** – of the Amazon River in Latin America.
- **Characteristics:** It can only live in freshwater and is essentially blind. They hunt by emitting ultrasonic sounds, which bounces off of fish and other prey, enabling them to “see” an image in their mind.
- **IUCN status:** Endangered.
- **Population:** 1,200-1,800 individuals.
- **Steps by Government Of India**
 - ✓ Ministry of Environment and Forest declared Gangetic dolphin as National Aquatic Animal of India.
 - ✓ Also, a stretch of Ganges river between Sultanganj and Kahlgaon in Bihar has been declared as dolphin sanctuary and named **Vikramshila Gangetic Dolphin Sanctuary (VGDS)**.

Indian Bullfrog

A rare yellow frog was witnessed in Narsinghpur of Madhya Pradesh.

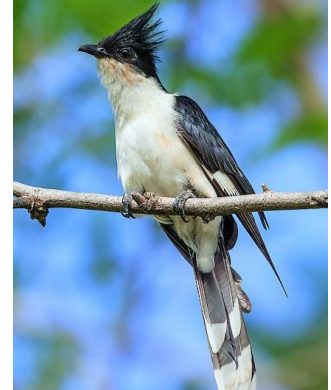
- **Common Names:** Indian Bullfrog, Bull Frog, Golden Frog, Tiger Frog, Tiger Peters Frog.
- **Conservation Status:**
 - IUCN: Least Concern.
 - The Wildlife (Protection) Act 1972: Schedule IV.
 - CITES : Appendix II.
- **Distribution:** This species is found throughout most wetland areas of India, Bangladesh and much of northern Pakistan, and is recorded from the southern parts of Nepal, and from upper and northern central Myanmar.
- **Characteristics, Habitat and Behaviour:** It is one of the most familiar and abundant frogs of South and South-East Asia, and also **the largest frog found in the Indian Subcontinent**. It is mainly aquatic, inhabiting mostly freshwater wetlands, both natural and artificial. It is absent or uncommon in forested areas and coastal regions. It is mostly solitary and nocturnal.
- **Major Threats:**
 - It was once heavily collected due to demand of its legs internationally.
 - Loss of wetland habitats through infrastructure development, prolonged drought and water pollution by pesticides and other agrochemicals are now the main threats to the species.



- The Indian bullfrog, is currently an **invasive species in the Andaman** archipelago in the Bay of Bengal.

Tracking of Pied Cuckoo

- The Wildlife Institute of India (WII), along with the Indian Institute of Remote Sensing (IIRS), has begun a **study of the migration of pied cuckoo from Africa to India and back**, by tagging two of the birds with satellite transmitters.
- The study is part of a project called the **Indian Bioresource Information Network (IBIN)**, funded by the Government of India which aims to put relevant Indian bio resources information online.



About Pied Cuckoo

- **Pied Cuckoo** is a bird with black and white plumage (pied) with a fancy crest on the head.
- **Population:** There are **two populations of the Pied Cuckoo in India**. One is a resident in the southern part of the country. The other, makes its way to North and Central India from Africa by crossing the Arabian Sea, along with the monsoon winds.
- **Characteristics**
 - The bird is primarily **arboreal**, which means that it **mostly lives on trees but often forages for food in low bushes**, and sometimes even on the ground. Considering its arboreal nature, it prefers forests, well-wooded areas and also bushes in semi-arid regions.
 - These birds are **primarily insectivores** and feed on grasshoppers, beetles and are also often seen feeding on fruits and berries from trees.
 - The species, like all cuckoos, is a **brood parasite**. It lays its eggs in nests that belong to other birds, preferring similar-sized birds like babblers and bulbuls, as their 'hosts'.
- **Migration**
 - The arrival of the pied cuckoos (Also called Jacobin Cuckoo) in the Himalayan foothills has traditionally been seen as heralding the onset of the monsoon.
 - It is one of the few species that come to India in the summer. "Most other migratory species come in winter from colder places like Mongolia, Siberia, northeastern China, Kazakhstan.