



VAJIRAM & RAVI

(Institute for Civil Services Examination)

JUNE 2020

the RECITALS

Explore Current Affairs Through Q&A



Featured
Articles



Mains
Q & A



Prelims
Q & A



Bridging
Gaps

India-Australia Virtual Summit

Universal Basic Income

Message From The Desk Of Director	1
1. Feature Article	2-10
a. Universal Basic Income	
b. India-Australia Virtual Summit	
2. Mains Q&A	13-25
3. Prelims Q&A	26-61
4. Bridging Gaps	62-130
1. Reservation Is Not A Fundamental Right	
2. PM CARES Fund Is Not A Public Authority Under RTI Act	
3. Jammu and Kashmir Media Policy-2020	
4. Inner-Line Permit (ILP) to Assam	
5. Decriminalization of Adultery	
6. Section 309 IPC	
7. Renaming India as 'Bharat	
8. Secrecy of Ballot	
9. Civil Services Board (CSB)	
10. Amendments in Postal Ballot System	
11. International Day of Parliamentarism	

12. United Nations Public Service Day
13. QS World University Rankings
14. Educational Complex For Tribal Students
15. Sahakar Mitra
16. Khelo India Centres
17. YUKTI 2.0
18. Queer Inclusion Policy
19. NIRF Rankings
20. India Tuberculosis Report 2020
21. Global Education Monitoring Report
22. Global Trends Report
23. World Day Against Child Labour
24. SATYABHAMA Portal
25. Payments Infrastructure Development Fund (PIDF)
26. Cooperative Banks Under RBI Supervision
27. World Food Prize 2020
28. Real Time Market for Electricity
29. Global Economic Prospects
30. Rising Fuel Price In India
31. Incentive Schemes For Pharmaceuticals And Electronics Industry
32. Ratings Downgrade
33. Ordinances For The Farming Sector
34. Philippines Suspends Abrogation of Defense Pact with US
35. Japan Renames Area Containing Senkaku Islands
36. Arrest Warrant for US President Trump
37. Statehood Bill for Washington D.C
38. Constitution of Nepal (Second Amendment) Bill 2077
39. Pakistan to Remain on FATF Grey List
40. Shwe project in Myanmar
41. Bill to Punish China over Crackdown on Uyghur Muslims
42. China Passes Hong Kong Security Law
43. India-China Border Clash
44. Kohala Hydropower Project

45. India Clears 'RELOS' Deal with Russia
46. India Elected to UNSC's Non-Permanent Member Seat
47. China to Join UN Arms Trade Treaty
48. SIPRI Report on India, China Nuclear Stockpile
49. Loan Agreements for Housing Sector in Tamil Nadu
50. RIC Virtual Meeting
51. Data Security Guidelines Issued by Kerala Government
52. India Beefing up Infrastructure along China Border
53. Captain Arjun
54. Naval Liaison Officers at Madagascar and Abu Dhabi
55. Rapid Antigen Detection Tests
56. RT-nPCR Test
57. A3i
58. Miscellaneous News Related To Covid
59. miR-155
60. International Albinism Awareness Day 2020
61. Recombinant DNA Technology
62. Ultra Swachh
63. Nature Index 2020
64. Axons
65. Light Detection and Ranging (LiDAR)
66. Sun's Coronal Heating
67. CSIR and Atal Innovation Mission (AIM) sign a Letter of Intent to Foster Innovation
68. Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H)
69. Quantum Satellite Micius
70. 163348 (2002 NN4)
71. THAAD
72. Digital Epidemiology
73. Global Partnership on Artificial Intelligence (GPAI)
74. Kala Azar Disease
75. Rechargeable Batteries
76. Maareech
77. Ionospheric Irregularities

78. Nanozymes
79. Extreme Helium Stars
80. Serotonin
81. Statistics Day
82. Sixth Mass Extinction
83. Oil Spill In Arctic Circle
84. Nagar Van Scheme
85. 'iCommit' Initiative
86. Healthy And Energy Efficient Buildings Initiative
87. Environment Performance Index 2020
88. State Of The Environment Report
89. Indian Bison or Gaur
90. Malabar Gliding Frog
91. Asiatic Lion
92. Scorpionfish
93. Monkey Park
94. Biodiversity Park
95. World Environment Day 2020
96. World Oceans Day 2020
97. Tropospheric Ozone
98. Money Laundering and the Illegal Wildlife Trade Report
99. Anthropause
100. Assessment of Climate Change over the Indian Region
101. Ancient Marine Algae - Coccolithophores
102. Macaws
103. Golden Langurs
104. Pangolin
105. Schizothorax Sikusirumensis
106. International Horseshoe Crab Day
107. World Day To Combat Desertification And Drought
108. Decarbonising Transport In India Project
109. SPIC MACAY



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

Universal Basic Income

- Thomas Paine, Napoleon, and Martin Luther King, Jr., don't have much in common at first glance. However, some policies have a habit of creating strange bedfellows, but none more so than the idea that governments should guarantee their citizens a minimum level of income. Not by creating jobs or providing traditional welfare, but by cutting cheques, for the same amount, to everyone.
- Universal basic income (UBI) is an old idea, but in recent years it has gained considerable momentum.
- Supporters of universal basic income (UBI), from global policymakers to Silicon Valley billionaires like Elon Musk, have long been arguing for this kind of support to address poverty, inequality, and unemployment in our societies.
- The coronavirus pandemic has brought even more urgency to the topic, as unemployment and financial hardship spread across the globe. Governments are urgently cobbling together unprecedented relief measures to lessen the economic and human suffering caused by the coronavirus pandemic.
- The Spanish government, for one, announced in April that it was planning to pay a basic monthly income to roughly a million of the country's neediest households to help them through the pandemic.

What is Universal Basic Income

- In its purest form, a basic income is an unconditional, periodic cash payment that the government makes to everyone. It has no strings attached, meaning it carries no requirements to work, attend school, receive vaccines, register for military service, or vote. It is a floor below which no one's cash income can fall.
- Different programs outline who exactly receives the income—some state that all citizens would get it regardless of what they make, while other programs may only give it to those who fall below the poverty line. Loosely, people are using UBI to talk about cash benefits that aren't conditioned on work.

History of UBI

- For much of human history, it was assumed that society would provide a basic standard of living for those who could not provide for themselves. Hunter-gatherer societies—the only kind around for nine-tenths of Homo sapiens' existence—were bound together not just by kinship networks, but by overlapping systems that followed the same logic
- Agriculture and urbanization reduced such networks down to the nuclear family or even the individual. The larger institutions that took their place i.e. church and state have left gaps. These shifts occurred over centuries, so it went unnoticed.

UBI and Monopoly

- Most people intuitively think that jobs lead to financial wealth, but the reality is that having money actually leads to jobs. Without the privilege of wealth, it is more difficult to build a life that makes landing a job easier.

- If one wants to contribute to the economy on an even greater scale and start a business, even more money is required.
- In the game Monopoly, everyone starts off with a little bit of money – without it, the game wouldn't work and no one would be able to become rich or successful. UBI is like Monopoly – everyone starts off with a little bit of money, and uses it to fuel a thriving economy.



Advantages of UBI

Fighting Technological Unemployment

- With advanced technology taking over more and more blue and white collar jobs, UBI would act as a sort of security net for the millions of people who will be left jobless by the tech revolution.
- Research shows that the longer one is unemployed, the longer it takes to find employment. If the jobless had a small source of income to help them back on their feet, they could find new jobs and start contributing to the economy sooner.

Ending Abuse

- Those who suffer domestic abuse, mainly women, become trapped in violent situations because they don't have the means to leave them. UBI would make leaving an abusive partner easier from a financial point of view, at least, and would unleash the working potential of countless people who are constrained - professionally, physically and emotionally - by domestic violence.

Supporting Unpaid Care Workers

- Those with ill or differently abled relatives are often forced to quit their jobs to care for them full-time. UBI would allow care-workers to support themselves, encouraging care work within the home and relieving pressure on public services that provide care to the sick and elderly.

Expanding The Middle Class

- The economic growth of high-income countries is making the rich richer, but having very little effect on the working classes. The research of economists Emmanuel Saez and Thomas Piketty showed that the bottom half of earners went from making 20 percent of overall income in 1979 to just 13 percent in 2014.
- The top 1 percent, on the other hand, have gone from making 11 percent to 20 percent. The pie has gotten vastly bigger, and the richest families have reaped bigger and bigger pieces from it'. UBI would help to balance this inequality and expand the ever-shrinking middle class.

Eliminating The Need For Social Security

- There exist countless governmental organisations responsible for helping those in poverty, handing out unemployment benefits, food stamps, subsidised housing, etc. UBI would cut a country's spending by eliminating these organisations.

Disadvantages of UBI

- **Inflation:** If everyone suddenly received a basic income, it would create inflation. Most would immediately spend the extra cash, driving up demand. Retailers would order more, and manufacturers would try to produce more. But if they couldn't increase supply, they would raise prices.
- Higher prices would soon make the basics unaffordable to those at the bottom of the income pyramid. In the long run, a guaranteed income would not raise their standard of living.
- **Motivation to work:** Many recipients might prefer to live on the free income rather than get a job and they would not acquire work skills. It could reduce an already-falling labor force participation rate.
- **Cost:** The cost of implementing UBI would be significantly high for any government across the world. The idea is that UBI would take pressure off health services and make social security institutions redundant, but this is nevertheless an enormous amount for a government to budget for.

Examples of UBI

United States

- Alaska has had a guaranteed income program since 1982. The Alaska Permanent Fund paid each resident an average of \$1,606 in 2019, all out of oil revenues. Almost three-fourths of recipients save it for emergencies.
- In 2017, the Hawaii state legislature passed a bill declaring that everyone is entitled to basic financial security. It directed the government to develop a solution, which may include a guaranteed income.

Canada

- A UBI trial in Manitoba, Canada conducted between 1974 and 1979, showed a modest reduction in workers, along with fewer hospitalisations and mental health diagnoses.
- Canada is also experimenting with a three-year universal income program. It is giving 4,000 Ontario residents living in poverty C\$17,000 a year or C\$24,000/couple. The government expects it will cost C\$50 million annually.

Iran

In 2010, the government of Iran ran a UBI trial, giving citizens transfers of 29 percent of the median income each month. Poverty and inequality were reduced, and there was no sign of large amounts of people leaving the labour market. In fact, people used it to invest in their businesses, encouraging the growth of small enterprises.

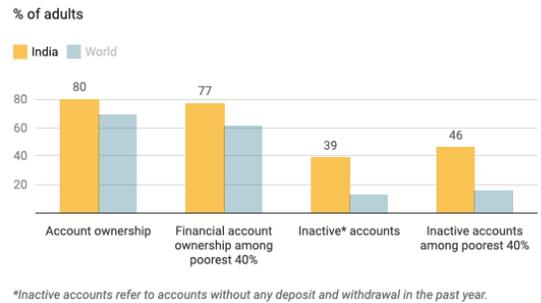
Kenya

- The largest and longest UBI experiment in the world is taking place in Kenya, where the charity GiveDirectly is making payments to more than 20,000 people spread out across 245 rural villages. As part of this randomized controlled trial, which started in 2016, recipients receive roughly 75 cents per adult per day, delivered monthly for 12 years.
- It can already be seen that cash transfers have stimulated the economy and benefited not only the recipients themselves but also people in nearby villages.

UBI in India

- Unlike developed countries, where UBI is being proposed to insulate citizens from the disruption of automation, developing countries view it as a measure to boost income and alleviate poverty.
- In India, the idea of a national UBI emerged with the 2016-17 Economic Survey. The survey laid out the blueprint for a ‘quasi’ UBI, proposing ₹7,620 per year to 75% of the population. In 2019 prices, this would cost the Indian government around 4.5% of GDP.
- The political will was nonetheless lukewarm because of the costs involved. Requirements to trim some of the existing subsidies to balance the resultant deficit were also difficult political minefields for the then government. So the proposition was finally shelved.
- The times now are very different. IMF has projected global growth in 2020 to be -3.0%, the worst since the Great Depression. India is projected to grow at 1.9%. Amid a consumption slump, several economists have called on the government to put money into people's hands.

Regular usage of bank accounts, the proposed platform for UBI payments, remains weak in India



Issues in India

Affordability

- But the challenge with universal basic income is the prohibitive costs associated with it. Providing all individuals with a poverty line-equivalent universal basic income (Rs 1,180 per month for each individual, in 2017-18 prices) would cost around Rs 19 trillion or 11.4% of gross domestic product (GDP).
- However, even much lower levels of universal basic income might suffice in improving the lives of the poor. For instance, between 2011 and 2012, a pilot project in the state of Madhya Pradesh was coordinated by the Self-Employed Women’s Association and funded by UNICEF.
- It showed that providing Rs 300 per month to each adult and Rs 150 to each child can make a big difference to the lives of the poor. Receiving a basic income led to improved sanitation, nutrition, and school attendance.
- In 2017-18 prices, it amounts to around Rs 18,000 per year for a family of five: two adults and three children.
- A similar amount, Rs 16,000 per year to a household of five, has been suggested by the renowned development economist Pranab Bardhan. Such a universal basic income support (universal basic income) would cost around Rs 4.3 trillion. Even such a scheme is feasible only if the centre trims current subsidy and welfare expenditure.

Implementation Issues

- Even if states and centres do find the finances, implementation is a challenge. For a start, identifying the poor in India has been a perennial problem. Programmes and subsidies designed for the poor often end up being disproportionately used by the rich.

- An increasingly popular solution is to use the data from the Socio-Economic Caste Census (SECC) to exclude obviously ineligible beneficiaries. But even this system is not fool-proof. SECC data, collected in 2011, is now old, also there are questions around its accuracy.
- Moreover, even if the poor are correctly identified, getting money into their hands can be difficult. Despite a national push to increase the coverage of bank accounts among the poor, usage of bank accounts remains weak.
- For instance, the World Bank's World Financial Survey found a big gap between account ownership and usage in India. Nearly 80% of adults owned an account in 2017 but almost half of these accounts were inactive (no deposit or withdrawal in the previous year). This gap is even higher for the poorest 40% of the population.
- These considerable fiscal and administrative challenges could explain why there have been only a handful of UBI experiments across the world.

The coronavirus pandemic may push governments to adopt some form of basic income, at least for a while. Should governments institute a basic income, even if it's for a short period of time, it may help answer questions about the effectiveness of such a program. Yet until the results of more research become available, a universal basic income will remain an uncertain but tantalizing prospect.

India-Australia Virtual Summit

Recently, PM Modi held his **first-ever 'virtual' bilateral summit** with his **Australian counterpart** Scott Morrison. The virtual summit was held as PM Morrison's visit to India could not take place amid the Covid-19 pandemic. The visit was first scheduled in January and was later postponed to May.

Key Highlights

- During the summit, both leaders reviewed the broad framework of the relationship between India and Australia in the context of growing bilateral ties.
- They also discussed their respective responses to the ongoing Covid-19 pandemic.
- **List of the documents Announced/Signed**
 - Joint Statement on a **Comprehensive Strategic Partnership**
 - Joint Declaration on a **Shared Vision for Maritime Cooperation in the Indo- Pacific**.
 - Framework Arrangement on Cyber and Cyber-Enabled Critical Technology Cooperation.
 - MOU on cooperation in the **field of mining and processing of Critical and Strategic minerals**.
 - Arrangement concerning **Mutual Logistics Support (MLSA)**.
 - Implementing Arrangement concerning cooperation in Defence Science and Technology to the **MoU on Defence Cooperation** (provides a framework for growing collaboration between the **defence science and technology research organisations** of both countries)
 - MoU on Co-operation in the field of Public Administration and Governance Reforms
 - MoU on Cooperation in Vocational Education and Training
 - MoU on Water Resources Management
- In order to strengthen India-Australia ties for the long term, both leaders committed to **elevate** the **bilateral Strategic Partnership concluded in 2009** to a **Comprehensive Strategic Partnership**.

Shared Vision for Maritime Cooperation in the Indo-Pacific

The Leaders decided on a Shared Vision for Maritime Cooperation in the Indo-Pacific region to harness opportunities and meet challenges together as Comprehensive Strategic Partners. Through the joint declaration, both nations:

- Expressed their commitment to **support a rules-based maritime order** that is based on respect for sovereignty and international law, particularly the United Nations Convention on the Law of the Sea (UNCLOS).
- Reiterated their **support to ASEAN centrality and unity**
- Decided to strengthen their coordination in regional and multilateral fora, such as the East Asia Summit, the ASEAN Regional Forum etc.
- Welcomed the **ASEAN Outlook on the Indo-Pacific**. *[For detailed discussion, please refer the topic ASEAN's Indo-Pacific outlook from June 2019 issue of CA magazine]*

- Expressed willingness to work closely to develop the **Indo-Pacific Oceans Initiative** (IPOI) announced by Indian PM Modi at the 14th East Asia Summit. [*For detail, please refer the topic “India proposes Indo-Pacific Oceans Initiative” from November 2019 issue of CA Magazine*]
- Proposed to deepen **navy-to-navy cooperation** and strengthen maritime domain awareness in the Indo-Pacific region through enhanced exchange of information.
- Committed to **protect the Indo-Pacific marine environment** and reducing the impact of marine pollution, particularly plastics, and climate change.

Comprehensive Strategic Partnership (CSP)

Under the CSP, both countries decided to work together in the areas of mutual cooperation as per the following:

- **Enhancing science, technology and research collaboration** - for saving lives and managing the economic impacts of COVID-19, and future global challenges.
- **Maritime cooperation for an Open and Inclusive Indo-Pacific**
- **Defence Cooperation** - Both sides agreed to increase military inter-operability through defence exercises through their Arrangement concerning Mutual Logistics Support (MLSA).
- **Regional and Multilateral cooperation**
- **Fight against Terrorism** (Australia had *co-sponsored UNSC resolution to declare Azhar Masood a global terrorist.*)
- **Economic cooperation** – By re-engaging on a bilateral Comprehensive Economic Cooperation Agreement (CECA). India and Australia jointly decided to explore the possibility of launching the Indian RuPay Card in Australia.
- **Innovation & Entrepreneurship** - by fostering collaboration between entrepreneurs, developing innovative products and promoting start-ups and incubation centres.
- Agriculture Cooperation and Water Resources Management
- Education, Culture, Tourism and People-to-people ties
- Parliamentary Cooperation
- **People to People Connections** - Both countries agreed to hold a senior-level Dialogue to discuss **India’s proposed draft Migration and Mobility Partnership Arrangement.**
- The agreement outlines ways to cooperate on the prevention of illegal migration, people smuggling and trafficking in human beings and is also designed to facilitate mobility of students, academics and researchers and migration for professional and economic reasons.
- **Support in UN and international bodies**
- **Energy and Environment**

Implementation of CSP (as proposed)

- By increasing the **frequency of Prime Ministerial contact** through reciprocal bilateral visits and annual meetings in the margins of international events. It will provide oversight to the CSP and deepen economic and strategic cooperation into the future.

- **Foreign and Defence Ministers will meet in a '2+2' format** to discuss strategic issues at least every two years
- Decided to continue their regular interactions under the **Foreign Ministers Framework Dialogue**
- Through commitment to enhance cooperation under the annual **Australia-India 'Energy Dialogue**
- By using the existing **'Consular Dialogue' Mechanism** to address the entire gamut of consular matters.
- By enhancing their partnership in the domain of education through the **Australia-India Education Council**.

Analysis

- The Joint Statement **upgrading ties to the level of a Comprehensive Strategic Partnership** covered everything from shared values to cooperation on COVID-19, supply chains, cyber security, defence science and technology, and reforming the World Trade Organisation.
- The **Mutual Logistics Support Agreement** was really significant: India has only a handful of these, notably with **France, Singapore, and the US**. It will dramatically increase the two countries' capacity to operate together.
- The commitments for **Foreign and Defence Ministers to now meet in a "2+2" setting** is also a welcome step.
- The **vision statement on maritime cooperation**, which aims to develop better links not just between their navies but also their coast guards, will enhance maritime security which in turn will increase India's image as a maritime power.
- It is essential to **leverage the growing strategic trust** between the two nations to increase defence industry and commercial cyber activity. The **announcement of a new fund to ramp up joint cyber and critical technology research** is significant in this regard.
- Australia's **advocacy of the Indo-Pacific concept** centrally embraces the importance of India to the region. The Indo-Pacific construct not only recognises India's growing economic and strategic weight, but also aims to support India's further integration into the regional architecture.
- Northeast Asian **demand for Australia's minerals and energy resources**, which has underpinned Australia's economic growth for decades, has **stagnated** in recent times. On the other hand, there is a huge demand of minerals and energy resources in India.
- In this context, **MoU for cooperation in the field of mining and processing of Critical and Strategic minerals** is significant for both the countries.

India – Australia Bilateral Relation: Key Highlights

- India and Australia have very warm and friendly relations, which have been expanding and growing steadily.
- As two democratic nations, India and Australia have developed an understanding of each other's perspectives on regional and global issues. They have a shared approach to a free, open, inclusive, and prosperous Indo-Pacific.

High Level Interactions

- Over the last year and a half, the current leaders of both the countries have met four times.
- Their **first meet was** in the year 2018, on the **sidelines of East Asia Summit** in Singapore, followed by the G20 in Osaka in June 2019, then during the G7 Summit in Biarritz in August 2019.
- The leaders last met during the East Asia Summit in Bangkok in November 2019.

Comprehensive Strategic Partnership

- The **Strategic Partnership** between the two countries was strengthened in 2014 - with the visit of Prime Minister Tony Abbott to India in September 2014, and the visit of PM Modi to Australia in November 2014.
- **Framework for Security Cooperation** between Australia and India signed in November 2014 during the visit of PM Modi to Australia laid the foundation for intensified foreign, defence and security policy exchanges between the two countries. Since then, regular meetings of the institutional dialogues have been taking place.
- India and Australia conduct their **bilateral naval exercise 'AUSINDEX'** since 2015. Both countries are member of **Quad Initiative**.

Economic Cooperation

- In 2018-19, the **trade between the two countries** was around **US\$ 21 billion**. Australia's cumulative investment in India is about US\$ 10.74 billion whereas India's total investment in Australia is US\$ 10.45 billion.
- Australian Super Pension Fund has invested US\$ 1 billion in India's National Investment and Infrastructure Fund. The two countries are looking at stepping up investments and trade with each other.

Support to India at Multilateral Forums

- Australia has supported India's global initiatives such as ISA, CDRI and Indo-Pacific Oceans' Initiative (IPOI).
- Australia supports India's membership of an expanded United Nations Security Council (UNSC).
- In the recent past, Australia supported our membership for Australia Group, and Wassenaar Arrangement and favours India's membership of NSG.

Conclusion

- Australia recognised India as the "**pre-eminent maritime power among Indian Ocean countries**" and a "**front-rank partner of Australia**", in its White Paper on Foreign Policy on 2017.
- This highlights the importance Australia attaches to India. Now is the best time to take this relationship to a new height.

MAINS Q&A

1. Recently elections for 19 Rajya Sabha seats were held. In this light discuss how elections to Rajya Sabha is different from the Lok Sabha poll? What are some of its distinguishing features?

Answer

The Upper House of Indian Parliament has been playing a pivotal role in India's much cherished parliamentary democracy, keeping the bicameral structure alive, setting new records and creating history since its inception. Recently election for 19 Rajya Sabha seats were held across eight states.

Elections to Rajya Sabha vis-a-vis Lok Sabha Poll

- **Indirect election:** The members of the Lok Sabha are elected by the common people in the country who are eligible to vote during the general elections. But members of the Rajya Sabha are elected indirectly by the elected representatives of the people in the assemblies of different states and union territories in the country. The Delhi and Puducherry Assemblies elect members to the Rajya Sabha to represent the two Union Territories.
- **Voting Process:** Voting is by **single transferable vote**, as the election is held on the **principle of proportional representation**. In other words, a bloc of MPs belonging to one or more parties can elect a member of their choice if they have the requisite numbers. This is to avoid the principle of majority, which would mean that only candidates put up by ruling parties in the respective States will be elected.
- **Eligibility:** The minimum age of eligibility to become a member of the Lok Sabha is 25 while it is 30 for the Rajya Sabha.

Distinguished Features Of Rajya Sabha Elections

- a) **Rajya Sabha poll do not have a secret ballot.**
- The Rajya Sabha polls have a **system of open ballot**, but it is a limited form of openness. As a measure to check rampant cross-voting, which was taken to mean that the vote had been purchased by corrupt means, the system of each party MLA showing his or her marked ballots to the party's authorized agent, before they are put into the ballot box, has been introduced.
 - Not showing the ballot to the authorized agent will also mean that the vote cannot be counted. And independent candidates are barred from showing their ballots to anyone.
- b) **NOTA (None Of The Above) Voting Option is not allowed in Rajya Sabha Polls**
- The Election Commission of India (ECI) issued two circulars, on January, 2014 and November, 2015, giving Rajya Sabha members the option to press the NOTA button in the Upper House polls.
 - However, in 2018, the Supreme Court of India struck down the provision, holding that the 'none of the above' option is only for general elections held on the basis of universal adult suffrage, and **cannot be applied to indirect elections based on proportional representation.**
- c) **Cross-voting will not attract disqualification**
- The Supreme Court, while declining to interfere with the open ballot system, ruled that **not voting for the party candidate will not attract disqualification under the anti-defection law.** As voters, MLAs retain their freedom to vote for a candidate of their choice.

- However, the Court observed that since the party would know who voted against its own candidate, it is free to take disciplinary action against the legislator concerned.

d) Legislator can vote without taking oath as a member of the Assembly

- While taking oath as a member is for anyone to function as a legislator, the Supreme Court has ruled that a **member can vote in a Rajya Sabha election even before taking oath as legislator**.
- It ruled that voting at the Rajya Sabha polls, being a **non-legislative activity**, can be performed without taking oath. A person becomes a member as soon as the list of elected members is notified by the ECI. Further, a **member can also propose a candidate before taking oath**.

Conclusion

Getting elected to the Rajya Sabha is no longer the cakewalk it used to be. The outcome in these elections depends on the dynamics within a party and external pressure exerted by competing parties. Also, Rajya Sabha seats are no longer the exclusive domain of career politicians. Increasingly, wealthy and ambitious individuals are vying for them too. Consequently, money and muscle power are playing a more significant role in these elections.

2. With hundreds of COVID-19 vaccines currently being developed across the world, the term vaccine nationalism is doing the rounds in public health circles. What is vaccine nationalism? Highlight the issues associated with vaccine nationalism.

Answer

Vaccine nationalism occurs when a country manages to secure doses of vaccine for its own citizens or residents before they are made available in other countries. This is done through pre-purchase agreements between a government and a vaccine manufacturer.

The United States has indicated on various occasions that it would like to secure priority access to doses of COVID-19 vaccine. Other countries, including India and Russia, have taken similar stances. Also, India, alongside the US and Russia, chose not to join the Access to COVID-19 Tools Accelerator, which was launched by the World Health Organization to promote collaboration among countries in the development and distribution of COVID-19 vaccines and treatments.

Earlier Instance Of Vaccine Nationalism

- Vaccine nationalism is not new. During the early stages of the 2009 H1N1 flu pandemic, some of the wealthiest countries entered into pre-purchase agreements with several pharmaceutical companies working on H1N1 vaccines.
- At that time, it was estimated that, in the best-case scenario, the maximum number of vaccine doses that could be produced globally was two billion. The US alone negotiated and obtained the right to buy 600,000 doses. All the countries that negotiated pre-purchase orders were developed economies.
- Only when the 2009 pandemic began to unwind and demand for a vaccine dropped did developed countries offer to donate vaccine doses to poorer economies.

Issues With Vaccine Nationalism

- Vaccine nationalism is **harmful for equitable access** to vaccines. It disadvantages countries with fewer resources and bargaining power and deprives populations in the Global South from timely access to vital public health goods.
- Taken to its extreme, it allocates vaccines to moderately at-risk populations in wealthy countries over populations at higher risk in developing economies. Without broad access to a vaccine, these

populations will likely continue to suffer more than others, leading to unnecessary disease burden, continued economic problems and potential loss of life.

- Vaccine nationalism also runs against the fundamental principles of vaccine development and global public health. With modern vaccines, there are very few instances in which a single country can claim to be the sole developer of a vaccine and most vaccine development projects involve several parties from multiple countries.
- Even if that were possible, global public health is borderless. As COVID-19 is illustrating, pathogens can travel the globe and public health responses to outbreaks, which include the deployment of vaccines, have to acknowledge that reality.

Conclusion

If used appropriately, pre-purchase agreements can be an incentive for companies to manufacture vaccines that otherwise would not be commercialised. Institutions like Gavi use similar mechanisms to guarantee vaccines for developing countries. However, it is important that contracts should not trump equitable access to global public health goods. Hence, developed countries should pledge to refrain from reserving vaccines for their populations during public health crises.

Equity entails both, affordability of vaccines and access opportunities for populations across the world, irrespective of geography and geopolitics. Thus, international institutions — including the WHO — should coordinate negotiations ahead of the next pandemic to produce a framework for equitable access to vaccines during public health crises.

3. The World Bank recently approved the STARS Program for the Indian education sector. How does the program aim to improve learning outcomes in India? Also highlight the issues with the program.

Answer

The World Bank has approved a new project named STARS (Strengthening Teaching-Learning and Results for States Program) worth \$500 million to **improve governance of government schools in six Indian states**. The project will be implemented through the **Samagra Shiksha Abhiyan**, the flagship central scheme, in partnership with **Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha and Rajasthan**. Some 250 million students (between the age of 6 and 17) in 1.5 million schools, and over 10 million teachers will benefit from the STARS program.

India has, over the years, made significant strides in improving access to education across the country between 2004-05 and 2018-19. However, learning outcomes across age groups remain below par. Hence, to address this aspect the program aims to deploy a series of reform initiatives, which include:

- a) Focusing more directly on the delivery of education services at the state, district and sub district levels by providing customized local-level solutions towards school improvement.
- b) Addressing demands from stakeholders, especially parents, for greater accountability and inclusion by producing better data to assess the quality of learning; giving special attention to students from vulnerable sections and delivering a curriculum that keeps pace with the rapidly evolving needs of the job market.
- c) Equipping teachers to manage this transformation by recognizing that teachers are central to achieving better learning outcomes.

- d) Investing more in developing India's human capital needs by strengthening foundational learning for children in classes 1 to 3 and preparing them with the cognitive, socio-behavioral and language skills to meet future labour market needs.

Issues with the STARS program

- The program fails to address the basic capacity issue of major vacancies across the education system. Without capable and motivated faculty, teacher education and training cannot be expected to improve.
- The program ignores that decentralising decision-making requires the devolution of funds and real decision-making power. It requires not just investment in the capacity of the front-line bureaucracy but also in increasing their discretionary powers while fostering social accountability.
- Further, trust, which implies listening and collaborating across different levels within the administration, is entirely ignored in the World Bank project. Instead, the Bank displays an over-reliance on Information and Communications Technology (ICT).
- It is based instead on the idea that a flawed system can be fixed merely through the injection of more and better technology. In fact, technology does not address most of the systemic or governance challenges; it simply by-passes them.
- Outsourcing basic governance functions by expanding private initiatives and reducing government tasks will not make education more relevant to local needs or democratically promote people's participation by empowering local authorities as stated in the project document.

Way Ahead

- An overburdened bureaucracy with vacancies & without basic equipment can't be expected to be effective. Thus, administration must be equipped with adequate physical, financial & human resources.
- Administrative or governance reforms must give greater discretion to the front-line bureaucracy to address local issues and innovate if required.
- Moreover, there needs to be trust within the administration among peers and across different levels within the administration, as the goal must not be to judge and punish but to improve, which will eventually lead to better learning outcomes and help students to be better prepared for the jobs of the future.

4. **Reliance Industries Limited recently concluded its rights issue, raising a total of Rs 53,124 crore and witnessing an oversubscription of 1.59 times or received applications worth over Rs 84,000 crore. What is a rights issue? Delineate its advantages and disadvantages along with the recent reforms undertaken by SEBI in the domain of rights issues.**

Answer

- A rights issues is a mechanism by which companies can raise additional capital from **existing shareholders**. The shareholders have the right to subscribe the shares in proportion to their existing holdings, in a pre-defined time period.
- For example, 1:2 rights issues signify that the existing shareholders of the company can purchase one extra share for every two shares already held.
- Also, a rights issue is a more democratic approach to raising funds as it allows the existing shareholders the right to invest first in the company. The new shares are generally issued at a discounted price than the prevailing rate in the market.

- Companies opt for the rights issue of shares to raise funds for expansion, launching new products, improving debt to equity ratio, paying off debt or for taking over another company.

Advantages

- It is one of the best ways to raise capital without incurring additional debt because instead of borrowing money from the banks and pay high-interest rates, it is quite a feasible option to raise funds from the existing shareholders.
- For a rights issue, there is no requirement of shareholders' meeting and an approval from the board of directors is sufficient and adequate. Therefore, the turnaround time for raising this capital is short.
- Further, the control of the company remains in the hands of the existing shareholders.
- The company saves a significant amount of money, such as underwriting fees, and advertisement costs.

Disadvantages

- The company may not be able to raise more funds and fail to achieve their target. This may happen if the existing shareholders of the company are not too keen to invest more.
- The value of each share may get diluted if there are an increased number of shares issued.
- If a well-established company is going for the rights issue of the shares, then it goes on to create a negative market sentiment. It is assumed that the company is struggling to run its business operations smoothly.

Reforms Undertaken by SEBI

The capital markets regulator, Securities and Exchange Board of India (SEBI), undertook certain reforms over the last one year that has made rights issue a more efficient process and has provided temporary relaxations to companies in order to ease raising of funds during the Covid pandemic.

A. Permanent Reforms

- SEBI has streamlined the rights issue process and the timelines for completion was significantly reduced by a 40 per cent cut in the time.
- It has also reduced the advance notice for the record date from 7 working days to three.
- It has also made it possible for eligible investors to subscribe and trade their rights entitlement (RE) and for interested investors to subscribe to more shares than they are eligible for

B. Temporary Relaxations

- SEBI has reduced the eligibility requirement of average market capitalisation of public shareholding from Rs 250 crore to Rs 100 crore for a fast track rights issuance.
- The regulator also reduced the minimum subscription requirement from 90 per cent to 75 per cent of the issue size.
- Also, listed entities raising funds upto Rs 25 crores (erstwhile limit was Rs 10 crores) through a rights issue are now not required to file draft offer document with SEBI.

In these troubled times when the overall economy is struggling and the banks have turned risk averse in lending loans, the measures undertaken by SEBI will help the companies to tap into this alternate source of funding, which can be used to improve their fiscal status along with providing them the leverage to boost operations and kick-start the subdued economy.

5. The Ministry of Civil Aviation has issued the draft set of Unmanned Aircraft System (UAS) Rules, 2020. Highlight the various provisions of the draft rules.

Answer

The Ministry of Civil Aviation has issued the draft set of Unmanned Aircraft System (UAS) Rules, 2020, for **importing, manufacturing and owning drones** as well as for drone ports, or airports for drones.

Currently drones are used for surveillance, photography and were recently allowed to curb the locust menace. Drones offer low-cost, safe and quick aerial surveys for data collection and are useful for industries such as power, mining, realty, oil and gas exploration, railways and highways. They are also effective in relief and rescue work and in policing.

However, so far there were no rules for UAS and they were covered by a section of the Aircraft Act. Now the entire spectrum of drones has been covered with the proposed new rules. The provisions of draft rules are -

Classification of Drones

- The draft rules have three categories of UAS: Remotely Piloted Aircraft System (RPAS); Model Remotely Piloted Aircraft System and Autonomous Unmanned Aircraft System.
- Unmanned Aircraft are further classified on the basis of maximum all-up-weight (including payload) as: nano (upto 250 gram); micro (250 gram to 2 kg); small: (2-25 kg); medium (25-150 kg) and large (over 150 kg).

Approval Of Drones

- Each drone importer, manufacturer, trader, owner and operator will need to take approval from the Directorate General of Civil Aviation (DGCA). An authorised manufacturer or importer can sell its devices only to an individual or entity approved by the aviation regulator DGCA.
- Only Nano class drones, which are less than 250 grams, will be allowed to operate in India in general, and only a qualified remote pilot will be permitted to operate heavier drones.
- A “Certificate of Manufacture” for drones will be issued by testing laboratories or organisations approved by the DGCA for both made in India or imported drones. Drones weighing over 300 kilograms will only need to apply for this certificate.
- However, no drone in India will be allowed to fly without a Unique Identification Number (UIN).

Owning And Using Drones

- For owning and using a drone, one has to be at least 18 years old. In the case of companies, the requirement is that their main place of business has to be in India and the chairman and at least two thirds of directors have to be Indian citizens.
- Also, businesses operating drones have to be substantially owned and effectively controlled by Indian nationals.
- The Ministry has also made it mandatory for all the operators to insure their drones via third-party drone insurance companies. This will cover the liability that may arise in case of accidents.

Drone Ports

- The rules also propose setting up of drone ports which will be similar to airports. For using these ports, drone operators will have to take necessary permissions for the arrival, departure, surface movement and associated maintenance or commercial activities of drones.
- Interestingly, government drone operators don't need any approval from DGCA for using the ports.

Carriage Of Payload

- The draft has prohibited carriage of payload and dropping of articles by unmanned aerial vehicles, except specified by the director-general.
- This means that the plans for facilitating deliveries of hyperlocal delivery service providers Dunzo, Swiggy will have to wait.

Miscellaneous Provisions

- The draft has set up a maximum speed limit for drones at 15 metres/second. Further, the drones are only allowed to fly at a maximum height of 15 meters and within the range of 100 meters from the remote pilot.
- The Ministry has allowed the drone operators to capture images in permissible areas while ensuring that there is no breach of privacy of individuals or their property.

Way Ahead

- The regulators and the industry need to keep working hand-in-hand to operationalise these rules and regularise drone activity in India as soon as possible.
- Keeping safety and security concerns in mind, the rules once finalised will progressively pave the way for the creation of a new industry in the country, along with improvising many business processes including the use of drones in e-commerce.

Extra Mile

- The rules come at a time when DGCA has permitted food startups like Zomato and Swiggy to conduct trials for drones beyond the visual line of sight (BVLOS). BVLOS flights are flown beyond the visual range.
- As many as 13 consortia, including SpiceJet, have received permissions for these trials. The trials for these 13 companies could take up to six months to conclude.
- Each of these companies will then submit a report to the DGCA, which will then examine the feasibility of remote operations of drones.
- It is likely that a separate set of rules which will enable use of drones for e-commerce or delivering medical supplies may be drafted.
- Meanwhile, DGCA is expected to come up with an Unmanned Aircraft Traffic Management System, which will work towards the prevention of drone collision.

6. The United States has recently initiated investigation into digital service taxes adopted by India. Throwing light on the issue, discuss how India can defend and justify the said tax.**Answer**

Recently United States has initiated investigation into digital services taxes (DST) that have been either adopted or are being considered by 10 of its trading partners including India that could invite punitive tariff sanctions.

The investigation will be conducted by the United States Trade Representative (USTR) under **Section 301** of its Trade Act that empowers it to respond to a foreign country's action considered unfair or discriminatory and which negatively affects US trade. Adopted in 1974, section 301 allows the US President to impose tariffs or other curbs on foreign nations.

Background

- Some of the world's largest digital companies (Netflix, Airbnb, Uber, LinkedIn, Spotify) are based out of the US and the profits that these businesses earn are primarily taxed in the US. This is something which is not being liked by the countries who are major consumer of these services as they are not benefited out these in terms of revenue.
- However, changes to rules on allocation of taxing rights between source and market jurisdictions mean that the US would get to enjoy a much smaller part of the tax pie.
- Such is the salience of the issue that the Organisation for Economic Cooperation and Development (OECD) put digital economy taxation first on its agenda in the 15-point base erosion and profit shifting (BEPS) project in 2013 to revamp international tax rules.
- While the BEPS project did come up with key proposals pertaining to how multinational corporations should be taxed, the OECD failed to reach consensus on how taxing rights should be better allocated in an increasingly digitised economy.
- The absence of a multilateral solution to a rather complicated problem of allocation of taxing rights in a digitised economy led several countries in the EU (and elsewhere) to introduce digital services taxes.

Indian Tax Under Investigation

- In the Indian context, the USTR is seeking to investigate the **2 % equalisation levy** that applies to revenues of e-commerce suppliers and service providers from April 1 2020. The tax applies only to non-resident companies with annual revenues over \$267,000, and covers online sales of goods & services to, or aimed at, persons in India.
- **Significant Economic Presence (SEP):** The government had introduced the concept of SEP in line with its plan to tax digital companies in the **Finance Act, 2018**. SEP was defined to mean, among other things, systematic and continuous soliciting of business activities or engaging in interaction with such number of users as may be prescribed in India through digital means. This provision was earlier proposed to be effective from assessment year 2021-22, but has now been deferred to 2022-23.
- India was the first country in the world to introduce a 6 per cent equalisation levy in 2016, but the levy was restricted only to transactions involving online advertisements or provision of digital advertising space by foreign companies to Indian residents.
- The 2020 levy, however, is much broader in scope and involves all kinds of online transactions.

Concerns

- With the progressive weakening of the WTO, it is likely that America will continue to adopt the unilateral route for such investigations and tariffs, paying scant regard to multilateral trade regulations.
- In India's case, it could potentially affect the outcome of a bilateral trade deal that the Indian government has been looking to forge with the US.

India's Stand

- No matter what the US government says, there are strong reasons to support India's right to tax digital businesses in the way it has sought to.
- India seems to be within WTO rights to impose this DST, as it does not violate its commitments under the services agreement under the organisation.
- Further, justification for the tax flows from the fact that digital businesses routinely interact with the users located in the Indian market to earn revenues and create value.

- Besides, the Indian government allows foreign digital businesses to use the country's infrastructure, including a stable legal and economic system, and offers protection of intellectual property rights.

Way Ahead

- India is not alone in this digital tax war that the US has sparked. Several countries in the European Union, including **Italy, France, and the UK**, have sent strong messages to the US government that an update of archaic international tax rules is much overdue to account for the digitised economy.
- All these nations can come together and prevent the US government from having a free ground on the issue of digital economy taxation.
- Further, all countries should work on the OECD Inclusive Framework, which involves 137 jurisdictions, to come up with a permanent multilateral solution for the problems associated with the digital economy.

What is GAFA Tax

Introduced by France, the **Gafa tax** – an acronym for Google, Apple, Facebook and Amazon – will impose a **3% levy on the total annual revenues** of the largest technology firms providing services to French consumers.

7. **H-1B visa programme is increasingly becoming a cheap labor program through which companies are replacing Americans with people hired from abroad. Critically discuss.**

Answer

- H-1B visa is an **employment-based, non-immigrant visa** category for temporary workers. It was launched in 1990 to help American firms **deal with labor shortages** in rapidly growing fields that demand specialized skills.
- However, over a period of time, some companies have started to exploit the loopholes to hire large numbers of workers and drive down wages. As a result, critics are demanding to scrap this programme.

Misuse of H-1B visa Programme

- A **giant loophole** makes companies paying \$60,000 and above per employee – or hiring employees with master's degrees – **exempt from the rule of paying their workers the prevailing wage** and not replacing American workers.
- Businesses and outsourcing companies are exploiting this to **place immigrants in technology jobs in the United States**. The layoffs at Walt Disney and at other companies have highlighted this.
- Studies have found that H-1B workers are **paid significantly less** than U.S. workers. Hence, not only this programme is **used as a source of cheap labour**, but by increasing the supply of cheap labour it **brings wage depression** in the labour market.
- Employers are supposed to recruit Americans before they petition for an H-1B worker. However, under the law, they are not required to prove that they tried to find an American to fill the job first.
- Overall, according to the critics, H-1B visa programme has resulted into phenomenon like **Outsourcing, Unemployment of US workers, and Wage depression**.

Scrapping: Not A Solution

In light of the above misuses, US President Donald Trump has temporarily suspended H-1B and L visas, used by technology professionals. But that is not the solution because -

- Temporary workers on these visas actually **end up creating more jobs** for American-born workers.
- According to a report by NASSCOM, Indian tech companies in the U.S. **paid \$22 billion in taxes from 2011 to 2015**, which is a significant contribution to US economy.
- Indian temporary workers on the H-1B and L1 visas alone **contribute \$3 billion in social security funds annually**, even though many do not stay long enough to benefit from it.
- It is estimated that the **growth of American economy will be adequately supported** by the presence of temporary workers.

Conclusion

- Aside from being the only way to attract the best talent in the world, the H-1B visa also helps in American economic growth and preserving the culture of innovation. Hence, **scrapping the programme is not a solution**.
- US policymakers need to reform this programme by fixing the existing loopholes. Companies abusing the provisions **must be made accountable**.
- Then only the programme will be able to create an environment in which the foreign workers **complement the U.S. workforce - rather than taking over**.

Extra Mile

Key Highlights Of Trump’s Decision

- The new order suspends non-immigration visas like the H1B, L1, H2A and J1 till 31st December.
H-2B visa - for short-term seasonal workers;
J-1 visa - for short-term workers including camp counselors;
L-1 visa - for internal company transfers
- Students who are pursuing science, technology, engineering and mathematics (STEM) degrees in US Universities have been spared.
- They can take up the **Optional Practical Training (OPT)** program which allows students to work in the US for 12 months after graduating.

Reasons Behind This Suspension

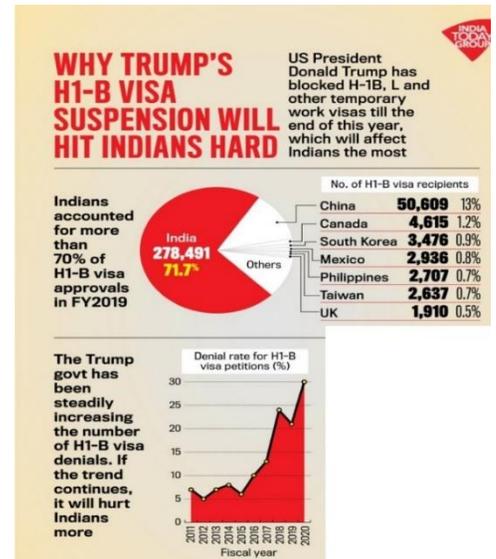
- US is facing an economic crisis as the Covid-19 triggered lockdown has led to **record unemployment levels** in the country. Over 45 million people have filed for unemployment claims since March 2020.
- Also, Trump had won the first term on the **back of anti-immigration rhetoric**. Now he is seeking a second term. Hence, he is highlighting the issue by taking actions.

What is H-1B Visa

- The H1-B visa is a **non-immigrant visa** given by the United States to employ **skilled workers from other countries** for various specialised fields of occupation for a certain period of time. Basically, it is an **employment-based and non-immigrant** visa category for temporary workers.

Background of H-1B Visa Program:

- The H-1B visa program was **launched in 1990**, when President George H.W. Bush signed the "Immigration Act of 1990."



- It is intended to help American firms deal with labor shortages in rapidly growing fields that demand specialized skills, such as research, engineering and computer programming.
- Each application or "petition" is submitted by a sponsoring company that foots the bill on behalf of a candidate it seeks to employ.
- The program has an **annual cap of 65,000**, and an **additional 20,000 visas** are granted to employees **with master's degrees from American universities**. If the number of applications exceeds the cap, the government **conducts a "lottery"** to decide who gets to stay.
- There are provisions in place to make sure **employers are paying their workers the prevailing wage** and not replacing American workers. However, a giant loophole makes companies paying \$60,000 and above per employee – or hiring employees with master's degrees – exempt from this rule.

Previous Changes Made To The H-1B Programme By The Trump Administration

- Increased the H-1B visa fees
- The immigration agency in the US is conducting **more severe background checks** for H-1B workers, scrutinizing firms that hire large number of H-1B employees and has also started delaying and denying visas to more applicants.
- Mandatory electronic pre-registration with the USCIS for the annual visa lottery
- USA will now require most individuals applying for visas to **provide details of their social media handles going back five years**. This step has been taken to increase surveillance of those seeking to enter the United States.

8. With the creation of Indian National Space Promotion and Authorisation Centre, India opens the door for enhanced private sector participation in space. Discuss the importance of private sector's participation in space. Also mention the concerns associated with it.

Answer

The government has approved the creation of a new body, Indian National Space Promotion and Authorisation Centre (IN-SPACe), that will work towards a greater involvement of private industry, academic institutions and research organisations in India's space sector. The proposed body will act as **a single-point interface** between Indian Space Research Organisation (ISRO), and everyone who wants to participate in space-related activities, or use India's space resources.

India is among a select group of countries that have advanced space capabilities. The government's move to **open the space sector to private players is aimed at long-time technological, economic and industrial gains**. The importance of private sector's participation in space includes-

- a) **Global Reach:** Indian industry accounts for a mere 3% in the rising \$360-billion global space market. Rockets and satellite launch accounts for just 2% of it. There is a need for greater dissemination of space technologies, better utilisation of space resources, and increased requirement of space-based services. Since, ISRO seems unable to satisfy this need on its own, the entry of the private sector can bring several advantages in terms of increasing global presence and reach.
- b) **ISRO To Focus on Core Areas:**

ISRO alone can't cater to the rising demand for space-based applications and services within India. Almost every sector, starting from agriculture to transport, weather department and even urban

development, to name a few, now wants satellite data and imageries and space technology to draw their future strategy and grow business.

Further, ISRO, like NASA, is essentially a scientific organisation whose main objective is exploration of space and carrying out scientific missions such as Solar Mission, Moon Mission, a human spaceflight etc. But right now, too much of ISRO's resources is consumed by routine activities that delay its more strategic objectives. The private industry will **free up ISRO** to concentrate on science, research and development, interplanetary exploration and strategic space and military launches.

- c) **Increase In Revenue:** The space-based economy is expected to “explode” in next few years, even in India, and there would be increased revenue with the increasing involvement of the private sector. In addition, ISRO can earn some money by making its facilities and data available to private players.
- d) **Development of Ancillary Industries:** The offloading of operational tasks to industry consortiums, would create more business for local companies and thereby, encourage more players to undertake space activities. They would now have an incentive to develop space now, given the presence of ISRO as an assured customer.
- e) **More Launches Per Year:** Currently, the ISRO is undertaking only two or three major launches a year using the workhorse PSLV. This is too few considering the potential that is there with the Indian space sector. The private sector can be encouraged initially to use ISRO facilities for launch, and then assisted to build their own launch facilities. India would then be able to undertake **12 to 15 launches or more a year.**
- f) **Increase in employment:** Private companies and startups will have an opportunity to enhance their capabilities. It will boost employment generation & enhance overall efficiency and decision-making.

Concerns

- a) **Lack of resources:** Indian private companies lack resources and technology to handle independent space programmes the way companies like SpaceX in the US have been doing in providing space-based services. So far, their roles have been **limited mainly to supply components and subsystems.**
- b) **Issue of Intellectual Property:** The private sector is particularly concerned about issues such as sharing intellectual property for products developed by it.
- c) **Issue Of Data Security:** Government will ease geo-spatial data policy to make such remote-sensing data more widely available to tech entrepreneurs. This is a **sensitive area as there is a danger of misuse of information.**

Suggestions

- ISRO can accelerate private players into being globally competitive by **sharing any cutting edge technology that it now has for more resources to develop.** This would be a giant step for the ecosystem where the industry transitions from being suppliers to partners to the space agency.
- ISRO should **provide its facilities to private players and support** their space-related projects, which are approved by IN-SPACe.
- **IP-centric policymaking has to be taken for real reform.** This will integrate India's private sector into the global supply chain.
- **Implementation is key.** Properly executing these reforms will require enabling policies and appropriate regulatory frameworks.

Conclusion

Today so many private companies across the world are engaged with space activities like launching weather and communication satellites. In the US, private space companies like SpaceX are working in tandem with NASA. **SpaceX recently** made history by becoming the first private company to launch humans into orbit, sending astronauts to the International Space Station (ISS).

In India, it is not that there is no private industry involvement in India's space sector. In fact, a **large part of manufacturing and fabrication of rockets and satellites now happens in the private sector**. There is an increasing participation of research institutions as well. However, private participation is still very low. India can gain significantly if ISRO and the country's private space sector can cooperate effectively and synergistically. The new reforms will inject new energy into the sector so that it can leapfrog into the next stages of space activities.

Extra Mile

More About Indian National Space Promotion and Authorisation Centre

- The **overall idea behind its creation was to let ISRO concentrate on essential activities** like research and development, planetary exploration, and strategic use of space, while freeing itself from ancillary or routine work which could easily be done by private industry.
- Through policies and good regulatory practices, IN-SPACe, in consultation with ISRO, will also **guide and promote the private companies in their endeavour in space activities after assessing their needs and demands**.
- **Significance:**
 - Enhance the socio-economic use of space assets and activities, including access to space assets data and activities
 - Result in the space industry seeing a large boom in participation of private players, like the power and telecom sectors.
 - Provide a level playing field for private participants to use Indian space infrastructure and guide them in space activities through encouraging policies and friendly regulatory environments
 - Help Indian companies take up a bigger chunk of the global space market and also generate many more high skilled jobs within the country.

New Space India Limited (NSIL)

- New Space India Limited (NSIL), **incorporated in 2019** (under the Companies Act, 2013) is a wholly owned Government of India company, under the administrative control of **Department of Space (DOS)**.
- NSIL is the **commercial arm of ISRO** with the primary responsibility of enabling Indian industries to take up **high technology space related activities** and is also responsible for promotion and commercial exploitation of the products and services emanating from the Indian space programme.
- Activities of NSIL will now be **extended from a 'supply driven' model to a 'demand driven' model** thereby ensuring maximum utilisation of space assets. Much of the work NSIL does will also need to be routed through IN-SPACe now.

9. What is NASA's Gateway lunar orbiting outpost and discuss its significance. Also briefly discuss about ISS and contrast it with Gateway?

Answer

NASA has recently finalised the contract for the **initial crew module** of the agency's Gateway lunar orbiting outpost. The Gateway is a **small spaceship** that will **orbit the Moon**, meant for astronaut missions to the Moon and **later, for expeditions to Mars**. The spaceship will have temporary **living quarters for astronauts, laboratories** for science and research and **docking ports** for visiting spacecraft. One of the most **unique features** of the Gateway is that it can be **moved to other orbits around the Moon** to conduct more research. While the project is **led by NASA**, the Gateway is meant to be **developed, serviced, and utilized in collaboration** with commercial and international partners: **Canada (CSA), Europe (ESA), and Japan (JAXA)**.

NASA has issued this contract to design the **HAbitation And LOgistics (HALO) support** for the Gateway, which is a part of **NASA's Artemis program** that aims to send the first woman and the **next man to the Moon by 2024**. The HALO refers to the **pressurised living quarters** where **astronauts** will **spend their time** while visiting the Gateway. These quarters will be about the **size of a small apartment** and will provide **augmented life support in tandem with NASA's Orion spacecraft**. NASA has targeted the **completion of the Gateway for 2026**, while work on the spaceship is already underway.

Significance

- It will **act as an airport**, where **spacecraft** bound for the **lunar surface of Mars** can **refuel or replace parts and resupply things** like **food** and **oxygen**, allowing astronauts to **take multiple trips** to the Lunar surface and exploration of new locations across the Moon.
- By **studying the geology** of the **Earth, the Moon, and Mars** – the three planetary bodies and the ways in which they are similar and different from each other, it would give an insight about how planets and planetary systems form.
- Significantly, Gateway would work as a **science platform to look back at the Earth**, observe the Sun, and get **unobstructed** views of the **vast universe**.

About International Space Station (ISS)

- The ISS is a **modular space station (habitable largest artificial satellite) in low Earth orbit**, located about 400 km from the earth. It is visible to the naked eye from Earth's surface.
- It is a multi-national collaborative project between five participating space agencies: **NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada)**. The ownership and use of the space station is established by intergovernmental treaties and agreements.
- The ISS **serves as a microgravity and space environment research laboratory** in which scientific experiments are conducted in astrobiology, astronomy, meteorology, physics, and other fields.
- The station is **suited for testing the spacecraft systems** and equipment required for possible future long-duration missions to the Moon and Mars.

Comparison Between Gateway Lunar Orbiting Outpost And The ISS

- Astronauts will use the Gateway **at least once per year** and **not stay around the year** like they do on the **International Space Station (ISS)**.
- Compared to the ISS, the **Gateway is much smaller** (the **size of a studio apartment**), while the **ISS** is about the size of a **six-bedroom house**.

- Once docked to the Gateway, **astronauts** will be able to **stay** there for **three months at a time**, **conduct science experiments and take trips to the surface of the Moon.**

The Gateway will provide new opportunities in lunar orbit to provide the foundation for human exploration deeper into the solar system. It also makes way for more private partnership in Space Exploration.

Extra mile

Artemis Program

- The Artemis program is an **ongoing government-funded crewed spaceflight** program that has the **goal of landing "the first woman and the next man" on the Moon, specifically at the lunar South Pole region by 2024.**
- The program is **carried out predominantly by NASA**, U.S. commercial spaceflight companies contracted by NASA, and **international partners** such as the **European Space Agency (ESA)**, the **Japan Aerospace Exploration Agency (JAXA)**, **Canadian Space Agency (CSA)** and the **Australian Space Agency (ASA).**

Orion Spacecraft

- **Orion (officially Orion Multi-Purpose Crew Vehicle or Orion MPCV)** is a class of **partially reusable space capsules** to be used in **NASA's human spaceflight programs.**
- The spacecraft consists of a **Crew Module (CM)** manufactured by Lockheed Martin and the **European Service Module (ESM)** manufactured by Airbus Defence and Space.
- **Capable** of supporting a **crew of six beyond low Earth orbit**, Orion can last up to **21 days undocked** and **up to six months docked.**
- It is **designed to take astronauts to deep space destinations** such as the **Moon and Mars.**

PRELIMS MCQS**1. Consider the following statements about Ninth Schedule of the Constitution**

1. The first amendment to the Indian Constitution added the Ninth Schedule to it.
2. It contains a list of central and state laws which cannot be challenged in courts.

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:

- Recently a Union minister reiterated his demand to include all reservation-related laws in the Ninth Schedule of Constitution so that they are shielded from judicial review.
- The demand came after Supreme Court ruled that reservation in matter of promotions in public posts was not a fundamental right, and that a state cannot be compelled to offer quota if it chooses not to.

Ninth Schedule of the Constitution

- The Ninth Schedule contains a **list of central and state laws which cannot be challenged in courts. Currently, 284 such laws are shielded from judicial review.**
- The Schedule **became a part of the Constitution in 1951, when the document was amended for the first time.** It was created by the new Article 31B, which along with 31A was brought in by the government to protect laws related to agrarian reform and for abolishing the Zamindari system. While Article 31A extends protection to 'classes' of laws, Article 31B shields specific laws or enactments.
- The First Amendment added 13 laws to the Schedule. Subsequent amendments in 1955, 1964, 1971, 1974, 1975, 1976, 1984, 1990, 1994, and 1999 have taken the number of protected laws to 284.
- **Article 31B also has retrospective operation:** meaning if laws are inserted in the Ninth Schedule after they are declared unconstitutional, they are considered to have been in the Schedule since their commencement, and thus valid.
- Although Article 31B excludes judicial review, the apex court has said in the past that even laws under the Ninth Schedule would be open to scrutiny if they have been added to 9th Schedule **post keshavanand Bharati judgement** on ground of violating basic structure.
- While most of the laws protected under the Schedule concern agriculture/land issues, the list includes other subjects, such as reservation. **A Tamil Nadu law that provides 69 per cent reservation in the state is part of the Schedule.**

2. "Rule of Law Index" recently in news was released by which of the following?

- | | |
|-----------------------------------|---|
| a) International Court of Justice | b) World Justice Project |
| c) International Law Commission | d) Permanent Court of International Justice |

Answer: B

Explanation

- Recently the Supreme Court refused to entertain a plea seeking a direction to the Centre, states and UTs to **set up expert committees to improve India's "pathetic" 69th global ranking** on the Rule of Law Index (RLI).
- The petition said that **India has never been ranked even among top 50 in the Index**, but successive governments did nothing to improve international ranking of India.
- The Supreme Court asked the government to treat the petition, as a "representation" and **decide the issue within six months**.

About Rule of Law Index (RLI)

- Rule of Law Index is the world's leading source for original, independent data on the rule of law. It is released by the **World Justice Project (WJP)** which is an independent, multidisciplinary organization working to advance the rule of law worldwide.
- **Covering 128 countries and jurisdictions**, the Index relies on more than 130,000 household surveys and 4,000 legal practitioner and experts around the world.
- It measures countries' **rule of law performance across eight factors**: Constraints on Government Powers, Absence of Corruption, Open Government, Fundamental Rights, Order and Security, Regulatory Enforcement, Civil Justice, and Criminal Justice.'

3. Consider the following statements about the language of the judiciary and texts of laws

1. **Until Parliament provides otherwise, all proceedings in the Supreme Court shall be in English language only.**
2. **Governor of a state, with the previous consent of the President, can authorize the use of Hindi with respect to the judgements and decrees passed by the high court of the state.**

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:

- A petition has been filed in the Supreme Court (SC) **challenging the Haryana Official language (Amendment) Act of 2020** which enforce **Hindi as official language in all subordinate courts and tribunals** across the state.
- However, the SC refused to interfere with the decision of Haryana government and said that **there is nothing wrong in Hindi as the official language of subordinate courts in some states**. Even, during the British Rule, the recording of evidence was done in vernacular language and it is fair for the state to bring such law.
- The petitioner said that it would be difficult for lawyers and multinational companies to argue their cases in Hindi in Haryana courts. To this, the bench said that the **law under question does not exclude English language** and it can be used with the permission of court.

Language of The Judiciary And Texts Of Laws

The constitutional provisions dealing with the language of the courts and legislation are as follows:

1. Until Parliament provides otherwise, the following are to be in the English language only:
 - a) All proceedings in the Supreme Court and in every high court.
 - b) The authoritative texts of all bills, acts, ordinances, orders, rules, regulations and bye-laws at the Central and state levels.
 2. However, the Governor of a state, with the previous consent of the President, can authorize the use of Hindi or any other official language of the state, in the proceedings in the high court of the state, **but not with respect to the judgements, decrees and orders passed by it**. In other words, the judgements, decrees and orders of the high court must continue to be in English only (until Parliament otherwise provides).
 3. Similarly, a state legislature can prescribe the use of any language (other than English) with respect to bills, acts, ordinances, orders, rules, regulations or bye-laws, but a translation of the same in the English language is to be published.
-
4. **Article 371-A of the constitution makes special provisions for which of the following states?**
 - a) Nagaland
 - b) Assam
 - c) Manipur
 - d) Andhra Pradesh

Answer: A

Explanation:

- In a letter to Chief Minister, the Nagaland Governor said, the constitutionally established State government is being challenged on a day-to-day basis by over half a dozen organised armed gangs, brazenly running their respective so-called governments, challenging the legitimacy of the state government and thus creating a crisis of confidence in the system.
- The gangs **operate check gates at entry points to the state and levy an illegal tax** on all goods entering Nagaland “with full knowledge of the state law and order machinery”.
- The Governor said he could no longer abstain from constitutional obligations and propose that under **Article 371A (1) (b) of the Constitution, important functions like “transfer and posting of officials”** entrusted with maintenance of law and order of and above the district level will be with the approval of the Governor.

About Article 371-A

Article 371-A makes the following special provisions for Nagaland:

1. (a) The Acts of Parliament relating to the following matters would not apply to Nagaland unless the State Legislative Assembly so decides:
 - i) religious or social practices of the Nagas;
 - ii) Naga customary law and procedure;
 - iii) administration of civil and criminal justice involving decisions according to Naga customary law; and
 - iv) ownership and transfer of land and its resources.
- (b) The **Governor of Nagaland shall have special responsibility for law and order in the state** so long as internal disturbances caused by the hostile Nagas continue. In the discharge of this responsibility, the Governor, after consulting the Council of Ministers, exercises his individual

judgement and his decision is final. This special responsibility of the Governor shall cease when the President so directs.

- (c) The Governor has to ensure that the money provided by the Central Government for any specific purpose is included in the demand for a grant relating to that purpose and not in any other demand moved in the State Legislative Assembly.
- (d) **A regional council consisting of 35 members** should be **established for the Tuensang district** of the state. The Governor should make rules for the composition of the council, manner of choosing its members, their qualifications, term, salaries and allowances, the procedure and conduct of business of the council, the appointment of officers and staff of the council and their service conditions; and any other matter relating to the constitution and proper functioning of the council.

5. The Urban Learning Internship Programme (TULIP) is an initiative of:

- 1. All India Council of Technical Education**
- 2. Ministry of Housing and Urban Affairs**
- 3. Ministry of Skill Development and Entrepreneurship**
- 4. Ministry of Commerce and Industry**

Which of the statements given above is/are incorrect?

- | | |
|-----------------|-----------------|
| a) 1 only | b) 3 only |
| c) 1 and 2 only | d) 3 and 4 only |

Answer: C

Explanation:

- The All India Council of Technical Education (AICTE) and Ministry of State for Housing and Urban Affairs have collaboratively released The Urban Learning Internship Programme (TULIP). It aims to provide **one crore internships till 2025**.
- Technical support for the platform shall be anchored by AICTE and the programmatic non-technical support shall be anchored by MoHUA.
- Applicants must be Indian citizens who have completed their final year of college **within the last 18 months**. Internship durations can range from **eight weeks to one year**.
- Interns will work with **urban local bodies** as well as **established government programmes**, including the Swachh Bharat and Smart City plan among others.
- City administrations can register available opportunities on the portal, ranging from positions in urban planning or water supply and waste management to slum improvement and digital governance.
- The programme **does not have any budget of its own**, but the 100 smart cities and 4,400 urban local bodies can use the administrative expenses allocated by the Centre to pay stipends or perks, if they wish to.
- State Governments/Union Territories are also urged to explore scaling up TULIP to parastatal agencies/ State Financial intermediaries and other organizations/ agencies related to urban development in their respective jurisdictions. Since the technology platform for TULIP is open, scalable and federated, such additions would be very easily possible.

Benefits

- TULIP will further Government's endeavours to boost community partnership and **government-academia-industry-civil society linkages**. Thus, it would help to fulfill the goal of providing interns with hands-on learning experience.
- It would help enhance the value-to-market of India's graduates and help create a potential talent pool in diverse fields, thus not only catalyzing creation of prospective city managers but also talented private/non-government sector professionals.
- It would also benefit ULBs and smart cities immensely by leading to infusion of fresh ideas and energy with engagement of youth in co-creation of solutions for solving India's urban challenges.

6. Consider the following statements about Garib Kalyan Rozgar Abhiyaan (GKRA):

1. **GKRA will be implemented in all the states of the country.**
2. **Ministry of Labour and Employment will be the nodal ministry for GKRA.**

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:

- The Prime Minister recently launched the Garib Kalyan Rozgar Abhiyaan, a skill-based employment scheme aimed primarily at migrant workers who have returned to their villages to escape the Covid lockdown distress.
- A total of 116 districts (including 27 aspirational districts) across **Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Jharkhand and Odisha** have been chosen for the campaign.
- The jobs selected in the campaign will enable proper utilisation of the strength and skill of the people and will enable the country to convert Covid crisis into an opportunity.

Institutional set-up

- **The Ministry of Rural Development** is the nodal Ministry for the campaign and the campaign will be implemented in close coordination with the State Governments.
- The Abhiyaan will be a convergent effort between 12 different Ministries/Departments, namely; Rural Development, Panchayati Raj, Road Transport & Highways, Mines, Drinking Water & Sanitation, Environment, Railways, Petroleum & Natural Gas, New & Renewable Energy, Border Roads, Telecom and Agriculture.

Scheme Details

- The mission mode campaign will involve intensified and focused implementation of 25 different types of works to provide employment to migrant workers on one hand and create infrastructure in the rural regions of the country.
- It will aim to provide each migrant worker an opportunity of employment according to his/her skill, in the coming 125 days. The program will also prepare for expansion and development of livelihoods over a longer term.

- Rs 50,000 crore will be spent on the campaign to enable migrant workers to perform public works such as rural houses, drinking water and sanitation, rural roads, community toilets, panchayat bhawans etc.
- The campaign will also contribute towards provision of modern facilities, such as internet connectivity, laying of optic fibre cables, to increase internet speed in villages, so that children in villages are able to study and learn like those in cities.

7. Consider the following statements about the GAVI (Global Alliance for Vaccines and Immunization) Alliance:

1. **GAVI Alliance has an observer status at WHO.**
2. **GAVI Alliance is a public private health partnership which aims at increasing access to immunisation in poor countries.**
3. **The GAVI Alliance includes WHO, UNICEF and World Bank.**

Which of the statements given above is/are incorrect?

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

Answer: D

Explanation:

- A \$2 billion procurement fund aimed at ensuring that poorer countries can access doses of a potential coronavirus vaccine has been announced at the third Gavi vaccine alliance replenishment summit, hosted by the **UK**. During the summit, India also pledged \$15 million to Gavi.
- The fund is modelled on previous work Gavi has done with pneumococcal and Ebola vaccines.
- The summit deliberated upon a mechanism to ensure that any effective coronavirus vaccine is produced at a scale possible to ensure its equitable distribution.
- This global cooperation is necessary to prevent a worldwide rush for the Covid vaccine (similar to masks and ventilators), which can negatively impact the availability of vaccine in poor countries.

GAVI, the Vaccine Alliance

- Gavi, the Vaccine Alliance is a public-private global health partnership with the goal of increasing access to immunisation in poor countries.
- The Alliance brings together countries which introduce vaccines, donors, the **WHO** which sets standards for vaccines, manufacturers, **UNICEF** which manages procurement, the **World Bank** which manages funds and civil society which holds others to account.
- GAVI's approach to public health has been described as business-oriented and technology-focused, using market-oriented measures and seeking quantifiable results.
- Gavi now **vaccinates almost half of the world's children**, giving it tremendous power to negotiate vaccines at prices that are affordable for the poorest countries and to remove the commercial risks that previously kept manufacturers from serving them.
- Due to these market shaping efforts, the cost of fully-immunising a child with all 11 WHO-recommended childhood vaccines now costs US\$ 28 in Gavi-supported countries, compared to about US\$ 1,100 in the US.

- Building upon its two decades of experience in accelerating the availability of billions of doses of vaccines, Gavi has proposed a new mechanism – an Advance Market Commitment (AMC) for COVID-19 vaccines – under which it will agree to buy large quantities of vaccines at established and equitable prices, to provide incentives to manufacturers to invest in large scale capacity.

8. Which of the following is not a source of funding for Sansad Adarsh Gram Yojana (SAGY)?

- a) Funds from Member of Parliament Local Area Development Scheme
- b) Corporate Social Responsibility funds.
- c) Budgetary allocation for SAGY
- d) State Finance Commission Grants

Answer: C

Explanation:

The Common Review Mission (CRM)-2019, an audit of rural schemes, commissioned by the Ministry of Rural Development, has found the Sansad Adarsh Gram Yojana (SAGY) to be ineffective in bringing about development in chosen gram panchayats.

Findings Of The Audit

- In many of the SAGY villages, MPs did not give any significant money from MPLADS. In isolated cases, where MPs have been pro-active, some infrastructure development has taken place, but the scheme has not made any noticeable impact.
- With each passing year, fewer MPs have been adopting villages under SAGY. In Phase-1 of SAGY, 703 MPs had adopted gram panchayats but that number went down to 497 in Phase-2 and 301 in Phase-3, showing a gradual decline in subsequent phases.
- Till the end of December 2019, only 252 MPs have adopted gram panchayats under Phase-4 of SAGY — 208 members of Lok Sabha and 44 members of Rajya Sabha.
- The reasons for low adoption are two-fold - there was a concern that picking one village may lead to losing out on votes from other villages in their constituencies, while the absence of budget too played its part.
- The CRM is of the opinion that in the current format, the scheme is not achieving the desired purpose and recommended the Ministry to review the scheme for enhancing its impact.

Findings Of The Audit On Roads

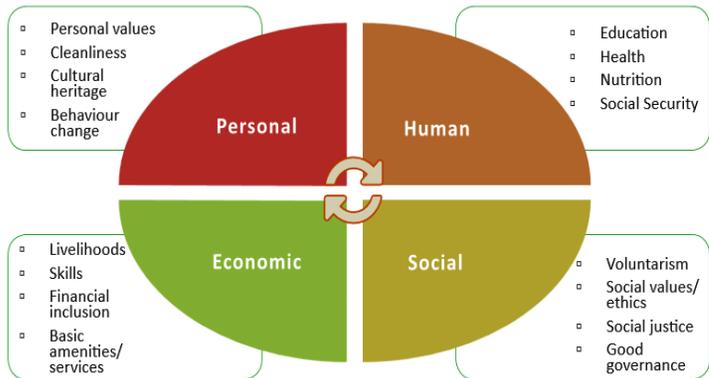
- The CRM has expressed concern over the quality of roads constructed under schemes of state governments and maintenance of rural roads under central Pradhan Mantri Gram Sadak Yojana (PMGSY) after the end of five-year warranty period.
- The audit has urged the Centre to frame a “**National Rural Road Policy**” to ensure uniform norms of construction and maintenance, irrespective of whether the road belongs to a state scheme or PMGSY.
- It has also urged the Centre to examine if the finance commission can provide funds for maintenance of rural roads, as many states have requested that the Centre should share cost of maintenance.

Sansad Adarsh Gram Yojana

- Launched in 2014, Sansad Adarsh Gram Yojana is a rural development programme broadly focusing upon the development in the villages.

- The scheme offers each MP to select a village in his constituency for development. **It has no budgetary allocation** and aims to bring about convergence in government schemes to improve developmental parameters in the selected village.
- The goal was to develop three Adarsh Grams (model villages) by March 2019, of which one was to be achieved by 2016. Thereafter, five such Adarsh Grams (one per year) will be selected and developed by 2024.
- Far beyond mere infrastructure development, SAGY aims at instilling certain values, such as people’s participation, gender equality, social justice, spirit of community service, eco-friendliness, local self-government, transparency and accountability in public life.

Holistic development through SAGY



Funding

No new funds have been allocated for the Yojana and resources can be raised through:

- Funds from existing schemes, such as the Indira Awas Yojana, Pradhan Mantri Gram Sadak Yojana, Mahatma Gandhi NREGS, and Backward Regions Grant Fund, etc.
- The Member of Parliament Local Area Development Scheme (MPLADS).
- The gram panchayat’s own revenue.
- Central and State Finance Commission Grants and
- Corporate Social Responsibility funds.

9. Consider the following statements about National Skill Development Corporation (NSDC):

1. NSDC is a public private partnership company.
2. NSDC provides funding to vocational training initiatives.

Which of the statements given above is/are incorrect?

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

Answer: D

Explanation:

- The government has launched a new initiative ‘**SWADES**’ (Skilled Workers Arrival Database for Employment Support) to conduct a skill mapping exercise of Indian citizens returning from overseas under the ‘Vande Bharat Mission’.
- It is a joint initiative of **Ministry of Skill Development & Entrepreneurship (MSDE), Ministry of Civil Aviation and Ministry of External Affairs**, which aims to create a database of qualified citizens based on their skill-sets and experience to tap into and fulfil demand of Indian and foreign companies,

- MSDE's implementation arm National Skill Development Corporation (NSDC) is supporting the implementation of the project.
- As many citizens returning to the country may be facing uncertainty regarding their future employment opportunities, SWADES is aimed at making the best of the skilled workforce returning to the country.
- The returning citizens are required to fill up an online SWADES Skills Card. The card will facilitate a strategic framework to provide the returning citizens with suitable employment opportunities through discussions with key stakeholders including state governments, industry associations and employers.
- Amongst the data gathered so far, the top countries from where the citizens are returning are UAE, Oman, Qatar, Kuwait and Saudi Arabia. These citizens had been primarily employed in sectors such as oil and gas, construction, tourism and hospitality, automotive and aviation.
- State govts have also launched similar drives, thereby covering not only those returning from abroad, but also those from other Indian states, which include migrant labourers. The UP government has claimed that it has completed skill mapping of all 23.5 lakh migrant workers who returned to the state.
- The data also suggests that the states which have shown highest returning labour are Kerala, Tamil Nadu, Maharashtra, Karnataka and Telangana.

National Skill Development Corporation (NSDC)

- NSDC is a **not-for-profit public limited company** incorporated in 2008 under the Companies Act, 1956. It was set up by Ministry of Finance as Public Private Partnership (PPP) model.
- The Government of India through Ministry of Skill Development & Entrepreneurship (MSDE) holds 49% of the share capital of NSDC, while the private sector has the balance 51% of the share capital.
- NSDC aims to promote skill development by catalyzing creation of large, quality and for-profit vocational institutions. Further, the organisation provides funding to build scalable and profitable vocational training initiatives.
- Its mandate is to enable support system which focuses on quality assurance, information systems and train the trainer academies either directly or through partnerships. It also develops appropriate models to enhance, support and coordinate private sector initiatives.

10. Consider the following statements about PM Svanidhi scheme:

- 1. PM Svanidhi provides working capital loans to street vendors.**
- 2. Under PM Svanidhi, SIDBI will manage the credit guarantee to the lending institutions.**
- 3. Loans under PM Svanidhi are collateral free.**

Which of the statements given above is/are correct?

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

Answer: D

Explanation:

- The **Ministry of Housing and Urban Affairs** has launched PM Svanidhi, 'Pradhan Mantri Street Vendor's AtmaNirbhar Nidhi' - a micro-credit scheme for street vendors.
- The lockdown has affected the lives and livelihoods of many especially daily wagers including street vendors whose businesses were affected due to the restrictions.

wholly owned subsidiary of the IEX, IGX will enable market participants to trade in standardised gas contracts.

- **Indian Energy Exchange (IEX)**, the country's largest electricity trading platform, is the parent of the gas exchange, and had been planning to set up the natural gas exchange to tap into the increasing demand for clean fuel.
- Through its membership drive launched in March this year, IGX already has 12 members and more than 350 registered clients from prominent industrial segments.

Function of IGX

- Domestically produced natural gas currently accounts for less than half the country's natural gas consumption and imported LNG accounts for the other half. Thus, LNG imports are set to become a larger proportion of domestic gas consumption as India moves to increase the proportion of natural gas in the energy basket from 6.2% in 2018 to 15% by 2030.
- The exchange will allow buyers and sellers of natural gas to trade both in the **spot market and in the forward market for imported natural gas across** three hubs —Dahej and Hazira in Gujarat, and Kakinada in Andhra Pradesh.
- The exchange also allows much shorter contracts – for delivery on the next day, and up to a month – while ordinarily contracts for natural gas supply are as long as six months to a year. This, will allow buyers and sellers greater flexibility.
- Imported Liquefied Natural Gas (LNG) will be regassified and sold to buyers through the exchange, removing the requirement for buyers and sellers to find each other. This will mean that buyers do not have to contact multiple dealers to ensure they find a fair price.

Pricing Of Domestically Produced Natural Gas

- As the price of domestically produced natural gas is decided by the government, it will not be sold on the gas exchange.
- Various appeals have been made by domestic producers that the prices set by the government are not viable due the cost of exploration and production in India.
- Following which, the Petroleum Ministry has indicated that a new gas policy will include reforms in domestic gas pricing, and will move towards more market-oriented pricing.
- IGX officials also believe that a highly liquid gas exchange, which prices gas fairly may lead to the government moving away from pricing domestically produced gas.

Benefits Of The Exchange

- The exchange is expected to facilitate transparent price discovery in natural gas, and facilitate the growth of the share of natural gas in India's energy basket.
- The competitive price discovery will facilitate availability of gas at lower prices for industries across India and facilitate greater investments in domestic gas exploration.

Required Regulatory Changes

- Currently, the pipeline infrastructure necessary for the transportation of natural gas is controlled by the companies that own the network. State-owned GAIL owns and operates India's largest gas pipeline network, spanning over 12,000 km.
- Thus, an independent system operator for natural gas pipelines would help ensure transparent allocation of pipeline usage, and build confidence in the minds of buyers and sellers about neutrality in the allocation of pipeline capacity.

Liberalised Remittance Scheme (LRS)

- The Liberalised Remittance Scheme (LRS) of the Reserve Bank of India (RBI) allows resident individuals, **including minors**, to remit a certain amount of money during a financial year to another country for investment and expenditure. The Scheme is **not available to corporates, partnership firms, Hindu Undivided Family (HUF), Trusts etc.**
- According to the prevailing regulations, resident individuals may **remit up to \$250,000** per financial year. This money can be used to pay expenses related to travelling (private or for business), medical treatment, studying, gifts and donations, maintenance of close relatives and so on.
- Apart from this, the remitted amount can also be invested in **shares, debt instruments**, and be used to buy **immovable properties** in overseas market.
- Individuals can also open, maintain and hold **foreign currency accounts** with banks outside India for carrying out transactions permitted under the scheme.

Prohibited Items Under The Scheme

- LRS restricts buying and selling of foreign exchange abroad, or purchase of lottery tickets or sweep stakes, disallowed magazines or any items that are restricted under Schedule II of Foreign Exchange Management (Current Account Transactions) Rules, 2000.
- Remittances for purchase of Foreign Currency Convertible Bonds (FCCBs) issued by Indian companies in the overseas secondary market.
- Capital account remittances, directly or indirectly, to countries identified by the Financial Action Task Force (FATF) as “non- cooperative countries and territories”, from time to time.
- Remittances directly or indirectly to those individuals and entities identified as posing significant risk of committing acts of terrorism as advised separately by the Reserve Bank to the banks.

14. Consider the following statements regarding the International Criminal Court (ICC):

1. ICC is part of United Nation and is among the UN’s 6 principal organs.
2. Situated in Geneva, the court was created by the Rome Statute.

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

President Donald Trump authorised sanctions against ICC officials involved in investigations into possible war crimes by US troops in Afghanistan. USA has said that the **tribunal threatens to infringe** on U.S. national sovereignty. It also **accused Russia of manipulating the tribunal** to serve Moscow’s ends.

Criticism of this Step

- It is being termed as an attempt to interfere with the rule of law and the Court’s judicial proceedings.
- The action “**demonstrates contempt for the global rule of law**” and represents a “**blatant attempt at obstruction.**”
- The U.S. action is the latest under Trump taking **aim at an international body**. Earlier, USA had decided to end its ties with WHO and UNHRC.

USA & ICC

- The **Clinton administration** (1993-2001) was involved in Rome Statute negotiations, and signed the document in 2000.
- However, the next president, George W. Bush, in 2002, unsigned the Statute. He signed into law the **American Service-Members' Protection Act** to protect US nationals from the ICC's reach.
- Despite its differences with ICC, USA adopted a positive approach towards the forum during several instances:
 - In 2005 it **did not veto** a UN Security Council request to the ICC to investigate crimes during the Darfur crisis and in 2011 voted for Libya's referral to the court.
 - The US also provided critical support in **transferring suspects from Africa to the ICC for trial**.
- Since the election of President Donald Trump, relations have again soured.

About International Criminal Court (ICC)

- The International Criminal Court in **The Hague** has been part of the global justice system since 2002.
- It was **established by Rome Statute** and has been ratified by 123 countries. Some countries, like the United States, have never joined due to concerns about ceding sovereignty to an international body.
- A number of important countries seem determined not to submit to the jurisdiction of the ICC. **Some have not even signed the treaty**, such as China, India, Pakistan, Indonesia and Turkey.
- Others, including Egypt, Iran, Israel and Russia, have signed but remain dubious and have not ratified. Only one Arab state has ratified so far - Jordan.
- The International Criminal Court (ICC) investigates and, where warranted, tries individuals charged with the **gravest crimes of concern to the international community**: genocide, war crimes, crimes against humanity and the crime of aggression.
- The ICC is meant to be a "**court of last resort**," a place to try dictators and other people who cannot be brought to justice domestically. As a court of last resort, it seeks to complement, not replace, national Courts.
- The **ICC is not part of the UN**, but the two bodies have a **cooperation agreement**.
- The court has automatic jurisdiction only for crimes committed on the territory of a state which has ratified the treaty; or by a citizen of such a state; or when the United Nations Security Council refers a case to it.
- The **court's first verdict**, in March 2012, was against **Thomas Lubanga**, the leader of a militia in the Democratic Republic of Congo.

Criticism of ICC

- The ICC has been criticised, particularly by the African Union, **for its focus on Africa**. In the court's history it has only brought charges against black Africans.
- Although, the ICC denies any bias, pointing to the fact that some cases - such as the LRA in Uganda - were self-referred by the country affected, and some were referred by the UN.
- The **ICC has no police force** of its own to track down and arrest suspects. Instead it must rely on national police services to make arrests and seek their transfer to The Hague.

- It also ensures that agency assistance is not used for military purposes.
- It was set up as the **world's "Atoms for Peace" organization** in 1957 within the United Nations family.
- The IAEA Secretariat is headquartered at the **Vienna International Centre in Vienna, Austria.**

Relationship With United Nations

- As an independent international organization related to the United Nations (UN) system, the IAEA's **relationship with the UN is regulated by a special agreement.**
- In terms of its Statute, the IAEA **reports annually to the UN General Assembly** and, when appropriate, **to the UN Security Council** regarding States' non-compliance with safeguards obligations, as well as on matters relating to international peace and security.

22. Which of the following is true about the Five Eyes (FVEY) network?

- a) **It is a surveillance mechanism of China**
- b) **It is an intelligence sharing alliance between five countries.**
- c) **It is border surveillance mechanism employed by India**
- d) **None of the above**

Answer: B

Explanation

UN -75 Declaration

- A commemorative declaration marking the 75th anniversary of the signing of the United Nations (UN) Charter was delayed.
- It was due to the fact that member states could not reach an agreement on phraseology.
- The declaration by the “Heads of State and Government representing the peoples of the world” to **commemorate the 75th anniversary of the UN** is to be adopted on September 21, 2020

What Was The Issue

- The draft declaration used a phraseology that read - **“to realise our shared vision for a common future”**.
- The **Five Eyes (FVEY)— Australia, Canada, New Zealand, the United Kingdom and the United States**— along with India, objected to this phrase.
- The reason the six countries objected to this phrase is because ‘shared vision for a common future’ has **some similarity to wording used by the Chinese Communist Party (CCP)** to describe its foreign policy aspirations.
- As a result, ambassador of UK, on behalf of these six countries, broke the silence procedure by raising the objection.
- These countries wanted this wording to be replaced with **“to realise our shared vision for a better future as envisaged in the preamble of the UN Charter.”**

Current Status

- UN General Assembly President Tijjani Muhammad-Bande has **changed the contentious phrase** in the draft declaration.

- The changed declaration was circulated under silence procedure. No Member State raises any objections to the draft within a specified time period, the text is adopted.

Five Eyes (FVEY)

The Five Eyes (FVEY) network is an intelligence sharing alliance between **Australia, Canada, New Zealand, the United Kingdom and the United States.**

75th United Nations Day

- It will be celebrated on 24 October 2020.
- Through UN75, the UN will encourage people to put their opinions together to define how enhanced international cooperation can help realize a better world by 2045.

23. Recently, NASA decided to name its Head Quarter after first black female engineer. What is the name of that female engineer?

- | | |
|--------------------|--------------------|
| a) Jim Bridenstine | b) Dorothy Vaughan |
| c) Mary Jackson | d) Carolyn Lewis |

Answer: C

Explanation

- NASA is to name its headquarters in Washington DC after its first black female engineer, **Mary Jackson.**
- Jackson had helped to break down barriers for African Americans and women in engineering and technology.
- Nasa began recruiting some college-educated African American women in the 1940s as "human computers", but they experienced both racial and gender discrimination at work.
- Mary Jackson was recruited in 1951 by the National Advisory Committee for Aeronautics which was succeeded by Nasa in 1958.
- Jackson died in 2005 and in 2019 she was posthumously awarded the Congressional Gold Medal.

24. Which of the following countries is NOT a member of Eurasian Group on Combating Money Laundering and Financing of Terrorism (EAG)?

- | | |
|-----------|---------------|
| a) France | b) China |
| c) India | d) Kazakhstan |

Answer: A

Explanation

- India attended the virtual **32nd** special Eurasian Group on Combating Money Laundering and Financing of Terrorism (EAG) plenary meeting.
- It was conducted under the aegis of the Financial Action Task Force (FATF).
- It is an FATF-style regional body, established in 2004. It is currently an associate member of the FATF.

- There will be **no restriction in visiting religious places** and attending normal religious activities like attending religious discourses.
- However, preaching religious ideologies, making speeches in religious places, distribution of audio or visual display/ pamphlets pertaining to religious ideologies, spreading conversion etc. will not be allowed.

Tablighi Jamaat

- Founded by a Deobandi Islamic scholar at Mewat, Uttar Pradesh, in 1926
- It focuses on purifying the Muslim faith.

27. Operation Desert Chase is

- a) A military exercise conducted by Indian Army
- b) A joint exercise between Indian Army and Indian Air Force
- c) An anti-espionage operation
- d) None of the above

Answer: C

Explanation

- **Operation Desert Chase - an anti-espionage operation** was started by Military Intelligence in early 2019.
- It successfully culminated on June 8, 2020 with the arrest of two men. Both the men were civil defence employees.
- They were on the **payrolls of ISI** and allegedly passed information relating to the trains transporting ammunition across the country.

28. Consider the following statements regarding the drug trafficking routes:

1. **Golden Triangle** comprises of Afghanistan, Iran, and Pakistan.
2. **Golden Crescent** region coincides with the rural mountains of Myanmar, Laos, and Thailand.

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

- The United Nations Office on Drugs and Crime (UNODC) has released the World Drug Report 2020.
- It was released on the occasion of **International Day against Drug Abuse and Illicit Trafficking 2020** (June 26, **Theme for 2020 - Better Knowledge for Better Care**).
- The report has highlighted the possible consequences of the Covid-19 pandemic on Illegal Drug Production, Supply and Consumption.

Key Highlights**A. Economic Crisis**

- Due to COVID-19 pandemic, the governments may reduce the drug-related budgets.
- It predicted the overall increase in drug use, with a shift towards cheaper and more harmful drugs.

B. Diverted Focus

- Several countries like Italy, the Niger and countries in Central Asia have reported a sharp decline in drug seizures.
- This is because the drug traffickers have shifted their focus to other illegal activities such as cybercrime and dealing in falsified medicines.
- However, countries such as Morocco and Iran have reported an increase in drug seizures.

C. Lockdown and its Impact on Supplies

- Lockdown has emerged as an obstacle in the production and sale of opiates among the major producers in the world. The disruption in the international trade has led to the shortage in the supply of acetic anhydride-- used in the manufacture of heroin.
- There is an increased demand for cannabis during the lockdown.

D. Maritime Routes

- Recently, heroin has been seized in the Indian Ocean. This indicates that the maritime routes have been used for trafficking heroin to Europe along the 'southern route'.
- The large shipments of cocaine are being trafficked by sea routes while opiates couldn't be trafficked.

India Specific Observation

- According to the report, India is one of the **major hubs of illicit drug trade** ranging from age-old cannabis to newer drugs like tramadol and designer drugs like methamphetamine.
- The report also states that **India lies in the middle of the two major illicit opium production regions** in the world, the **Golden Crescent** (Iran-Afghanistan-Pakistan) in the west and the **Golden Triangle** (South-East Asia) in the east.

Challenges

- **Porous Borders** – Especially in the lower Mekong region. Even the lockdown during pandemic did not create hindrance.
- **Evolving Ways of Trafficking**
- **Limited Control** - The Government has limited control in the Golden Triangle area and thus there's increased trafficking via that route.
- **Supply of Chemicals remain Unaffected** - The supply of precursor chemicals remained undisrupted as major organised crime groups source chemicals through direct diversion from industry (not diversion from illicit overseas trade channels).

United Nations Office on Drugs and Crime

- Established in 1997, HQ at Vienna
- It acts as the **Office for Drug Control and Crime Prevention** by combining the United Nations International Drug Control Program (UNDCP) and the Crime Prevention and Criminal Justice Division of the United Nations Office at Vienna.
- Parent Organisation - United Nations Secretariat

4. Science, Technology and Innovation Policy (STIP 2013)

- The policy seeks to focus on both **STI for people and people for STI**.
- It aims to **bring all the benefits of Science, Technology & Innovation** to the **national development and sustainable and more inclusive growth**.
- It seeks the **right sizing of the gross expenditure** on research and development by **encouraging and incentivizing private sector** participation in R & D, technology and innovation activities.
- The decade of 2010 to 2020 was declared as a decade of innovation.
- It also calls for increasing **accessibility, availability and affordability** of **innovations**, especially for **women, differently-abled and disadvantaged** sections of society.

Office of the Principal Scientific Adviser to the Government of India

- The Principal Scientific Adviser (PSA) is the **chief advisor** to the government on **matters related to scientific policy**.
- It is **currently a Secretary level position created in 1999** by the **AB Vajpayee government**.
- At the time, the **position was a Cabinet rank** position, with the **first PSA being APJ Abdul Kalam**.
- This was followed by **Rajagopala Chidambaram** who held the **rank of a Minister** of State and was the PSA for 16 years(2002-2018).
- The current PSA is **K. Vijay Raghavan** (2018 onwards).
- The 'Office of the Principal Scientific Adviser', through the **Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC)** helps scientific **cross-sectoral synergy** across ministries, institutions and the industry.

30. Consider the following sentences about RECOVERY Trial

1. **It is a large randomised controlled trial in the USA to test eight drugs for COVID-19.**
2. **Trail has found that there is immense clinical benefit from use of hydroxychloroquine in hospitalised patients with COVID-19.**

Which of the above sentences is/are correct

- | | |
|-----------------|----------------------|
| a) 1 only | b) 2 only |
| c) Both 1 and 2 | d) None of the above |

Answer: D

Explanation

- It is a large **randomised controlled trial in the U.K. to test five drugs for COVID-19**.
- The RECOVERY Trial are testing these suggested treatments:
 - i) **Lopinavir-Ritonavir** (commonly used to treat **HIV**)
 - ii) **Low-dose Dexamethasone** (an **anti-inflammatory medication**)
 - iii) **Hydroxychloroquine** (used to treat **malaria, lupus, and rheumatoid arthritis**)
 - iv) **Azithromycin** (a commonly used **antibiotic**)
 - v) **Tocilizumab** (an **anti-inflammatory** treatment given by injection)

warming. The six-week process is repeated every year once the ski season is over and summer begins in full force.

- Geotextile tarpaulins that reflect sunlight, maintains a temperature lower than the external one, and preserves as much snow as possible.

43. Chaolung Sukapha is known as the architect of:

- a) Myanmar
- b) Greater Assam
- c) Nagaland
- d) Manipur

Answer: B

Explanation

- Recently, the Assam Chief Minister ordered the arrest of a Kolkata based political commentator, who had described Chaolung Sukapha as a “Chinese invader”.
- Sukapha was a 13th-century ruler who founded the Ahom kingdom that ruled Assam for six centuries.
- Contemporary scholars trace his roots to Burma. Sukapha is said to have left a place called Maulung in AD 1215. In 1235, Sukapha and his people settled in Charaideo in upper Assam after wandering about for years and temporarily staying at different locations.
- It was in Charaideo that Sukapha established his first small principality, sowing the seeds of further expansion of the Ahom kingdom.
- Sukapha’s significance, especially in today’s Assam, lies in his successful efforts towards assimilation of different communities and tribes. He is widely referred to as the architect of “Bor Asom” or “greater Assam”.
- In reverence to his position in Assam's history the honorific **Chaolung** is generally associated with his name (**Chao: lord; Lung: great**). To commemorate Sukapha and his rule, Assam celebrates “Asom Divas” on December 2 every year.

44. The traditional art of Talamaddale is a variant of:

- a) Bhand Pather
- b) Kalaripayattu
- c) Theyyam
- d) Yakshagana

Answer: D

Explanation

- The traditional art of talamaddale, a variant of Yakshagana theatre, has gone virtual in times of COVID-19.
- It is an ancient form of performance dialogue or debate performance in Southern India in the Karavali and Malnad regions of Karnataka and Kerala.
- The plot and content of the conversation is drawn from popular mythology but the performance mainly consists of an impromptu debate between characters involving sarcasm, puns, philosophy positions and humour.

- The main plot is sung from the same oral texts used for the Yakshgana form of dance- drama.

Difference From Yakshagana

- Unlike the Yakshagana performance, in the conventional talamaddale, the artists sit across in a place without any costumes and engage in testing their oratory skills based on the episode chosen.
- If music is common for both Yakshagana performance and talamaddale, the latter has only spoken word without any dance or costumes. Hence it is an art form minus dance, costumes and stage conventions

Pashupatipnath Temple

- India has pledged to construct a ₹2.33 crore sanitation facility at the iconic Pashupatinath Temple complex here to improve the infrastructure in the holy shrine.
- The project would be constructed under the Nepal-Bharat Maitri: Development Partnership as a high impact community development scheme by India.
- The Pashupatinath temple, dedicated to Lord Shiva, is the largest temple complex in Nepal and stretches on both sides of the Bagmati River, near Kathmandu.
- The temple complex was inscribed in the list of UNESCO World Heritage Sites in 1979.

45. As per Patanjali's Yoga Sutras, which of the following belong to the eight limbs of Yoga (Ashtanga Yoga)?

1. Pratyahara
2. Dharana
3. Satkarmas
4. Samadhi
5. Niyama

Choose the correct option using the codes below:

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

Answer: C

Explanation:

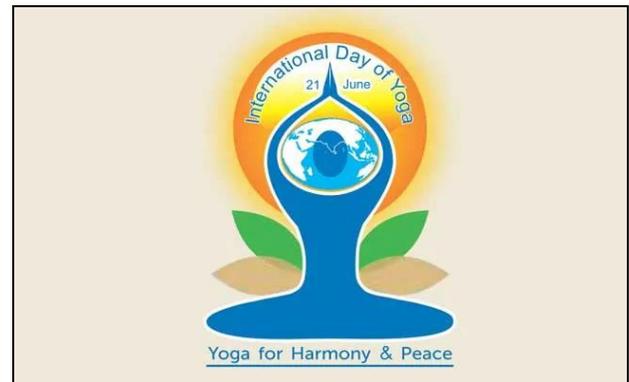
- Coinciding with the summer solstice, June 21 is observed as International Yoga Day, recognising the many benefits of the ancient Indian practice of yoga.
- In 2014, the UN proclaimed June 21 as International Day of Yoga by passing a resolution, during the 69th session of the General Assembly. The first international Yoga Day was observed on June 21, 2015.
- The United Nations theme for this year is **Yoga for Health – Yoga at Home**, which takes into account the social distancing measures announced by most countries.

Yoga

- Yoga is an ancient physical, mental and spiritual practice that originated in India. The word yoga is derived from the Sanskrit root Yuj and means to join or to unite, symbolizing the union of body and consciousness.
- A number of seals and fossil remains of Indus Saraswati valley civilization with Yogic motifs and figures performing Yoga Sadhana suggest the presence of Yoga in ancient India.
- Presence of Yoga is available in folk traditions, Indus valley civilization, Vedic and Upanishadic heritage, Buddhist and Jain traditions, Darshanas, and theistic traditions of Shaivas, Vaishnavas, and tantric traditions.
- Though Yoga was being practiced in the pre-Vedic period, Sage Patanjali systematized and codified the then existing practices of Yoga, its meaning and its related knowledge through his Yoga Sutras.
- Sage Patanjali came up with the concept of **Ashtanga Yoga** – the eight limbs of yoga. He defined the eight limbs as yama (abstinences), niyama (observances), asana (postures), pranayama (breathing), pratyahara (withdrawal), dharana (concentration), dhyana (meditation) and samadhi (absorption).

Logo

- On the occasion of the first international Yoga Day, the Ministry of AYUSH unveiled the official logo for the Yoga Day.
- The **folding-hands logo of Yoga Day** reflects the union of individual consciousness with that of universal consciousness, a perfect harmony between mind and body, and man and nature.
- The brown leaves in the logo symbolize the earth element, the green leaves of nature, blue the fire element while the sun symbolises the source of energy and inspiration.



Reservation Is Not A Fundamental Right

Recently the Supreme Court said that reservation of seats to certain communities was not a Fundamental Right.

What Is The Issue?

- All political parties from Tamil Nadu filed a **writ petitions under Article 32** seeking a direction to the Centre to **implement 50% reservation for Backward Classes in the State in All India Quota seats for medical and dental courses.**
- The political parties accused the Centre of “**violating the right of people of Tamil Nadu to have a fair education**” by **not implementing the 50% quota** for Backward Classes and Most Backward Classes.
- The petitions had argued that the action of the Centre and the Medical Council of India to **fill All India Quota seats reserved for Backward Classes from the open category was unconstitutional.**
- In Tamil Nadu, there is **69% reservation for OBCs, SC and ST** and within this, OBC reservations are about 50%. The petitions said 50% of OBC candidates must get admissions in the medical colleges out of seats surrendered under the all India Quota, except for central government institutions.

Supreme Court’s Observation

- The court said that **nobody can claim right to reservation as a fundamental right** and ruled that refusing to provide reservation benefits cannot be treated as a violation of any constitutional right.
- The bench questioned **why a writ petition under Article 32** had been filed and pointed out that it **can be done only in case of violation of fundamental rights.** It sought to know whose fundamental rights had been violated in the case.

What Does The Constitution Say On Reservations?

- **Article 14** of the Constitution guarantees equality before law and equal protection of laws to everyone. Similarly, **Article 16(1) and 16(2)** assure citizens equality of opportunity in employment or appointment to any government office.
- **Article 15(1)** generally prohibits any discrimination against any citizen on the grounds of religion, caste, sex or place of birth.
- Additionally, **Article 29(2)** bars discrimination against any citizen with regard to admission to educational institutions maintained by the government or receiving aid out of government funds on grounds of religion, race, caste etc.
- However, **Articles 15(4) and 16(4)** state that these equality provisions do not prevent the government from making special provisions in matters of admission to educational institutions or jobs in favour of backward classes, particularly the Scheduled Castes (SCs) and the Scheduled Tribes (STs).
- **Article 16(4A)** allows reservations to SCs and STs in promotions, as long as the government believes that they are not adequately represented in government services.

What Do The Precedents Say?

- There are several **major Supreme Court judgments** that have, in the past, ruled that Articles 15(4) and 16(4) do not provide a fundamental right per se.

- A five-judge apex court bench, as early as 1962 in the **M.R. Balaji v. State of Mysore** had ruled that **Article 15(4)** is an “**enabling provision**”, meaning that “**it does not impose an obligation**, but merely leaves it to the discretion of the appropriate government to take suitable action, if necessary”.
- Five years later, in 1967, another five-judge bench in **C.A. Rajendran v. Union of India** reiterated this position, holding that the **government is under no constitutional duty to provide reservations** for SCs and STs, either at the initial stage of recruitment or at the stage of promotion. **Article 16(4)**, it said, **does not confer any right on the citizens** and is an **enabling provision** giving discretionary power to the government to make reservations.
- The position went on to be reiterated in several other decisions, including the nine-judge bench ruling in **Indra Sawhney v. Union of India (1992)** and the five-judge bench decision in **M Nagaraj v. Union of India (2006)**.

PM CARES Fund Is Not A Public Authority Under RTI Act

- The Prime Minister's Office (PMO) raised objection in the Delhi High Court over maintainability of a plea seeking to **declare PM CARES Fund as a 'public authority' under the Right to Information (RTI) Act**.
- Recently, in response to RTI, PMO said that **PM CARES Fund is not a Public Authority under the ambit of Section 2(h) of the RTI Act, 2005**.

What Is A Public Authority Under The RTI Act 2005?

Under the RTI Act, a public authority is mandated to provide information in response to an RTI application. Section 2(h) of the Act defines what constitutes “public authority”. The definition consists of two parts. The former part provides that a **public authority includes**

- a) body established by the Constitution,
- b) body established by any law made by the Parliament,
- c) body established by law made by the State Legislature, and

The latter part covers bodies established by a notification or order issued by the government and includes:

- i) a body owned, controlled or substantially financed by funds provided by the government and;
- ii) Non-governmental organisations substantially financed by funds provided by the government.

The PM Cares Fund does not fall within the definition under **category a, b, c and ii**, because it has not been constituted under the Constitution or by Parliament. Now there are two categories left - body owned, controlled or substantially financed by the government; and body created under notification or order issued by government.

In **National Stock Exchange of India Limited v. Central Information Commission**, Delhi High Court held that the three conditions - **owned, controlled, and substantially financed**, are distinct. **Even if one of the three is satisfied by a body**, it would be sufficient to declare it a public authority.

Why PM CARES Should Be Considered As Public Authority?

- PM Cares Fund should fall under the definition of public authority because the **government exercises substantial control over the Fund**.
- The Chairperson (PM) and members of the Board of Trustees (Minister of Defence, the Minister of Home Affairs and Minister of Finance) are constitutional functionaries and are holding a public office.

They exercise sole discretion as to the affairs and management of the trust, including disbursement of the Fund.

- **Advertisements** seeking contributions to the PM Cares Fund have been made by government agencies from their budgetary allocation.
- **Gov.in is the official domain of the PM Cares website.** The use of this domain is regulated under the Ministry of Electronics and Information Technology guidelines framed for the purpose of allocating the domain gov.in
- **Use of the State Emblem of India on the official website of PM Cares Fund** website and its logo gives an impression of a public office. Use of State Emblem is explicitly prohibited under The State Emblem Act, 2005 unless its use by any authority is notified by the government under this Act.
- The Prime Minister's office has made an appeal to the public for the contribution to the Fund through media. Furthermore, the PM's pictorial representation has been used in government advertisements making appeals for contribution.

Please refer Recitals April 2020 to read about PM CARES Fund, Features and Analysis

Jammu and Kashmir Media Policy-2020

The Jammu and Kashmir administration approved a Media Policy-2020.

Features Of The Policy

- **Standard Operating Procedure (SOP):** It aims to put in place a SOP for reaching out to the people in situations of crisis like health issues and natural disasters.
- **Prevent misinformation:** The policy attempts to thwart misinformation, fake news and develop a mechanism that will raise alarm against any attempt to use media to vitiate public peace, sovereignty and integrity of the country.
- **Media Academy:** The policy includes establishment of a media academy/institute/chair in reputable national institutes in Jammu and Kashmir such as IIMC, IIM that will promote the highest standard of journalism, and coordinate study and research in the field.
- **Guidelines:** For the first time, the Media Policy lays down the guidelines for empanelment of audio-visual and electronic media such as FM, radio, satellite and cable TV channels so as to streamline their interface with Directorate of Information and Publication Relations (DIPR).
- **Nodal officer:** The policy envisages that all department will nominate a nodal officer to liaise with DIPR.
- **Social Media Cell:** To ensure healthy interaction with the public online and on social media, the policy lays down setting up of a Social Media Cell in the department.
- **Chairperson:** The Director, Information and Public Relations, has been designated chairperson of the Empanelment Committee and the administrative head of Information Department will chair the Review Committee constituted under the policy.

Criticisms

- It gives the **government immense powers to decide what is “fake”, “unethical” or “anti-national” news**, and to take legal action against the journalist or media organization concerned, including stopping government advertisements and sharing information with security agencies.

- Under the new policy, a **background check of newspaper publishers, editors and key staff** has been made mandatory before empanelling them for government advertisements, apart from security clearance before a journalist is given accreditation.
- This policy obliquely **stifles media's right to ask tough questions and highlight lacunae in the administration**. It seems to be a remnant of **colonial-era censorship** and will choke the already constrained space for free working of the press.
- It will obstruct the dissemination of free and fair press. It is also an **infringement of the people's right to information**.

Inner-Line Permit (ILP) to Assam

The Supreme Court sought response from the Centre on the pleas of two Assam students' unions **challenging the Presidential order amending the Bengal Eastern Frontier Regulation (BEFR), 1873 to deny the state an ILP system** to insulate it from the Citizenship Amendment Act (CAA).

What Is Inner Line Permit?

- An Inner Line Permit is a **document that allows an Indian citizen to visit or stay in a state that is protected under the ILP system**. **Arunachal Pradesh, Nagaland and Mizoram** are protected by the Inner Line, and lately **Manipur** was added. No Indian citizen can visit any of these states unless he or she belongs to that state, nor can he or she overstay beyond the period specified in the ILP.
- The concept comes from the colonial area. Under the BEFR Act, 1873, the British framed regulations restricting the entry and regulating the stay of outsiders in designated areas. This was to **protect the Crown's own commercial interests by preventing "British subjects" (Indians) from trading within these regions**.
- In 1950, the **Indian government replaced "British subjects" with "Citizen of India"**. This was to address concerns about **protecting the interests of the indigenous people** from outsiders belonging to other Indian states.
- An ILP is **issued by the state government** concerned. It can be obtained after applying either online or physically. It states the dates of travel and also specifies the particular areas in the state which the ILP holder can travel to.

How Is It Connected To The Citizenship Amendment Act (CAA)?

- The CAA, which relaxes eligibility criteria for certain categories of migrants from three countries seeking Indian citizenship, **exempts certain categories of areas, including those protected by the Inner Line system**.
- Amid protests against the Act, the **Adaptation of Laws (Amendment) Order, 2019**, issued by the President, **amended the BEFR, 1873**, extending it to Manipur and parts of Nagaland that were not earlier protected by ILP.

What Is The Petition?

- Two Assam students' unions petitioned the Supreme Court against the Presidential order. Noting that the original BEFR included the then Assam districts of Kamrup, Darrang, Nowgong (now Nagaon), Sibsagar, Lakhimpur, and Cachar, the petition said the **order took away the Assam government's permissive power to implement the ILP**. This could have made the CAA inapplicable in these areas.
- Many Groups have long been campaigning for implementation of the ILP in Assam. The CAA has given fresh legs to the demand.

Decriminalization of Adultery

The Supreme Court has refused to review its **2018 judgment which decriminalized adultery.**

Law On Adultery In India

- Indian Penal Code (IPC) **Section 497** states, "Whoever has sexual intercourse with a person who is and whom he knows or has reason to believe to be the wife of another man, without the consent or connivance of that man, such sexual intercourse not amounting to the offence of rape, is guilty of the offence of adultery."
- Section 497 also states that a man found guilty of adultery "shall be punished with imprisonment of either description for a term which may extend to five years, or with fine, or with both."
- **Section 198 (2) the Criminal Procedure Code:** The code allows a husband to bring charges against the man with whom his wife has committed adultery.

Issues With IPC Section 497

- The **law treats married women as the 'property' of their husbands** on the ground that their relationship with other married persons depends on the "consent or connivance of her husband". The law gives **power to a husband to control the sexuality of his lawfully wedded wife.**
- In the event of a man committing adultery by means of sexual intercourse with a married woman or an unmarried woman, this **law does not confer any right on the man's wife** to prosecute the adulterous husband or the woman with whom the husband has indulged in sexual intercourse with.
- **Only a man can be a victim or accused/culprit** under the existing reading of Section 497 of the IPC. The offence of adultery is, according to Section 497, committed by a man against a married man. There is no rationale in treating one party involved in adultery as a victim and the other as a criminal. In doing so, the **law violates article 14 of the constitution since it creates an irrational classification between men and women.**
- The law gives a **married man a right to blame an outside agency for the breakdown of his marriage.** If the relationship has lost its foundation of trust, it makes more sense that the couple approaches the courts for a mutual divorce than put a third person behind bars for breaking their marriage.

Supreme Court Judgement, 2018

- In the **Joseph Shine v. Union of India case**, the Supreme Court declared that **IPC Section 497 and CrPC Section 198 was unconstitutional.** Section 497 (adultery) of IPC cannot "command" married couples to remain loyal to each other for the fear of penal punishment.
- **Unequal treatment of women invites the wrath of the Constitution**, and that any provision treating women unequally isn't constitutional.
- Autonomy is intrinsic in dignified human existence and **Section 497 denudes women from making choices.**
- **Subordination of any sex over the other** is clearly unconstitutional.
- Adultery is no longer a crime, but it **will continue to be grounds for divorce.**
- The court held that **mere adultery can't be a crime unless it attracts the scope of Section 306 (abatement to suicide) of the IPC.**

Cons Of Decriminalization Of Adultery

- In a country beset with rising divorce rates and cases of marital infidelity, the decriminalization of adultery will **critically endanger the institution of marriage.**

- Decriminalization of adultery will increase the risk of **fostering extra-marital affairs**.
- The emergence of divorce as the way out will **catalyze the break-up of marriages, leaving little children in the lurch**.

Section 309 IPC

- The Section 309 of the Indian Penal Code (IPC) — contrary to popular perception that it has been repealed - continues to exist in the statute book and is being misused.
- The section reads: “Whoever **attempts to commit suicide** and does any act towards the commission of such offence, shall be punished with simple imprisonment for a term which may extend to one year (or with fine, or with both)”.
- The law, brought in by the British in the 19th century, reflected the thinking of the time, when killing or attempting to kill oneself was considered a crime against the state, as well as against religion.

Wasn't Section 309 Repealed A Few Years Back?

- No. The section continues to remain in the IPC. **The Mental Healthcare Act (MHCA), 2017**, which came into force in July 2018, has **significantly reduced the scope for the use of Section 309 IPC** — and made the attempt to commit suicide punishable only as an exception.
- **Section 115(1) of The MHCA** says: “Notwithstanding anything contained in section 309 of the IPC any person who attempts to commit suicide shall be presumed, unless proved otherwise, to have severe stress and shall not be tried and punished under the said Code.”
- **Section 115(2)** says that “The appropriate Government shall have a duty to provide care, treatment and rehabilitation to a person, having severe stress and who attempted to commit suicide, to reduce the risk of recurrence of attempt to commit suicide.”

Why Section 309 IPC Should Be Repealed?

- The restrictions put on the use of this section under the provisions of the MHCA — as opposed to it being removed from the statute all together — do not seem to be enough simply because of continued reports of its use by police forces across the country.
- Several senior police officers said that on many occasions, there is **lack of awareness among officers** at the level of police station about the relatively new MHCA, and they simply go by the IPC.
- Use of this Section can **potentially deprive a victim of treatment in the golden hour**, as hospitals wait for a go-ahead from police in what would be seen as a “medico-legal case”.
- It is possible that unscrupulous hospital authorities may **misuse this situation and charge extra to “hush up” the case by not informing the police**; similar extortion is possible on the part of corrupt police personnel as well.
- In 1971, the **Law Commission in its 42nd Report** recommended the repeal of Section 309 IPC.

Why It Should Be Retained

There were occasions when people showed up at government offices and **threatened to kill themselves if their demands were not met**. In these cases, the person does not intend to commit suicide but is using the threat as a way to unfairly pressure or blackmail the system. If 309 is repealed, **there will be no provision to take action against those who intend to create trouble of this sort**.

Way forward

Section 309 IPC can be redefined in such a manner where it can still be leveraged in law and order situations, and not be used against those who are suffering from genuine mental health issues.

Renaming India as 'Bharat

- A petition has been filed in the Supreme Court seeking **removal of 'India' as the name of the country** and keeping just **Bharat as the solitary identity of the nation**.
- It sought an **amendment to Article 1** of the Constitution and claimed that such an amendment will “ensure the citizens of this country to get over the colonial past”.
- The petitioner argued that the removal of the English name, though appears symbolic, will **instil a sense of pride in our own nationality**, especially for the future generations to come. In fact, the word India being replaced with Bharat would justify the hard-fought freedom by our ancestors.
- Referring to the 1948 **Constituent Assembly debate** on Article 1 of the then draft constitution, the plea said even at that time there was a “**strong wave**” in favour of naming the country as ‘Bharat’ or ‘Hindustan’.
- Supreme Court said that it can’t do it as “**India is already called Bharat in Article 1 of Indian Constitution**”. The court, however, allowed the petitioner to make a representation to the government.



Secrecy of Ballot

The Supreme Court in its recent judgment held that **Secrecy of ballot is the cornerstone of free and fair elections**.

Background:

- The judgment came on an appeal against the Allahabad High Court decision setting aside the voting of a no-confidence motion in a zila panchayat in Uttar Pradesh in 2018.
- The High Court found that some of the **panchayat members had violated the rule of secrecy of ballot**. It relied on CCTV footage to conclude that they had either displayed the ballot papers or by their conduct revealed the manner in which they had voted.

Supreme Court Judgement On Secrecy Of Ballot

- The principle of secrecy of ballots is an **important postulate of constitutional democracy**. The **choice of a voter should be free** and the secret ballot system in a democracy ensures it.
- It is the policy of law to protect the right of voters to secrecy of the ballot. Even a remote or distinct possibility that a voter can be forced to disclose for whom she has voted would act as a positive constraint and a check on the freedom to exercise of franchise.
- **Section 94 of the Representation of People Act** upholds the privilege of the voter to maintain confidentiality about her choice of vote.
- However, a **voter can also voluntarily waive the privilege of non-disclosure**. The privilege ends when the voter decides to waive the privilege and instead **volunteers to disclose as to whom she had voted**. No one can prevent a voter from doing. **Nor can a complaint be entertained from any**, including the person who wants to keep the voter’s mouth sealed as to why she disclosed for whom she voted.

- The apex court referred to Section 28(8) of the Uttar Pradesh Kshetra Panchayat and Zila Panchayat Adhiniyam, 1961. This provision states that a **motion of no confidence shall be put to vote in the prescribed manner by secret ballot.**
- The apex court **ordered a re-vote of the motion** within the next two months. It ordered the Allahabad District Judge or his nominee to act as the presiding officer.

Civil Services Board (CSB)

- Punjab government has notified Civil Services Board (CSB) for **providing fixed tenure of IAS officers.**
- CSB will be **headed by Chief Secretary**, with Personnel Secretary, and either Financial Commissioner (Revenue) or Home Secretary (who so ever is senior in the pecking order) as its members.
- The board provides for the state to **follow Centre's guidelines on giving a fixed tenure of at least two years** for cadre officers. They cannot be transferred before that and if anyone recommends their transfer then the board will examine and effect it. The **final authority is the Chief Minister.**
- In October 2013, the Supreme Court had mandated minimum tenure for bureaucrats. Punjab is the 20th state to adopt these rules.

Advantages of CSB:

- If the officials have a fixed tenure they will be able to **provide better administration.**
- The officials will also feel safe and try to **stick to the rules instead of pleasing political bosses.**
- Every official requires 3-6 months to get into the groove at his new place of posting. If he stays there for two years, it would mean **better delivery and stable tenure to people.**

Criticism

- Appointment and transfer of IAS officers are a prerogative of the state. If their term is fixed, it will not only **create functional and administrative problems**, but also overstep the authority and jurisdiction of the state government.
- The political leadership of ruling party in the state has usually always had a say in postings and transfers of district officials in the state. With the fixed tenure rule and Chief Secretary's board having all power to examine a recommendation for a transfer, the **leaders feel their influence has been reduced to a naught and all power handed to the CS.**
- It will make them **less answerable and accountable to legislators.**

A healthy working relationship between Ministers, MPs, MLAs and civil servants is critical for good governance.

Amendments in Postal Ballot System

- Keeping in mind the safety of senior citizens amid rising cases of the coronavirus, Ministry of Law and Justice has notified an **amendment in the Conduct of Elections (Amendment) Rules 2020 for extending postal ballot facility for electors above the age of 65 years and corona patients.**
- In October 2019, the Law Ministry amended the Conduct of Election Rules to **allow people with disabilities and those who are 80 years of age or above to opt for postal ballot** during Lok Sabha and assembly elections.

- After the coronavirus outbreak in India, Bihar will be the first state to have assembly polls. And voters of Bihar will be the first to benefit from the amended rules.

Criticisms

- Our electoral system has always treated **physical verifiability of the voters as the bedrock of integrity**. With the two amendments to the rules, a very large number of voters will be out of the verifiability matrix.
- These changes raise a **question on the transparency and integrity of the process** and “the leverage available to the incumbent administration in organizing the postal ballots.

About Postal Ballot System

- Postal voting is a type of voting in elections whereby **Electronically Transmitted Postal Ballot Papers (ETPB) are distributed to electors and returned by post**.
- While India has a system in place for postal ballots, it is **restricted to certain categories of people**.

Who All Can Vote Through Postal Ballots?

- According to Election Commission (EC) of India, the facility is available to a **service voter** — means
 - i) Being a member of the armed forces of the Union; or
 - ii) Being a member of a force to which provisions of the Army Act, 1950 (46 of 1950), have been made applicable whether with or without modification ;
 - iii) Being a member of an Armed Police Force of a State, and serving outside that state; or
 - iv) Being a person who is employed under the Government of India, in a post outside India.
- People with disabilities and those who are 80 years of age or above(Now 65 and above).
- While prisoners are not allowed to vote, **people under preventive detention can cast their votes through postal ballots as well**.

International Day of Parliamentarism

- The International Day of Parliamentarism is celebrated every year on 30 June, the date in 1889 on which the **Inter-Parliamentary Union (IPU)** was founded. The Day was **established in 2018 through a United Nations General Assembly Resolution**.
- This year, it is being celebrated under the **theme “Parliaments in a time of Pandemic.”**

About Inter-Parliamentary Union

- The IPU is **the global organization of national parliaments**. Began in 1889 as a small group of parliamentarians, dedicated to promoting peace through parliamentary diplomacy and dialogue, currently it has **179 Member Parliaments ,13 Associate Members**.
- The IPU has **permanent observer status at the United Nations General Assembly** and is **headquartered in Geneva, Switzerland**.
- It is financed primarily by Members out of public funds.

United Nations Public Service Day

- In 2002, The **UN General Assembly, designated June 23 as Public Service Day** by adopting resolution 57/277. The purpose was mainly to **value and spread awareness about public service in the community**.

- To bolster recognition of the Day and the value of public service, the United Nations established the **UN Public Service Awards (UNPSA) programme** in 2003.
- The day also marks the anniversary of the date when the International Labour Organization adopted the Convention on Labour Relations (Public Service), 1978 (No. 151). This Convention is a framework for determining working conditions of all civil servants across the world.

QS World University Rankings

- The Quacquarelli Symonds (QS) World University Rankings (WUR) 2021 were recently released. QS is the world's leading provider of services, analytics, and insight to global higher education sector.
- Its mission is to enable motivated people anywhere in the world to fulfil their potential through educational achievement, international mobility, and career development.
- Launched in 2004, the QS World University Rankings is an annual publication of university rankings which comprises the global overall and subject rankings.
- The parameters with various weights used in the rankings are **academic reputation (40%), employer reputation (10%), citations per faculty (20%), faculty/student ratio (20%), international faculty ratio (5%) and international student ratio (5%)**.

Highlights Of The Rankings

- Globally, **MIT** is the number one university, followed by **Stanford University** and **Harvard University**. There are 26 Asian universities that have made it to the top 100 universities.
- Of these 26, Mainland China and South Korea have six each, Hong Kong and Japan have five each, Singapore has two universities and Malaysia and Taiwan have one each.
- Three Indian institutes have made it to the top 200 of the latest rankings. **IIT Bombay** ranked in 172nd position, **IISc Bangalore** in 185th, and **IIT Delhi** has made it into the 193rd position. However, not a single Indian institute got a position in top 100 universities of the ranking this year.
- Overall, 21 Indian universities and institutes have found a place this year among the world's top 1,000, as opposed to 25 last year.
- Of the 21, 14 have fallen in rank and only four – IIT-Guwahati, IIT-Hyderabad, OP Jindal University, and Savitribai Phule Pune University – have improved their position
- Out of the 20 IoEs selected by the Indian government, only 13 found a place in the QS WUR 2021 and 10 of those have slipped down from their rankings last year.
- Private IoEs BITS-Pilani and VIT are among the four institutions that have been dropped from the top 1,000 universities. Last year, they were placed in the 801-1000 band.

Analysis

- Indian higher education performs most strongly in research quality, though its universities are failing to increase their academic standing and teaching capacity, at the same rate as competitors across the world.
- India's universities continue to record low levels of internationalization and high class sizes, which is preventing improved performance.
- Though India's universities have dropped as a group this year, this is because of other universities across the world making increasingly intense efforts to enhance their educational offerings.
- To regain lost ground, Indian higher education must find ways of increasing teaching capacity, and of attracting more talented students and faculty across the world.

Educational Complex For Tribal Students

- The Odisha govt has announced three mega educational complexes exclusively for tribal students from Standard I to XII, where both academic and sporting skills will be harnessed. The complexes will be established in tribal dominated districts such as **Keonjhar, Sundargarh and Mayurbhanj**.
- Moreover, skill development centres will be an integral part of the projects.
- Each complex will house 3,000 tribal students, which is being dubbed as a unique initiative in government sector in the country.
- Funds required for mega complexes will be sourced from Odisha Mineral Bearing Areas Development Corporation (OMBADC), which was formed for focused development of mineral rich districts. Incidentally, most mineral rich districts are tribal dominated.

Tribes in Odisha

- According to 2011 Census, Odisha's tribal population constitutes 9.17 of country's tribal population and in Odisha, tribal population is 22.85% of State's total population.
- With 62 tribal communities, Odisha has most diverse tribes in India and in terms of tribal population, it occupies the third position in India. Similarly, of India's total 75 particularly vulnerable tribal groups, 13 reside in Odisha.
- **Santal & Bhuyan** are two dominant tribal groups living in Keonjhar, Mayurbhanj and Sundargarh.

Mining Hubs

- Incidentally, Keonjhar, where other tribes such as Sounti, Ho, Juang, Kharwar, Mahali, Oraon Kolha and Kora live, is the most mined district of the State.
- Keonjhar district itself contains more than 70% of the iron ore reserves of Odisha. Jharsuguda, Koraput and Mayurbhanj having extensive mining activities follows Keonjhar.

Sahakar Mitra

- The Ministry for Agriculture & Farmers' Welfare recently launched Sahakar Mitra, a **Scheme on Internship Programme (SIP)**.
- Sahakar Mitra will provide young professionals an opportunity of practical exposure and learning from the working of National Cooperative Development Corporation (NCDC) and cooperatives as a paid intern.
- It is expected to assist cooperative institutions access new and innovative ideas of young professionals while the interns gain experience of working in the field giving confidence to be self-reliant.
- It would also provide an opportunity to professionals from academic institutions to develop leadership and entrepreneurial roles through cooperatives as Farmers Producers Organizations (FPO).
- NCDC has earmarked funds for Sahakar Mitra paid internship program under which each intern will get financial support over a 4 months internship period.

Eligibility

- Professional graduates in disciplines such as agriculture and allied areas, IT etc. will be eligible for internship.
- Professionals who are pursuing or have completed their MBA degrees in agri-business, cooperation, finance, international trade, forestry, rural development, project management etc. will also be eligible.

National Cooperative Development Corporation (NCDC)

- The National Cooperative Development Corporation (NCDC) is a statutory Corporation set up under the NCDC Act in 1963.
- The objectives of NCDC are planning and promoting programmes for production, processing, marketing, storage, export and import of agricultural produce, foodstuffs, industrial goods, livestock and certain other notified commodities and services on cooperative principles.
- It can also finance projects in the rural industrial cooperative sectors and for certain notified services in rural areas like water conservation, irrigation and micro irrigation, agri-insurance, agro-credit, rural sanitation, animal health, etc.

Khelo India Centres

The Sports Ministry is set to establish 1000 Khelo India Centres (KIC) at the district level across the country with the help of sporting champions. The centres will either be run by a past champion or have them as a coach.

Need For The Step

- In order to make India a sporting superpower, the country has to ensure that sports become a viable career option for youngsters.
- Only when sports can offer a sustained means of livelihood to athletes, even after they stop playing competitive sports, will parents be motivated to allow their children to take up sports as a serious career option.
- Thus, the move is to tap into the expertise of past sporting champions for grassroot-level training of athletes and also to ensure a sustained source of income for them in the sports ecosystem.

Eligibility

- To build the country-wide network of Khelo India Centres, existing SAI extension centres will be given the option of converting into a KIC and recruiting a past champion to avail the financial grant under the scheme.
- Any past champion can also establish a new KIC with infrastructure owned by themselves, the central and state government, local authorities, clubs or educational institutions.
- To be eligible for grant under the scheme, the former athlete will be required to personally impart full-time training to athletes at the centre.
- Organisations which have been promoting sports for at least five years will also be eligible to establish a KIC, provided they recruit past champions as coaches.
- Organisations in J&K, Ladakh, Daman and Diu, Andaman and Nicobar Islands, Lakshadweep and north east states are exempt from this 5-year rule.

Eligibility For Former Players

- A short-listing mechanism has been put in place to identify former champions who are eligible to either establish their own academy or work as a coach in a KIC.
- The shortlisted former players have been divided into four categories:
 - Those who have represented India at recognised international competitions under a recognised National Sports Federation (NSF) or association.
 - Medallists at Khelo India Games (KIG)/National Championships of a recognised NSF.

- Medallists at University Games.
- Participants at KIG/Nationals.
- NIS-certified coaches from Jammu & Kashmir, Andaman & Nicobar Islands and Ladakh would also be eligible.

YUKTI 2.0

- The Ministry of Human Resource Development (MHRD) has launched 'YUKTI 2.0', an initiative to help systematically assimilate technologies having commercial potential and information related to incubated start-ups in higher education institutions.
- Earlier, the Ministry had launched the YUKTI (Young India combating COVID with Knowledge, Technology and Innovation) web portal in April, 2020, which aims to cover the different dimensions of COVID-19 challenges in a very holistic and comprehensive way.
- The Ministry has invited students, faculty members, start-ups and other stakeholders of higher education institutions to register on the YUKTI portal and share their technologies and innovations.
- Through YUKTI 2.0, MHRD will endeavour to ensure that students, teachers and researchers in higher educational institutions are getting appropriate support to meet the requirements needed to advance their technologies and innovations.
- The database will provide a clear picture of the state of the innovation ecosystem of the higher educational institutions. It will also help the government to identify bottlenecks and formulate appropriate policies to strengthen the innovation ecosystem in the country.

Queer Inclusion Policy

- To foster the inclusion of LGBTQAI+ employees, Mahindra Logistics Ltd. (MLL) has unveiled a five-year plan which aims at hiring queer people and extending benefits to same-sex partners.
- The company's diversity policy includes adoption leave for queer workers. Same-sex partners shall be eligible for 12-week adoption leave, starting from the date of the adoption.
- Benefits under the existing medical insurance shall be extended to same-sex partners on declaration of their partner's details.
- The employees are expected to be sensitive about the language that they use in the interactions. As a general rule, people should avoid using the label homosexual as it is still viewed negatively.
- Any incident of sexual harassment reported by a queer employee shall be investigated by the internal complaints committee.
- The company has also pledged equal opportunity and non-discrimination in various processes, including recruitment, transfer, relocation, training and development, career development, and promotion.

NIRF Rankings

- The Ministry of Human Resource and Development recently released the NIRF rankings 2020 for a total of 10 categories – Overall, Universities, Engineering, Colleges, Management, Pharmacy, Medical, Architecture, Dental and Law.

- NIRF was launched by the HRD Ministry in 2016 and evaluates institutions on *five broad generic groups of parameters*, i.e. **Teaching, Learning and Resources; Research and Professional Practice; Graduation Outcomes; Outreach and Inclusivity; and Perception.**
- Keeping in mind the social responsibility aspect of education in a developing country, there is a unique provision to judge institutions on inclusivity and outreach measures, including gender, geographical, and socio-economic diversity and the welcoming of differently abled students.
- All parameters and sub-parameters are duly normalized to keep them size-independent and age-independent so that large and old institutions do not get undue advantages.

Benefits Of The Ranking

- The ranking acts as a guide to students for selection of universities based on a set of criteria and helps universities to improve their performance on various ranking parameters and identify gaps in research and areas of improvement.
- Ranking of institutions at national level instil a competitive spirit amongst institutions to perform better and secure higher rank in international rankings.
- In addition, these rankings also attract foreign students, providing a solid base for the 'Study in India' programme. The exercise has also led to the habit of organization of data by the institutions.

Highlights

- **Overall:** The Indian Institute of Technology (IIT)-Madras is still the country's best in the field of higher education. The Indian Institute of Science (IISc), Bengaluru stands at the second place, followed by IIT-Delhi.
- **Universities:** Under the universities category, IISc topped the list, followed by Jawaharlal Nehru University and Benares Hindu University.
- **Colleges:** On the other hand, the best colleges are all part of Delhi University, with Miranda House getting the first rank, followed by Lady Shri Ram College for Women and Hindu College.
- The three best **engineering institutions** are IIT Madras, IIT Delhi, and IIT Bombay.
- The Indian Institutes of Management, at Ahmedabad, Bengaluru and Kolkata, took the top positions in the **management category**.
- National Law School of India University is the country's best institution for studying law, while IIT Kharagpur is the best place to study architecture.
- With regard to medical education, All India Institute of Medical Education stands in first place, followed by Post Graduate Institute of Medical Education and Research, Chandigarh and Christian Medical College, Vellore.

India Tuberculosis Report 2020

The Ministry of Health and Family Welfare recently released the Tuberculosis report 2020.

Highlights Of The Report

- The report stated that 79,144 deaths due to tuberculosis were reported in 2019, which is much lower than the WHO estimate of 4.4 lakh fatalities.
- According to the report, the "missing cases" — the gap between estimated incidences and notified cases — has drastically reduced from over 10 lakh in 2017 to 2.9 lakh in 2019 through greater engagement with private healthcare sector along with other initiatives.

- The notification of TB is a major hurdle in surveillance of the disease in India but around 24.04 lakh TB patients were notified in 2019, registering 14 per cent increase over the previous year, while the private sector saw an increase of around 35 per cent with 6.78 lakh tuberculosis patients notified.
- Due to easy availability of molecular diagnostics, the proportion of children diagnosed with TB increased to 8 % in 2019 compared to six per cent in 2018.
- Expansion of treatment services has resulted in a 12 per cent improvement in the treatment success rate of notified patients. For 2019, it is 81 per cent compared to 69 per cent the previous year.
- According to the report, similar to the previous year's trends over half of the total TB cases were notified from **five states** — Uttar Pradesh (20 %), Maharashtra (9 %), Madhya Pradesh (8 %), Rajasthan (7 %) and Bihar (7 %).

TB And Other Correlated Factors

- People living with HIV are the most vulnerable among all those TB patient groups which have other co-morbidities. A total 92,000 HIV-associated TB patients were recorded on an annual basis in India.
- The other vulnerable group is TB patients suffering from diabetes. It is especially relevant to India, considering the escalating prevalence of diabetes. 20% of all TB cases in India also suffer from diabetes.
- 8 % of TB cases can be attributable to tobacco usage.

Way Ahead

- The Ministry reiterated, that the government was committed to eliminating tuberculosis from the country by 2025, five years ahead of the global target.
- To align with the ambitious goal, the programme has been renamed from Revised National Tuberculosis Control Programme (RNTCP) to National Tuberculosis Elimination Programme (NTEP).
- Early accurate diagnosis followed by prompt appropriate treatment is vital for ending TB. Thus, the NTEP has expanded both laboratory network as well as diagnostic facilities to cover entire country.
- Further, it is important for the nation to come together to fight tuberculosis and the stigma surrounding it so that every TB patient can seek care with dignity and without discrimination.

Global Education Monitoring Report

- UNESCO recently released the Global Education Monitoring Report 2020. This year's Report is the fourth annual UNESCO GEM Report to monitor progress across 209 countries in achieving the education targets adopted by UN Member States in the 2030 Agenda for Sustainable Development.
- The report provides an in-depth analysis of key factors for exclusion of learners in education systems worldwide including background, identity and ability.

Impact Of Covid On Education Sector

- As per the report, the COVID-19 pandemic has worsened inequalities in education systems across the world. According to the report, about 40% of low- and lower-middle-income countries have not supported learners at risk of exclusion during this crisis, such as the poor, linguistic minorities and learners with disabilities.
- During the height of school closures in April 2020, almost 91% of students around the world were out of school. Not all students and teachers have access to adequate internet connection, equipment, skills and working conditions to take advantage of available platforms. Thus, efforts to maintain learning continuity during the pandemic may have actually worsened exclusion trends.

- Further, for poor students who depend on school for free meals or even free sanitary napkins, closures have been a major blow.
- Higher drop-out rates are also a concern, as during an earlier Ebola epidemic in Africa, many older girls never returned to school once the crisis was over.

Highlights From The Report

- Less than 10% of countries have laws that help ensure full inclusion in education. The report notes that 258 million children and youth were entirely excluded from education, with poverty as the main obstacle to access.
- In low- and middle-income countries, adolescents from the richest 20% of all households were three times as likely to complete lower secondary school as were as those from the poorest homes.
- Almost half of low- and middle-income countries do not collect enough education data about children with disabilities. Further, figures on learning are mostly taken from school, failing to take into account those not attending.
- The report shows that education systems often fail to take learners' special needs into account. Just 41 countries worldwide officially recognized sign language and, globally, schools were more eager to get internet access than to cater for learners with disabilities.
- Some 335 million girls attended schools that did not provide them with the water, sanitation and hygiene services they required to continue attending class during menstruation.
- When learners are inadequately represented in curricula and textbooks, they can feel alienated. This was evident in the curricula of 23 out of 49 European countries, which do not address issues of sexual orientation, gender identity or expression.

Way Ahead

As per the report, however, many countries were using positive, innovative approaches to accommodate different learners' needs: Odisha in India, for example, used 21 tribal languages in its classrooms, Kenya adjusted its curriculum to the nomadic calendar and, in Australia, the curricula of 19% of students were adjusted by teachers so that their expected outcomes could match students' needs. As schools reopen, report urges countries to focus on those left behind so as to foster more resilient and equal societies.

Global Trends Report

- The United Nations High Commissioner for Refugees (UNHCR) recently released the Global Trends Report, two days ahead of 20th June - World Refugee Day.
- The report counts and tracks the numbers of refugees, internally displaced people, people who have returned to their countries or areas of origin, asylum-seekers, stateless people and other populations of concern to UNHCR.
- This process is extremely important in order to meet the needs of refugees and other populations of concern across the world and the data help organizations and States to plan their humanitarian response.

Displacement Data At The End Of 2019

- The report shows that forced displacement is now affecting more than one per cent of humanity – 1 in every 97 people.
- An unprecedented 79.5 million were displaced (up from 70.8 million at the end of 2018) at the end of 2019. Of these 79.5 million, 45.7 million were people who had fled to other areas of their own

countries. Further, forced displacement has almost doubled since 2010 (41 million then vs 79.5 million now).

- The rest were people displaced elsewhere, 4.2 million of them being people awaiting the outcome of asylum requests, while 29.6 million were refugees and others forcibly displaced outside their country.
- 80 per cent of the world's displaced people are in countries or territories affected by acute food insecurity and malnutrition – many of them countries facing climate and other disaster risk.
- More than three-quarters of the world's refugees (77 per cent) are caught up in situations of long-term displacement – for example the situation in Afghanistan, now in its fifth decade.
- More than eight of every 10 refugees (85 per cent) are in developing countries, generally a country neighbouring the one they fled.
- **Five countries account for two-thirds of people displaced across borders:** Syria, Venezuela, Afghanistan, South Sudan and Myanmar.
- The report also notes diminishing prospects for refugees when it comes to hopes of any quick end to their plight. In the 1990s, on average 1.5 million refugees were able to return home each year. Over the past decade that number has fallen to around 385,000, meaning that growth in displacement is today far outstripping solutions.

Way Ahead

- People cannot be expected to live in a state of upheaval for years on end, without a chance of going home, nor a hope of building a future where they are.
- The world needs a fundamentally new and more accepting attitude towards all who flee, coupled with a much more determined drive to unlock conflicts that go on for years and that are at the root of such immense suffering.

United Nations High Commissioner for Refugees

- The UNHCR is a United Nations agency with the mandate to protect refugees, forcibly displaced communities and stateless people. It also assists in their voluntary repatriation, local integration or resettlement to a third country.
- It was created in 1950, during the aftermath of World War II, with its headquarters in Geneva, to help millions of Europeans who had fled or lost their homes.
- The 1951 Refugee Convention is the key legal document that forms the basis of its work. Ratified by 145 State parties, it outlines the rights of the displaced, as well as the legal obligations of States to protect them.

World Day Against Child Labour

- The World Day against Child Labour is held every year on June 12. The day was launched by ILO in 2002, after which it is annually celebrated to foster the worldwide movement against child labour in any of its forms.
- According to the International Labour Organization (ILO), there are about **152 million children globally** who are engaged in child labour, 72 million of whom are in hazardous work.
- The day is used to spread awareness about the harmful mental and physical problems faced by children forced into child labour, around the world. It also gives an opportunity for people to develop efficient mechanisms to combat specific issues that leads to child labour.

- The theme this year is ‘**Covid-19: Protect Children from Child Labour, now more than ever**’ and focuses on the impact of the pandemic on child labour.
- The COVID-19 health pandemic and the resulting economic and labour market shock are having a huge impact on people’s lives and livelihoods, which can push millions of vulnerable children into child labour. These children are now at an even greater risk of facing circumstances even more difficult and working longer hours.

SATYABHAMA Portal

- The Ministry for Mines recently launched the SATYABHAMA (Science and Technology Yojana for Aatmanirbhar Bharat in Mining Advancement) Portal for Science and Technology Programme Scheme of Ministry of Mines.
- Ministry of Mines, provides funds to academic institutions, universities, national institutes and R&D institutions recognized with the Department of Scientific and Industrial Research, for implementing R&D projects under Science and Technology Programme Scheme of Ministry of Mines.
- The idea behind the funding is to promote research in applied geosciences, mineral exploration, mining and allied areas, mineral processing, optimum utilization and conservation of the mineral resources of the country.
- The portal has been designed, developed and implemented by National Informatics Centre (NIC) and will increase efficiency and effectiveness in the implementation of the Scheme.
- In contrast to present system where research proposals are submitted physically by the scientists/researchers, the SATYABHAMA portal allows online submission of project proposals along with monitoring of the projects and utilization of funds/grants.
- The researchers can also submit progress reports and Final Technical Reports of the projects in the electronic format in the portal. The portal is also integrated with NGO Darpan Portal of NITI Aayog.

Payments Infrastructure Development Fund (PIDF)

- In an effort to give a push to digital payments across the country, the Reserve Bank of India (RBI) has set up a Payment Infrastructure Development Fund (PIDF) of Rs 500 crore.
- The fund has been created to encourage acquirers to deploy point of sale (PoS) infrastructure, both physical and digital, in tier-3 to tier-6 centres and north eastern states.
- RBI will make an initial contribution of ₹250 crore to the PIDF, covering half of the fund, while the remaining contribution will be from card-issuing banks and card networks operating in the country.
- The PIDF will also receive recurring contributions to cover operational expenses from card-issuing banks and card networks. RBI will also contribute to yearly shortfalls, if necessary.

Need For The Move

- Over the years, the payments ecosystem in the country has evolved with a wide range of options such as bank accounts, mobile phones, cards, etc.
- Given the high cost of merchant acquisition and merchant terminalisation, most of the POS terminals in the country are concentrated in tier 1 and 2 cities and towns and other regions have been left out.
- To provide further fillip to digitisation of payment systems, it is necessary to give impetus to acceptance infrastructure across the country, more so in under-served areas.

- Last year, the RBI had also proposed to set up an Acceptance Development Fund which will be used to develop card acceptance infrastructure across small towns and cities.

Impact

- The enhanced ability of PoS infrastructure is supposed to reduce demand of cash over time.
- The move will also make the economics more favourable in payments business which, on a standalone basis, is a loss-making one for banks and will significantly increase the merchant base accepting digital payments.

Cooperative Banks Under RBI Supervision

The President has recently promulgated the Banking Regulation (Amendment) Ordinance, 2020, to bring **all urban cooperative banks and multi-state cooperative banks** under the supervision of the RBI, empowering the central bank to regulate these on the lines of commercial banks. The Ordinance amends the Banking Regulation Act, 1949 as applicable to cooperative banks.

Background

- There are 1482 urban cooperative banks and 58 multi-State cooperative banks, and these banks have a depositor base of 8.6 crore, who have a huge saving of Rs 4.84 lakh crore with these banks.
- Until now, these banks were under **dual regulation** of the RBI and the Registrar of Co-operative Societies, resulting in regulatory and supervisory lapses.
- The decision comes in the backdrop of the RBI imposing restrictions on deposit withdrawal at Punjab and Maharashtra Cooperative Banks and many other cooperative banks failing in recent period.
- The Finance Minister had also introduced 'The Banking Regulation (Amendment) Bill, 2020', in the Lok Sabha in March 2020 (which is still pending), to enforce banking regulation guidelines of the RBI on cooperative banks.

Provisions Of The Ordinance

- The Ordinance has empowered the RBI to **supersede the Board of Cooperative Banks** for up to five years and not just the Boards of Multi-State Cooperative Banks as proposed in the amendment Bill that was introduced in Parliament in March this year.
- It specifies that in case of a cooperative bank registered with the Registrar of Cooperative Societies of a state, the RBI will supersede the Board of Directors after consultation with the concerned state government, and within such period as specified by it.
- It facilitates making of reconstruction or amalgamation schemes for protecting the interest of the public, depositors and the banking system and for securing its proper management, even without making an order of moratorium, so as to avoid disruption of the financial system.
- It also allows a cooperative bank to **issue equity shares, preference shares, or special shares** on face value or at a premium to its members or to any other person residing within its area of operation.
- Also, cooperative banks can **issue unsecured debentures or bonds** or similar securities with maturity of ten or more years to such persons. Such issuance will be subject to prior approval of RBI.
- However, the amendments do not affect existing powers of the State Registrars of Co-operative Societies under state co-operative laws.
- The amendments also **do not apply to Primary Agricultural Credit Societies (PACS)** or co-operative societies whose primary object and principal business is long-term finance for agricultural development.

Impact

- The ordinance will protect the interests of depositors and strengthen cooperative banks by improving governance and oversight by extending powers already available with RBI, in respect of other banks.
- The move will also ensure to inculcate professionalism in cooperative banks, along with helping cooperative banks to access capital.

Co-operative Banks

- Cooperative bank is an institution established on the cooperative basis and dealing in ordinary banking business. It belongs to its members, who are both owners and customers of their bank.
- These banks have mostly been centred around communities and localities lending to small borrowers and businesses.
- Like other banks, the cooperative banks are founded by collecting funds through shares, they accept deposits and grant loans.

World Food Prize 2020

- A renowned Indian-American agricultural soil scientist from Ohio State University (OSU), Dr Rattan Lal (76), has been declared the winner of the World Food Prize 2020.
- Dr Lal's research in the 1990s revealed that restoring degraded soils through increasing soil carbon and organic matter not only improved soil health, but helped combat rising carbon dioxide levels in the air by sequestering atmospheric carbon.
- This breakthrough research transformed the way the world saw soils. As a result, soils are now not only the foundation for increasing the quality and quantity of food and preserving natural ecosystems but an important part of mitigating climate change, as well.
- Three separate United Nations Climate Change Conferences adopted his strategy of restoring soil health as a means to sequestering carbon.
- He also provided leadership to a range of soil restoration projects in Asia, Africa and Latin America, integrating no-till farming and use of cover crops, mulching and agro-forestry to protect soil, conserve water and return back nutrients, carbon and organic matter in the soil.

World Food Prize

- The World Food Prize is an international award recognizing the achievements of individuals who have advanced human development by improving the quality, quantity, or availability of food in the world.
- Since 1987, the prize has been awarded annually to recognize contributions in any field involved in the world food supply.
- Conceived by **Nobel Peace Prize Laureate Norman Borlaug**, the award is considered to be the Nobel Prize in Agriculture. Borlaug saw the prize as a means of establishing role models who would inspire others.

Real Time Market for Electricity

- The Ministry of Power and New & Renewable Energy has launched a pan-India Real Time Market in electricity. This has placed Indian electricity market amongst a league of few electricity markets in the world, which have real time market.

- Real time market (RTM) is an organized market platform to enable the buyers and sellers pan-India to meet their energy requirement closer to real time of operation. It enables consumers, including distribution companies (discoms) and captive users, to buy power on exchanges just half-an-hour before delivery.
- So far, the shortest period of trading in electricity in the country has taken place a day ahead of the market, meaning one had to place order for supplies at least a day in advance.
- RTM would be for every 30 minutes in a day based on double sided closed auction with uniform price. The concept of “Gate Closure” has been introduced for bringing in the desired firmness in schedules during the hours of market operation. Buyers/sellers shall have the option of placing buy/sell bids for each 15-minute time block.
- National Load Despatch Centre-POSOCO is facilitating necessary automation in coordination with power exchanges to ensure faster transactions and settlements in the real time market framework.

Benefits of Real Time Market

- Introduction of RTM will bring required flexibility in the market to provide real time balance while ensuring optimal utilization of the available surplus capacity in the system.
- It will also help manage diversity in the demand pattern in the country with an organized market at national level.
- It is expected that shorter bidding time, faster scheduling, and defined processes (e.g. gate closure) are expected to enable the participants to access resources throughout the all India grid, promoting competition.
- It would also lead to cost optimization of power purchase and serving the consumers with reliable supply as any last minute requirement of power can easily be bought from the RTM.
- **For Power Utilities:** RTM would provide an alternate mechanism for Discoms to access larger market at competitive price. On the other hand, generators would also benefit by participating in the real time market with their un-requisitioned capacity.
- **For Grid Management:** The Union Government’s target of 175 GW renewable energy capacity by 2022 is driving accelerated renewable penetration pan-India. The RTM would help to mitigate challenges to the grid management due to intermittent and variable nature of renewable energy generation and therefore, help to integrate higher quantum of renewable energy resources into the grid.

Global Economic Prospects

The World Bank recently released the June 2020 Global Economic Prospects (GEP) 2020 report.

Global highlights

- The world economy, as a whole, is set to witness its deepest recession since World War II, with a forecasted contraction of 5.2% this year, during which around 60 million people could be pushed into extreme poverty.
- The vulnerabilities associated with informality like widespread poverty, deficient public health and medical resources, and weak social safety nets have amplified the economic shock to livelihoods from Covid-19.
- According to the report, 90% of economies would be in recession, higher than levels seen during the Great Depression of the 1930s.

- While advanced economies are likely to see a 7% contraction this year, the WB expects Emerging market and developing economies (EMDEs), to shrink by 2.5%, the first output contraction for the group since 1960.
- Countries most reliant on global trade, tourism, external financing and commodity exports are likely to be hit the hardest.
- These forecasts are highly uncertain, and the risks to the outlook are heavily skewed to the downside i.e., there is a good chance the forecasts will be even worse.

Indian and South Asian forecast

- The report expects India's economy to contract 3.2% in the current fiscal year, a sharp downgrade from its April projection of 1.5%-2.8% growth. However, it projects a growth forecast of 3.1% in the next year.
- Spill over effects from major trading partners could negatively impact economic activity in the South Asian region and supply chain linkages could depress activity in the medium term.
- For the South Asian region as a whole, economic activity is expected to contract by 2.7% in 2020, due to restrictions impacting consumption and services and the uncertainty causing a halt in private investments. The region as a whole is expected to grow at a rate of 2.8% next year.

Way Ahead

- There is an urgent need for health and economic policy action, including global cooperation, to cushion its consequences, protect vulnerable populations, and strengthen countries' capacities to prevent and deal with similar events in the future.
- Emerging market and developing economies with available fiscal space and affordable financing conditions could consider additional stimulus if the effects of the pandemic persist.
- This should be accompanied by measures to help credibly restore medium-term fiscal sustainability, including those that strengthen fiscal frameworks, increase domestic revenue mobilization and spending efficiency, and raise fiscal and debt transparency.

Rising Fuel Price In India

In the past one month, prices of petrol and diesel have been rising in India with every passing day. Fuel price decontrol has been a step-by-step exercise, with the government freeing up prices of ATF in 2002, petrol in the year 2010 and diesel in October 2014. Prior to that, the government used to intervene in fixing the price at which the fuel retailers used to sell diesel or petrol.

Fuel Pricing In India

- Price decontrol essentially offers fuel retailers such as Indian Oil, HPCL or BPCL the freedom to fix prices of petrol or diesel based on calculations of their own cost and profits.
- This calculation is a factor of the price at which they source their inputs from upstream oil companies such as ONGC Ltd or OIL India Ltd, for whom the price benchmark is derived from global crude prices.
- In India, for petrol, diesel or ATF, the price is supposed to be reflective of the price movements of the so-called Indian basket of crude oil, which represents a derived basket comprising a variety — '**sour grade**' (Oman and Dubai average) and '**sweet grade**' (Brent) — of crude oil processed in Indian refineries.

- However, when global prices go up, they are passed on to the consumer, who has to pay more but when the reverse happens and prices go down, the government generally imposes fresh taxes and levies to ensure that it gets extra revenues.

Current Scenario

- The global crude price has seen a significant fall this year due to the demand destruction related to the Covid pandemic. On the other hand, in India, retail prices of fuel were frozen for a record 82-days that covered much of this period, even as the excise duty on fuels was hiked by the Centre twice.
- The government stated that the decision to raise the duties, was taken in view of the tight fiscal situation and that retail prices were unchanged.
- So, effectively, the excise duty hikes by the centre was to be adjusted by the OMCs against the fall in oil prices, but now, the retail prices are also being progressively hiked.
- With two excise duty hikes, the government is collecting around 260 per cent taxes, (Excise Duty and VAT) on the base price of petrol and 256 per cent in the case of diesel (as on 6th May 2020). These revisions put India among countries with the highest taxes on fuel.
- In comparison, taxes on fuels as a percentage of pump prices was around 65 % of the retail price in Germany and Italy, 62 % in the UK, 45 % in Japan and under 20 % in the US.

Impact On OMCs

- OMCs, interestingly, are also among the losers from the sharp downward fall in oil prices. The problem for companies such as IOC or BPCL is that a continuous slide in fuel prices leads to the prospect of inventory losses.
- **Inventory loss** means losses incurred when crude oil prices start falling and companies that have sourced the crude oil at higher prices discover that the prices have reduced by the time the product reaches the refinery for processing or the finished product is ready for selling.
- Including both crude oil and products, companies such as IOC keep an inventory of about 20-50 days.
- Oil refiners in India, have had to incur a loss of over Rs 25,000 crore in the January-March quarter because of the 70 % fall in crude oil prices and the overall demand destruction.
- Thus, the only entity that benefits at the consumer's expense is the government — both the Central and state governments.

Incentive Schemes For Pharmaceuticals And Electronics Industry

- The Prime Minister has raised concerns with India's dependence on imports. Post which, the government has begun laying the groundwork to achieve this in various promising sectors.
- Sectors already identified by the Department of Promotion for Industry and Internal Trade (DPIIT) include capital goods and machinery, mobile and electronics, gems and jewellery, pharmaceuticals, textiles and garments.
- These sectors have been identified as India has a natural advantage in these sectors, which can grow to become a strength for the country.

Reduce Dependence On Imported APIs

- The government has made a proposal to offer local manufacturers of active pharmaceutical ingredients (APIs), production and viability-linked incentives, to reduce its import dependence on China for sourcing drug raw material.

- The incentive is part of a Rs 10,000-crore production-linked incentive scheme approved by the cabinet in March 2020 to speed up manufacturing of critical bulk drugs and APIs in the country.
- This assumes significance because price of API or bulk drug has been a crucial factor stopping local players from entering into manufacturing in India, as API imported from China has been priced much cheaper than the domestically manufactured ones.
- Incentives up to Rs 10 crore each will be given to domestic companies investing in greenfield investments to manufacture 53 crucial APIs of anti-TB drugs, steroids and vitamins.
- Incentives will be given on condition that products must be manufactured with complete backward integration and supplied to domestic drug-makers only.

Electronics Incentive Schemes

- The government has also launched three incentive schemes with a total outlay of about ₹48,000 crore to boost large-scale manufacturing of electronics in the country.
- The schemes are aimed at attracting large international manufacturers, while also empowering domestic companies to emerge stronger and gain scale globally.
- The three schemes are
 - a) Production Linked Incentive (PLI) for Large Scale Electronics Manufacturing, with an outlay of nearly ₹41,000 crore.
 - b) Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS), with an outlay of about ₹3,300 crore and
 - c) Modified Electronics Manufacturing Clusters (EMC 2.0), with an outlay of about ₹3,800 crore
- The **PLI scheme** shall extend an incentive of 4% to 6% on incremental sales (over base year) of goods manufactured in India to eligible companies, for a period of five years.
- **SPECS** shall provide financial incentive of 25% on capital expenditure for the identified list of electronic goods.
- **EMC 2.0** shall provide support for creation of world class infrastructure along with common facilities and amenities, including Ready Built Factory (RBF) sheds/Plug and Play facilities for attracting major global electronics manufacturers.
- The three Schemes together will enable large scale electronics manufacturing, domestic supply chain of components and state-of-the-art infrastructure and common facilities for large units and their supply chain partners.
- The schemes are expected to attract substantial investments, increase production of mobile phones and their components to around Rs.10,00,000 crore by 2025 and generate around 5 lakh direct and 15 lakh indirect jobs.

Ratings Downgrade

- Global ratings agency Moody's Investors Service has downgraded India's sovereign ratings to "Baa3" from "Baa2", with the outlook of the country remaining "negative".
- Further, Fitch ratings has also revised the outlook on India's sovereign rating to negative from stable but retained the rating at BBB (minus).
- However, S&P ratings has retained India's sovereign credit rating at BBB (minus) with a stable outlook for the 13th year in a row.

- As things stand, all three major global ratings agencies – Moody's, Fitch and S&P – have the lowest investment grade rating on India.

Credit Ratings

- Credit rating agencies rate the financials and business models of companies, as well as economic management by sovereign governments.
- The agencies rate instruments such as bonds, debentures, commercial papers, deposits, and other debt offerings of companies or governments to help investors make informed decisions.

Sovereign Credit Rating

- A sovereign credit rating is an independent assessment of the creditworthiness of a country or sovereign entity. It gives investors insights into the level of risk associated with investing in the debt of a particular country, including any political risk.
- Several key factors come into play in deciding how risky it might be to invest in a particular country or region. They include its debt service ratio, growth in its domestic money supply, its import ratio, and the variance of its export revenue.
- Obtaining a good sovereign credit rating is usually essential for developing countries that want **access to funding in international bond markets**.
- In addition to issuing bonds in external debt markets, another common motivation for countries to obtain a good sovereign credit rating is to **attract foreign direct investment (FDI)**.

Observations Made By The Ratings Agencies

Moody's

Moody's cited four main reasons for the ratings downgrade:

- Weak implementation of economic reforms since 2017
- Relatively low economic growth over a sustained period
- A significant deterioration in the fiscal position of governments (central and state)
- And the rising stress in India's financial sector

Fitch

- Fitch said that India's record of fiscal consolidation has been mixed since 2008 global financial crisis, with the general government debt remaining broadly stable at close to 70% of GDP for over a decade.
- Fitch further expects general government debt to jump to 84.5% of GDP in FY21 from an estimated 71% of GDP in FY20.
- Weak implementation of fiscal rules stipulated in the Fiscal Responsibility and Budget Management Act further contributes to the view that a speedy fiscal improvement after the pandemic slows down, is unlikely.

S&P

- Affirming 'BBB-' long-term credit ratings on India, S&P said it reflects the country's above-average real GDP growth, sound external profile, and evolving monetary settings.
- However, new risks are emerging that could weaken the economy's recovery, even beyond the containment of Covid-19.
- Productive capacity has been severely disrupted during this period, and millions of workers have left their jobs to return home. India's labour markets have therefore weakened dramatically, and may take some time to heal.

Implications Of The Downgrade

- A rating downgrade means that bonds issued by the Indian governments are now “riskier” than before, because weaker economic growth and worsening fiscal health negatively impact a government’s ability to pay back.
- When India’s sovereign rating is downgraded, it becomes costlier for the Indian government as well as all Indian companies to raise funds because now the world sees such debt as a riskier proposition.
- The downgrade is also likely to put pressure on the rupee and impact investor sentiment which is already quite low due to the impact of the pandemic on all major global economies.

Ordinances For The Farming Sector

After the government announcement for reforms in the agricultural sector for raising the income of the farmers as part of the ‘Aatmanirbhar Bharat’ Abhiyan, the President has promulgated two Ordinances with the aim of giving a boost to rural India for farmers engaged in agriculture and allied activities

Farmers’ Produce Trade and Commerce (Promotion and Facilitation) Ordinance, 2020

- The ordinance seeks to provide for barrier-free trade of farmers’ produce outside the markets notified under the various state agricultural produce market laws (state APMC Acts). The Ordinance will prevail over state APMC Acts.
- The ordinance allows farmers, farm producer organisations as well as anyone who buys farmers’ produce for wholesale trade, retail, end-use, value addition, processing, manufacturing, export, or consumption, to engage in such intra-state or inter-state trade.
- A farmer is defined as a person engaged in the production of farmers’ produce by self or by hired labour.
- A farmer producer organisation means an association or group of farmers which is registered under the law, or promoted under a scheme of the central or state government.
- However, to trade in scheduled farmers’ produce (agricultural produce specified and regulated under state APMC Acts), an entity must be either
 - A farmer producer organisation or agricultural cooperative society, or
 - A person having permanent account number under the Income Tax Act or any other document notified by the central government.
- The ordinance also permits the electronic trading of farmers’ produce in the specified trade area.
- **Payment to Farmers:** A person transacting with a farmer will be required to make payments to the farmer on the same day, or within three working days in certain conditions, for any transaction of scheduled farmers’ produce.
- **State Levies:** The Ordinance prohibits state governments from levying any market fee, cess or levy on farmers, traders, and electronic trading platforms for any trade under the Ordinance.

The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Ordinance, 2020

- The ordinance provides a framework for the protection and empowerment of farmers with reference to the sale and purchase of farm products.

- It will essentially allow farmers and buyers to enter into contracts in which the former is assured of a certain price at the time of sowing while the latter gets to procure the harvested produce at the pre-decided rate subject to quality norms. Thus, both parties will be insulated from excessive market risk
- Such an agreement may be between a farmer and a sponsor, or a farmer, a sponsor, and a third party. A sponsor includes individuals, partnership firms, companies, limited liability groups and societies. State governments may establish a registration authority to provide for the electronic registry of farming agreements.
- The farming agreement may be linked with insurance or credit instruments under schemes of central and state governments or any financial service provider. This will ensure risk mitigation and credit flow to farmers or sponsors or both.
- The ordinance prohibits sponsors from acquiring ownership rights or making permanent modifications on a farmer's land or premises under a farming agreement.
- **Duration of agreement** : The minimum period of an agreement will be one crop season, or one production cycle of livestock and the maximum period will be five years. For production cycle beyond five years, the maximum period for the agreement will be mutually decided by the farmer and the sponsor.
- **Exemptions from existing laws** : Farming produce under a farming agreement will be exempted from all state Acts aimed at regulating sale and purchase of farming produce. The produce will also be exempted from provisions of the Essential Commodities Act, 1955 and will not have any stock limit obligations.

The two ordinances will enable barrier-free trade in agriculture produce by eliminating intermediaries and accord the much needed freedom to the farmer, which is of paramount importance.

Philippines Suspends Abrogation of Defense Pact with US

The government of the Philippines has suspended its plan to abrogate the bilateral Visiting Forces Agreement with the United States.

Background

- Philippines had notified the U.S. government on Feb. 11 that it intends to abrogate the 1998 agreement. The termination would have taken effect after 180 days, **in August**, unless both sides agreed to keep the agreement.
- However, in June, the govt. of Philippines decided to suspend the waiting time for another six months.

What is Visiting Forces Agreement (VFA)

- The agreement allows the **entry of large numbers of American forces** for joint combat training with Filipino troops and lays down the legal terms for their temporary stay.
- the VFA plays a fundamental role in normal military activities within the confines of the alliance.
- Also, without a VFA, the implementation of the **2014 Enhanced Defense Cooperation Act, or EDCA, would be impossible.**

Why Philippines Decided To Abrogate The Pact At The First Place

- The proximal trigger for the decision to abrogate the VFA was anger over the United States' refusal to grant a visa to a Philippine lawmaker.
- This person had been responsible for Philippines' war on drugs, which has been widely criticized for human rights violations and extrajudicial violence.

- Also, the administration of Rodrigo Duterte has been putting **efforts to move Manila closer to Beijing**. Philippines' February decision had much to do with **ongoing U.S.-China tensions in the region**.

Why The Abrogation Was Suspended

- Manila has witnessed a **series of provocations by China in the South China Sea**, where it is a claimant state. The U.S. Navy has been present in the region and vocally supported the claimant countries against Chinese assertiveness.
- Also, the implications of the global COVID-19 pandemic may be weighing on Manila.
- As room for maneuver for militaries becomes constrained amid the pandemic, continued U.S.-Philippine cooperation may allow for improved capacity to respond to various contingencies.

Japan Renames Area Containing Senkaku Islands

The **Ishigaki Municipal Assembly** (A local council in southern Japan) has **renamed** an administrative area that includes a **group of disputed islands in the East China Sea**. This move is likely to trigger a strong reaction from Taiwan and China, which both claim the uninhabited islands as their own.

What Has Been Changed

- The name of the area containing the Senkaku Islands has been changed from “Tonoshiro” to **“Tonoshiro Senkaku.”**
- Japanese officials claim that the move is aimed at **resolving administrative confusion** between a locale in downtown Ishigaki, which shares the name “Tonoshiro” with the islands.

About Senkaku Islands

- The Senkaku Islands are located in the **East China Sea**. The sovereignty on this island is claimed by Japan, the People's Republic of China, and the Republic of China (Taiwan).
- Tensions over the islands escalated after Japan brought them under state control in September 2012.

Arrest Warrant for US President Trump

- **Iran has issued an arrest warrant** and asked Interpol for help in detaining US President Donald Trump and more than 30 others. It has issued *Red notice request* for this purpose.
- Iran believes these people **carried out drone strike that killed a top Iranian general** in Baghdad.

Red Notice Request

- Under a red notice, local authorities make the arrests on behalf of the country that requested it.
- The notices cannot force countries to arrest or extradite suspects, but can put government leaders on the spot and limit suspects' travel.
- While the organization is responsible for coordinating international policing efforts, it **does not have the authority to make arrests**.

Would Interpole Consider This Request

- The constitution of Interpole (based in Lyon, France) prohibits it to undertake any intervention or activities of a political, military, religious or racial character.
- It is believed that the current step of Iran is of political nature, the Interpole would most likely reject the request.

[Also refer the topic “**Killing of Iranian Commander and India’s Concerns**” from January 2020 issue of CA magazine]

Statehood Bill for Washington D.C

The lower house of the United States Congress, the House of Representatives, has voted in favour of the Bill that would grant the United States’ capital Washington D.C statehood. Washington D.C, in 1790, was carved out from the states of Virginia and Maryland.

Key Highlights

- The legislation is to make D.C. (stands for District of Columbia) the 51st U.S. state.
- The bill would establish a **federal district comprising** the Capitol and White House, the National Mall and other major federal buildings.
- The **rest of the District** would become a state called **Washington, Douglass Commonwealth**, named for the Black abolitionist and intellectual Frederick Douglass.
- There is less likely that the bill would come into force due to following reasons:
 - Bill is yet to be passed from Upper House called the Senate where Republicans hold the majority (lower house is controlled by Democrats).
 - The United States President has made it clear that he would ‘veto’ the Bill even if it is passed at the Senate.

Constitution of Nepal (Second Amendment) Bill 2077

Nepal's Lower House has unanimously passed the Constitution of Nepal (Second Amendment) Bill 2077. The bill contains **proposal to a new map of the country** that includes Indian areas of Kalapani, Limpiyadhura and Lipulekh.

India’s Response

- India has stated that the artificial enlargement of claims is not based on historical fact or evidence and is not tenable.
- It is also violative of current understanding to hold talks on outstanding boundary issues.

[For detailed discussion on Border issue, please refer the topic **Indo-Nepal Border Dispute** from CA magazine for the month of May 2020]



Pakistan to Remain on FATF Grey List

- Pakistan will remain on the “**greylist**” for terror financing until **October 2020**.
- The decision has been taken as Pakistan has failed to check flow of money to terror groups like Lashkar-e-Taiba (LeT) and Jaish-e-Mohammed (JeM).
- This decision was taken at the FATF’s third and final plenary held virtually due to the COVID-19 pandemic. The **plenary was held under the Chinese Presidency of Xiangmin Liu**.

Shwe project in Myanmar

The government has approved a proposal for **additional investment** to be made by ONGC Videsh Ltd (OVL) in the **development of an oil and gas project** in neighbouring Myanmar.

Key Highlights

- OVL will be investing an additional \$121.27 million towards further **development of Shwe oil & gas project in Myanmar**. The Cabinet Committee on Economic Affairs (CCEA) has given clearance in this regard.
- OVL has been associated with exploration and development of Shwe gas project in Myanmar since 2002.

Why The Need For More Investment?

- The first gas from Shwe Project was received in July 2013 and **plateau production was reached in December 2014**.
- Additional investment in the project will help the block to ramp up production and generate more value to the investors.

Importance Of This Project

- It is aligned with government's Act East Policy.
- It is also part of **India's strategy to develop 'energy bridges'** with its neighbours in addition to further strengthening India's energy security needs.

Bill to Punish China over Crackdown on Uyghur Muslims

US president Donald Trump has signed the Uyghur Human Rights Policy Act of 2020. The legislation condemns the **gross human rights violations of Uyghur minority groups** in China's restive Muslim-majority Xinjiang region. It represents the most significant action to date by any country **to punish China**.

Key Highlights

- The act holds **accountable the perpetrators** of human rights violations and abuses such as the systematic use of indoctrination camps, forced labour and intrusive surveillance to eradicate the ethnic identity and religious beliefs of Uyghurs and other minorities in China.
- It paved the way for **imposing sanctions against senior Chinese officials**.
- It also requires the US government to report to Congress on violations of human rights in Xinjiang as well as China's acquisition of technology used for mass detention and surveillance.

China Passes Hong Kong Security Law

- China has formally adopted a controversial security law, giving it new powers over Hong Kong.
- It is set to criminalise secession, subversion and collusion with foreign forces, but will also effectively curtail protests and freedom of speech.
- The new security law has been **added to Hong Kong's Basic Law**, the 50-year mini-constitution agreed when the territory's sovereignty was returned to China by the UK in 1997.
- Its terms are not yet clear. I.e. residents still do not know the measures they will have to abide by.

India-China Border Clash

A **violent clash at Galwan Valley** started between Indian troops and soldiers of the People's Liberation Army (PLA) on the night of June 15. This was the **first deadly clash** between India and China **in at least 45 years**. 20 Indian soldiers lost their lives. On the other hand, China did not confirm any casualties.

Background

- The tension in LAC started in early May when India accused China of sending thousands of troops into Ladakh's Galwan Valley.
- India said that China had occupied 38,000sq km of its territory. Thereafter, the armies of both sides clashed with each other.

Bilateral Agreement Between India and China on Confidence Building Measures

- After the death of 20 Indian soldiers, questions were raised that why Indian soldiers were not carrying the guns. The answer to this question lies in **1996 agreement on border disputes and maintenance of peace**.
- As per **article VI of the Agreement**, the two countries are not to open fire **within two kilometers** from the line of actual control. This had been stipulated to prevent "dangerous military activities" and does not apply to routine firing activities in small arms firing ranges.

The **1993 agreement between India and China** declared: "Neither side shall use or threaten to use force against the other by any means No activities of either side shall overstep the line of actual control."

It also stated, "in case personnel of one side cross the line of actual control, upon being cautioned by the other side, they shall immediately pull back to their own side of the line of actual control."

Current Status

- The **third round of Corps Commander-level talks** took place between India and China (the second one after the June 15 Galwan Valley clashes).
- It yielded the promise of more talks at the military and diplomatic levels to disengage at the face-off sites along the LAC.
- In the first round of talks, both sides had identified **five conflict areas**, Patrolling Point (PP) 14, 15 and 17A, North of Pangong Tso and Chushul. They agreed for limited "de-escalation" from some of these areas.
- As of June 30, there has been slight reduction of troops at the four friction zones in LAC but there is no let up in concentration and mobilisation of forces by India and China.

India's Demand

- India's consistent demand has been the restoration of **status quo ante of pre-May 5 positions** and de-induction of forces built up by China along the LAC.
- China has undertaken massive mobilisation of forces close to the LAC. India too has moved in additional divisions, tanks and artillery to match Chinese deployments.

Steps Taken By India Since The Galwan Valley Clash

- Government has **changed the LAC rules** and gave **forces full freedom** to respond in an adequate and proportionate manner. This includes freedom to the commanders to order troops to open fire in the face of extreme provocation and extraordinary situation.

- India has **banned 59 Chinese applications** including WeChat and TikTok stating privacy concerns.
- Indian government is reportedly mulling barring Chinese companies such as Huawei and ZTE from providing equipment to state-run telcos in their 5G upgrade.
- e-Commerce websites such as Amazon and Walmart Inc.'s Flipkart have agreed to prominently display “country of origin” for all goods sold online in India.

Banning of Chinese App

- The government claims that this decision is a targeted move to ensure safety and sovereignty of Indian cyberspace.
- However, experts believe that it is a **negotiating tactic** in the border standoff. Many have hailed this move by saying that **it symbolises a new beginning** where *India has begun to overtly use trade sanctions as a legitimate weapon of war.*

Banning: Discriminatory and Violative of WTO Rule?

- China has slammed this move by terming it as **discriminatory**. It stated that a selective move like this could be a breach of World Trade Organisation (WTO) rules, and urged New Delhi to create an open and fair business environment.
- However, analysts believe that terming this step as selective and discriminatory is completely misplaced. **India has a long list of Chinese discrimination** against trade and investments with certain countries, including India.
- Beijing often **indulges in restrictive trade and investment practices** such as the imposition of internet censorship through ‘Great Firewall’, restrictions on long-term visa and non-tariff barriers on investments.
- As far as WTO is concerned, India can defend itself under the **clause of national security interest and sovereignty of the country**.

[For detailed discussion on the Stand Off between India and China at Galwan valley, please refer the topic “**India-China Border Dispute**” from May 2020 issue of CA magazine]

Kohala Hydropower Project

- China will set up a **1,124-megawatt Kohala Hydropower** project in Pakistan-occupied Kashmir. This project will be executed under the China-Pakistan Economic Corridor (CPEC) framework.
- The project will be **built on the Jhelum River** and aims at annually providing more than five billion units of clean and low-cost electricity for consumers in Pakistan.
- India has opposed this project on the grounds that the entire territory of the Union Territories of Jammu and Kashmir and Ladakh are integral and inalienable parts of India.

[For detailed analysis on CPEC, please refer *Yellow Book on International Relation*]

India Clears 'RELOS' Deal with Russia

- The Indian government has cleared the **signing of 'RELOS'** (Reciprocal Exchange Of Logistics) agreement with Russia. This means **Indian ships or aircraft can now use Russian ports** or airfields without having to take permission or make immediate payments.
- India has already signed a **similar agreement with the USA**. The **LEMOA or the Logistics Exchange Memorandum of Agreement** between India and the United States was signed in 2016.

- So far, India has signed four military logistics support agreements with partner countries:
 - Logistics Exchange Memorandum of Agreement (LEMOA) with the **United States** in 2016
 - Implementing Arrangement Concerning Mutual Coordination, Logistics and Services Support with **Singapore** in 2018,
 - Agreement for the Provision of Reciprocal Logistics Support between the Armed Forces with **France** in 2018,
 - Agreement to Extend Logistical Support to each other's navies with **Republic of Korea** in 2019
- Similar agreements are in the pipeline to be signed with Japan, United Kingdom and Australia.

India Elected to UNSC's Non-Permanent Member Seat

- India has been **elected to the UN Security Council (UNSC) as non-permanent member** with 184 of the 192 votes. It has been elected for a two-year term starting January 1, 2021.
- Along with **India, Ireland, Mexico and Norway** obtained the requisite two-thirds majority in the General Assembly.
- The **fifth African seat remained vacant** and will go into second round with Kenya and Djibouti fighting it out.
- The UNSC has five permanent members – China, France, Russia, the United Kingdom, and the United States. Ten non-permanent members are **elected by the General Assembly for a term of two years**. To get elected, a country has to **secure 2/3rd of the votes casted**.
- There are five seats for African and Asian countries, one for Eastern European countries, two for Latin America and the Caribbean and two for Western Europe and other countries.

Key Facts

- India was the **endorsed candidate of the Asia-Pacific Group** of UN member countries and **faced no competition**.
- The last time India was elected to the UNSC was in 2010 (tenure started from 2011).
- This will be India's 8th term at the UNSC as non-permanent member. Previously, India has been elected as a non-permanent member of the Council for the years 1950-1951, 1967-1968, 1972-1973, 1977-1978, 1984-1985, 1991-1992 and most recently in 2011-2012.

Priorities To Be Pursued By India As A Member

- Reformed Multilateralism to reflect contemporary realities
- Responsible and inclusive solutions
- Concrete and result-oriented action at the Security Council for an effective response to international terrorism
- A comprehensive approach to peace and security
- The key responsibilities of the body and technology with a human touch

5-S Approach to Pursue the above Priorities:

- Samman (respect)
- Sahyog (cooperation)
- To create Samridhi (Prosperity)
- Samvad (dialogue)
- Shanti (peace)

China to Join UN Arms Trade Treaty

The People's Republic of China has **decided to join the UN Arms Trade Treaty**. The treaty is a **global pact to regulate arms sales** in the world.

About The Treaty

- The UN General Assembly adopted a historic Arms Trade Treaty on 2 April 2013 which **entered into force on 24th December 2014**.
- This is the **first-ever global treaty** to establish international norms aiming to prevent *conventional weapons from being used for war crimes and human rights abuses, or being diverted for illegal use by criminals*.

Key Facts About The Treaty

- The treaty was discussed at the global conference from in July 2012 in New York, however, no agreement was reached. The treaty came into effect in December 2014.
- The only nations opposed to the ATT were Iran, North Korea, and Syria.
- So far, while 130 countries have originally signed the treaty, **only 105 ratified it**.
- The world's largest arms traders including the **United States, China and Russia have not joined the treaty**. Now China has decided to join the treaty.

Why India Abstained On Arms Trade Treaty

- India had been a vigorous participant in the Treaty's negotiating process.
- However, the final draft did not meet its expectations and it chose to abstain when the treaty was put to vote at the UNGA on the 2nd of April, 2013.
- As an arms importing state, India expected that the treaty **would ensure a "balance of obligations"** between exporting and importing states.
- However, India was disappointed with the outcome text which was **allegedly tilted in favour of the exporting states**.
- The treaty was designed in a way that it could be easily exploited as a justification to **unilaterally deny arms to an importing country**. This would **threaten India's national security** imperatives.
- The treaty **does not include non-state actors** in its purview, and therefore does not address the pressing **concern of illicit trafficking and use of conventional arms by non-state actors**. This is a major lacuna which may serve to make the treaty ineffective.

Multilateral Treaties from which USA has withdrawn:

- UN's migrant and refugee pact
- Trans-Pacific Partnership (TPP)
- Paris Agreement on Climate Change
- UN's culture and education body, UNESCO
- From Iran nuclear deal
- UN Human Rights Council
- Intermediate-Range Nuclear Forces treaty with Russia
- Open Sky Treaty
- WHO

Why US Decided To Pull Out Of This Treaty

In April 2019, **US withdrew its support** for a **United Nations treaty regulating the global arms trade**. The US **signed the treaty in 2013** but never ratified it. The reasons being -

- Trump government has described this agreement as a **misguided document** and an **intrusion on US sovereignty**.

- It also claimed that the treaty allows **foreign bureaucrats to trample on citizens' Second Amendment freedom.**
- However, many critics have termed this as yet another myopic decision that jeopardizes US security based on false premises and fearmongering.
- Un-signing the treaty will *undermine international peace and security, increase irresponsible and illegal sales of conventional weapons, and harm the American economy.*
- As the **biggest arms exporter**, the U.S. signature to the ATT was an important step towards **ensuring that dangerous weapons stay out of the wrong hands.**
- This decision would **open floodgates for arms sales with weakened human rights criteria**, which could potentially fuel brutal conflicts, and make everyone less safe.

SIPRI Report on India, China Nuclear Stockpile

- Stockholm International Peace Research Institute (SIPRI) has released the SIPRI Yearbook 2020.
- The yearbook assesses the current state of armaments, disarmament and international security.

Key Highlights

- According to the report, India and China have increased their nuclear arsenal over the last year.
- China and Pakistan have more nuclear warheads as compared to India. **India has 150 nuclear warheads**, while China and Pakistan have 320 and 160.
- Last year, India had 130-140 warheads, while China had 290 and Pakistan 150-160.

Observations Regarding India

- India is expanding the size of its nuclear weapon stockpile as well as its infrastructure for producing nuclear warhead.
- **Aircraft are the most mature component** of India's nuclear strike capabilities. The report estimates that there are about 48 nuclear bombs assigned to aircraft.
- To create a **second-strike capability**, India is also developing the **naval component of its nuclear triad**. About 12 nuclear warheads have been delivered for **potential deployment by the nuclear submarine, INS Arihant.**

World Scenario

- The **nine nuclear-armed states**—the US, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea—together possessed an estimated 13,400 nuclear weapons at the start of 2020.
- This marked a decrease from the 13,865 nuclear weapons that SIPRI estimated these states possessed at the beginning of 2019.
- Around 3,720 of the nuclear weapons are currently deployed with operational forces and nearly 1,800 of these are kept in a state of high operational alert.
- USA & Russia, together, possess over 90 per cent of global nuclear weapons.

Loan Agreements for Housing Sector in Tamil Nadu

- India, Tamil Nadu and the World Bank signed legal agreements to help low-income groups in the state of Tamil Nadu get access to affordable housing.

- These agreements were signed for two projects – \$200 million **Tamil Nadu Housing Sector Strengthening Programme** and \$50 million **Tamil Nadu Housing and Habitat Development Project**.
- **Tamil Nadu Housing Sector Strengthening Programme** supports the government’s ongoing efforts to increase the availability of affordable housing. It aims to unlock regulatory barriers and incentivise private sector participation in affordable housing for low-income families.
- **Tamil Nadu Housing and Habitat Development Project** will support innovations in housing finance and strengthen housing sector institutions in the state. It will finance the newly created Tamil Nadu Shelter Fund (TNSF) – an innovation in housing finance in India – by providing an equity contribution of \$35 million.
- The project will also **strengthen the capacity of key housing institutions** including the Tamil Nadu Slum Clearance Board, the state’s main provider of affordable housing etc.

RIC Virtual Meeting

India participated in Russia India China (RIC) virtual meet scheduled on June 23. External affairs minister S Jaishankar joined his counterparts from Russia and China — Sergey Lavrov and Wang Yi — for the virtual meeting.

Key Highlights

- The meeting was called by Russia.
- It focused on the fallout of the Covid-19 pandemic, and cooperation within the grouping to tackle challenges to financial stability and global security.
- Since it was a trilateral platform, bilateral matters between India and China were not discussed.
- The three sides in the RIC grouping were **unable to reach agreement** on a draft of the statement as there were differences over a few paragraphs. Hence, there was no joint statement.

India Was Hesitant To Join The Meeting

- India had been reluctant to join the RIC meeting **following the June 15 violent face-off between Indian and Chinese border troops at Galwan Valley** that left 20 soldiers dead.
- However, it agreed to do so after a push from Russia, a key strategic ally and military hardware supplier for India.

For importance of RIC to India, Please refer The Recitals- July 2019.

Data Security Guidelines Issued by Kerala Government

Context:

- In the wake of Sprinklr controversy, Kerala government has issued **guidelines related to COVID-19 data collection and processing**.
- This has been done after **the Kerala HC had expressed** its concern over the confidentiality of information gathered from COVID-19 patients.

Main Features of the Guideline

- **Anonymity** – Data collected and collated must be anonymised so that unique identification of the person involved is not possible.
- **Consent** - If any sensitive personal data is collected, explicit consent should be obtained.

- **Third Party Access** – Persons providing personal data must be made aware of the fact that these data might be accessed by a third party.
- **Storage of data** - The data collected should be stored in encrypted form. If data is stored in Cloud, the Cloud service provider has to be approved by the Central Government.
- **Requisite Format** - Specific consent has to be obtained in the requisite format. The privacy policy illustrating the compliance in Malayalam and English forms will be included.
- **Security audit** - Any software or application to be hosted in the State Data Centre should be subjected to security audit before hosting it.

What Was The Issue?

- Earlier, Kerala government went into a deal with a US-based tech firm “Sprinklr” to handle the health-related data of 1.75 lakh people under quarantine in the state.
- According to the government, this was done **as an emergency measure** to collate the health data in order to **understand how the pandemic would behave in Kerala**.
- However, opposition slammed the move as government did not follow the procedures in appointing Sprinklr and thereby **risked the transfer of crucial health data** of thousands of people **to pharmaceutical companies**.
- They allege that the individual consent of people under quarantine was not taken.

India Beefing up Infrastructure along China Border

India is continuing beefing up infrastructure for better connectivity to the Line of Actual Control with China, even as troops from both countries are locked in a standoff in Ladakh. Ministry of Home Affairs (MHA) is also taking policy decisions in this regard.

Key Highlights

- MHA has announced to **spend 10% funds** of the **Border Area Development Programme (BADP)** only for improvement of the infrastructure along the China border.
- For the fiscal year 2020-21, BADP has been **allocated a fund of 784 crore**.
- This amount is to be distributed among the border States/UTs **depending on various criteria** such as the length of the international border and population.
- Under this, the projects for **developing strategically important villages and towns** in border areas, as identified by the Border Forces, **will be given priority**.
- Construction of roads, bridges, primary schools, health infrastructure, playfields, irrigation works, etc. will be undertaken within 10 km of the border.
- Various Security Forces such as SSB, BSF, ITBP etc. will have provide independent feedback on the projects in the blocks concerned. They may be tasked to conduct social audit of the works.

Border Infrastructure: Recent Activities

- Seventy-two hours after 20 Indian soldiers martyred, Indian Army completed the construction of a bridge in the same area of Galwan valley.
- In April 2019, the Border Roads Organization (BRO) completed the Darbuk-Shyok-Daulat Beg Oldi (DSDBO) Road. This road connects Leh in Ladakh to DBO, the furthest airstrip near the LAC.
- About 4,700 kilometres of border roads and about 14,450 metres of bridges have been constructed or expanded along China border in the last six years.

- Indian Railways is also currently constructing the world's highest railway bridge over the Chenab river.
- In April 2017, Modi inaugurated the 9.28-kilometre-long Dr Syama Prasad Mukherjee Chenani-Nashri tunnel, making winter connectivity with Jammu and Srinagar possible.
- On the eastern front too, the Bogibeel Bridge inaugurated in December 2018, provides an important link between Assam and Arunachal Pradesh across the Brahmaputra.

Policy Changes in Recent Years

- Soon after the Doklam face-off with China in September 2017, the government extended this **general clearance for all army infrastructure** construction and not just roads. This infrastructure included outposts on the border, fencing, parking lots, floodlights etc.
- Previously such projects needed specific clearances from Ministry of Environment, Forests and Climate Change, leading to long approval cycles.
- Another policy change which has occurred in the recent years is delegation of powers to the DG of the BRO.
- In 2017, the DG, BRO was given the financial powers to **spend up to Rs 100 crore for procurement of high-quality construction equipment**, including locally made as well as imported machinery.

The Border Area Development Programme (BADP)

- Launched by MHA in 1986-87 as part of a comprehensive approach to Border Management.
- The States covered are Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tripura, Uttar Pradesh, Uttarakhand and West Bengal.

Captain Arjun

- Railway Protection Force, Pune (central railway) has launched a Robot 'CAPTAIN ARJUN' to intensify the screening and surveillance.
- ARJUN - Always be **R**esponsible and **J**ust **U**se to be **N**ice)
- It is AI-based robot which conducts thermal screening of passengers, educates them on preventing the COVID-19 spread and displays utmost sensitivity to suspicious and abnormal activity.

Naval Liaison Officers at Madagascar and Abu Dhabi

- India is planning to post Navy Liaison Officers at the **Regional Maritime Information Fusion Centre (RMIFC)** in Madagascar and also at the **European Maritime Awareness in the Strait of Hormuz (EMASOH)** in Abu Dhabi.
- The purpose is to improve the Maritime Domain Awareness.
- India had **joined the Indian Ocean Commission (IOC) as an observer** in March 2020. As a result, it has now decided to post Naval Liaison Officers at Madagascar and Abu Dhabi.
- This step will help to improve linkages of the Navy's Information Fusion Centre for Indian Ocean Region (IFC-IOR) in Gurugram with other Information Fusion Centres.
- This, in turn, will help India to become the repository for all maritime data in the IOR.

RMIFC

- Based in **Madagascar**, it functions under the **aegis of the Indian Ocean Commission**.

- **Aim** - to deepen maritime domain awareness by monitoring maritime activities and promoting information sharing and exchange.

EMASOH

- Started by France in February 2020, it is based at the French naval base in Abu Dhabi.
- **Aim** - to monitor maritime activity and guarantee freedom of navigation in the Persian Gulf and the Strait of Hormuz.

For IOC and its significance for India, Please refer The Recitals – March 2020.

Rapid Antigen Detection Tests

- The Indian Council of Medical Research (ICMR) approved one more kind of test, **rapid antigen detection test, for diagnosis of Covid-19.**
- It is a **test on swabbed nasal samples that detects antigens (foreign substances that induce an immune response in the body)** that are found on or within the SARS-CoV-2 virus. It is a point-of-care test, performed outside the conventional laboratory setting, and is used to quickly obtain a diagnostic result.
- RT-PCR is currently the gold standard frontline test for diagnosis of Covid-19. Like RT-PCR, **rapid antigen detection test too seeks to detect virus** rather than the antibodies produced by body.
- While the mechanism is different, **the most significant difference between the two is time.** The RT-PCR test takes a minimum of 2-5 hours including the time taken for sample transportation. These specifications limit the widespread use of the RT-PCR test and also impedes quick augmentation of testing capacity in various containment zones and hospital settings. In a reliable rapid antigen detection test, the maximum duration for interpreting a positive or negative test is 30 minutes.
- However, antigen tests are very specific for the virus, but are not as sensitive as molecular PCR tests. This means that positive results from antigen tests are highly accurate, but there is a higher chance of false negatives, so negative results do not rule out infection.

RT-nPCR Test

- Researchers at the **Centre for Cellular and Molecular Biology (CCMB)** have developed a **new low-cost and low-tech required test for SARS-CoV-2 testing.** This test is known as **reverse transcription nested PCR (RT-nPCR) test.**
- The Indian Council of Medical Research (ICMR) **has recommended only reverse transcription polymerase chain reaction (RT-qPCR) test** for novel coronavirus testing.
- This test does not require real-time quantitative RT-qPCR. The RT-nPCR developed by the CCMB research team **has shown comparable performance to the standard RT-qPCR test.** The nested PCR (RT-nPCR) approach does not depend on RT-qPCR but uses standard RT-PCR as part of an endpoint assay.

A3i

- Scientists at multiple CSIR laboratories have **identified a new coronavirus type, A3i,** that may be the second most prevalent in India and may comprise 3.5% of the genomes globally.
- The **most dominant coronavirus clade in India is the A2a.** Previous studies have shown that while **type O was the first ancestral family of the virus** identified from China, it's the A2a type — that

has emerged dominant the world over because of a mutation in its genes that allow that coronavirus' spike to more efficiently infiltrate the lungs.

- The **A3i clade mutates slowly compared to the A2a clade** and so far, **there is no evidence of whether A3i is more virulent** — that is, it's linked to more deaths.
- The coronavirus type, or clade, **is a cluster of SARS-CoV-2 viruses that share evolutionary similarities** and are grouped together based on characteristic mutations or similarities in parts of their genomes.
- Such classifications are useful in establishing whether certain strains are particularly virulent, spread more easily, how they are likely to evolve over time and whether some could be less vulnerable to certain kinds of vaccines.

Miscellaneous News Related To Covid

- **ANANYA:** Defence Institute of Advanced Technology, Pune has developed a Nano-technology based disinfectant spray (water-based), named “ANANYA”, to combat COVID-19 for disinfecting all types of surfaces.
- **COVID BEEP:** Government of India launched India's first indigenous, cost effective, wireless physiological parameters monitoring system called COVID BEEP (Continuous Oxygenation & Vital Information Detection Biomed ECIL ESIC Pod) for COVID-19 patients. It incorporated non-invasive blood pressure monitoring, ECG (electrocardiogram) monitoring and also respiratory monitoring.
- **Arsenicum Album 30:** It is a homoeopathic drug that has been listed among “preventive and prophylactic simple remedies” against Covid-19 by the Ministry of AYUSH. It is used commonly by homeopaths to treat anxiety, restlessness, cold, ulcerations, burning pains. However, it has become a subject of debate. The homoeopathic drug has less than 1% arsenic. The health hazards of arsenic contamination in water are well known: long-term exposure to the metal can cause skin cancer, pulmonary and cardiovascular diseases. There is **no scientific evidence or clinical trial or large-scale study**. Even the WHO or Indian Council of Medical Research has no guidelines on using Arsenicum album as a Covid-19 treatment.
- **ARPIT:** The Indian Air Force has designed, developed and inducted an Airborne Rescue Pod for Isolated Transportation (ARPIT). This pod will be utilised for evacuation of critical patients with infectious diseases including COVID-19 from high altitude areas, isolated and remote places. The ARPIT **utilises High Efficiency Particulate Air (HEPA) H-13 class filters** and supports invasive ventilation using Transport Ventilator.
- **Navigating the New Normal' Campaign:** NITI Aayog launched a **behaviour change campaign** called ‘Navigating the New Normal’ in partnership with **Bill and Melinda Gates Foundation (BMGF)**, **Centre for Social and Behavioural Change (CSBC)**, Ashoka University, and the **Ministries of Health and Women and Child Development**. The campaign focuses on **Covid-safe behaviours**, especially wearing masks, during the ‘Unlock’ phase of the ongoing pandemic.
- **Project Platina :** Maharashtra has launches Project Platina, '**world's largest' plasma therapy trial** for COVID-19 patients. The trial and treatment of plasma therapy will be **free of cost** in 17 medical colleges under the state's department of medical education and drugs and four colleges of BMC with 21 centres. **Funding** to support this plasma therapy trial has been done through the **CM Relief fund**.
- The **Delhi government** will set up a **first-of-its-kind plasma bank** in the Capital for the treatment of COVID-19 patients. It will be set up at the Delhi government-run **Institute of Liver and Biliary Sciences (ILBS)**.

- **Covaxin:** It is a vaccine candidate developed by **Bharat Biotech India (BBIL)** against the novel coronavirus (Covid-19) in collaboration with the **ICMR's National Institute of Virology (NIV)**. The Central Drugs Standard Control Organisation, has allowed Bharat Biotech India (BBIL) to **conduct human clinical trials** for 'Covaxin', making it the first indigenously developed Covid-19 vaccine candidate to receive this approval.
- **FabiFlu:** **Glenmark Pharmaceuticals Limited** has announced the introduction of **Favipiravir** under the brand name FabiFlu in tablet form for the treatment of mild & moderate COVID-19 cases in India. The drug will be available in strips containing **34 tables priced at ₹3,500** which works out to be ₹103 per tablet.
- **Covifor:** **Drugmaker Hetero** has received the Drug Controller-General of India (DCGI) approval to manufacture and sell **its generic version of Gilead's Remdesivir**, under the **brand name 'Covifor'** in India, for the treatment of COVID-19 patients in the country. DCGI had granted approval for **use of Remdesivir in the treatment of suspected or laboratory-confirmed cases** of COVID in adults and children, hospitalised with severe symptoms of the disease.
- **Umifenovir:** CSIR constituent lab **CSIR-Central Drug Research Institute (CDRI) Lucknow**, has received permission for carrying out **Phase III randomised, Double blind, Placebo controlled trial** of efficacy, safety and tolerability of antiviral drug Umifenovir. This drug has a **good safety profile** and acts by **preventing entry** of viruses into human cells and also by priming the immune system. Umifenovir is **mainly used for treatment of influenza** and is available in China and Russia, and has recently come into prominence due to its potential use for Covid19 patients.
- **Dexamethasone:** It is a cheap, widely available steroid being used in England to improve COVID-19 survival and can reduce deaths by up to one third in severely ill hospitalised patients. Steroid drugs **reduce inflammation**, which sometimes **develops** in COVID-19 patients as the **immune system overreacts** to fight the infection. However, WHO **advises against** using steroids earlier in the course of illness because they **can slow the time until patients clear the virus**.
- **HAM Radio:** Currently, HAM (amateur) radio operators are helping the task force in Bengaluru to ensure that citizens placed under home quarantine amid COVID-19 follow the protocol for it. HAM radio is a **real-time communication network**. This is much like the wireless communication used by the police and civic officials. **It's quick and transparent**.

miR-155

- Researchers at the Indian Institute of Technology Madras have identified a **specific microRNA (miRNAs) called 'miR-155'** that is over-expressed in tongue cancer.
- The **miRNAs affect cancer growth through inhibiting or enhancing the functions of certain proteins**.
- MicroRNAs (miRNAs) are **short non-coding RNAs containing 20–24 nucleotides** that participate in virtually all biological pathways in animals. They have been found to play important roles in many cancers, in carcinogenesis (start of cancer), malignant transformation and metastasis — the development of secondary cancer. The miRNAs associated with cancer are called '**Oncomirs**'.
- Many of the Oncomirs affect cancer by **suppressing the performance of tumour-suppressing agents**. Some of them can prevent the growth and spread of cancer cells and yet others prevent tumour growth itself.
- The finding could help **develop molecular strategies to manipulate miR-155 expression to develop therapeutics for tongue cancer**.

International Albinism Awareness Day 2020

- International Albinism Awareness Day is observed every year on **June 13** to highlight the rights of those born with albinism and increase awareness of the genetic condition.
- Theme for 2020 was "**Made to Shine**".
- Albinism affects the **production of melanin**, the **pigment** that colours skin, hair and eyes. It's a lifelong condition, but it doesn't get worse over time.
- Albinism is a **rare, non-contagious, genetically inherited** difference present at birth. In almost all types of albinism, **both parents must carry the gene** for it to be passed on, even if they do not have albinism themselves.
- Albinism is associated with a **number of vision defects**, such as photophobia, nystagmus, and amblyopia. Lack of skin pigmentation increases vulnerability to the sun and bright light. As a result, almost all people with albinism are **visually impaired** and are prone to developing **skin cancer**.
- There is **no cure** for the absence of melanin that is central to albinism.

Possible Eye Problems Linked To Albinism Include:

- **Poor Eyesight** – either short-sightedness or long-sightedness, and low vision (sight loss that can't be corrected)
- **Astigmatism** – where the cornea (clear layer at the front of the eye) isn't perfectly curved or the lens is an abnormal shape, causing blurred vision
- **Photophobia** – where the eyes are sensitive to light
- **Nystagmus** – where the eyes move involuntarily from side to side, causing reduced vision; you don't see the world as "wobbling" because your brain adapts to your eye movement
- **Squint** – where the eyes point in different directions

Recombinant DNA Technology

- The **Department of Biotechnology**, under the Ministry of Science & Technology, has taken several proactive measures to streamline the biosafety regulation and to facilitate researchers and industries which are undertaking research and development in **Recombinant DNA Technology** and Hazardous Microorganisms.
- **Measures Taken:**
 - The **Indian Biosafety Knowledge Portal**, launched in May, 2019, was made fully operationalized and receiving all new applications through online portal only. This has made the whole process transparent and time bound.
 - The Department issued the revised Guidelines on Import, Export and Exchange of Genetically Engineered Organisms and Product Thereof for R&D Purpose in January, 2020.
- **Recombinant DNA technology** refers to the **joining together of DNA molecules from two different species that are inserted into a host organism** to produce new genetic combinations that are of value to science, medicine, agriculture, and industry.
- Recombinant DNA (rDNA) is the general name for a piece of DNA that has been created by the combination of at least two strands.

- They are DNA molecules **formed by laboratory methods of genetic recombination** (such as molecular cloning) to bring together genetic material from multiple sources, creating sequences that would not otherwise be found in the genome.
- Recombinant DNA in a living organism was **first achieved in 1973 by Herbert Boyer and Stanley Cohen** who used E. coli restriction enzymes to insert foreign DNA into plasmids.

Ultra Swachh

- **Defence Research and Development Organisation (DRDO)** has developed a **disinfection unit named Ultra Swachh** to disinfect a wide range of materials, including Personal Protective Equipment (PPEs), electronics items, fabrics, etc.
- The system **uses an advanced oxidative process** consisting of multiple barrier disruption approaches using **Ozonated Space Technology for disinfection**.
- The system is double layered with specialised Ozone sealant technology ensuring trapping of ozone for the necessary disinfection cycle. It also has a catalytic converter to ensure environment friendly exhaust i.e. only oxygen and water.
- The system **is in compliance with International Standards of Industrial, Occupational, Personal and Environmental Safety**.
- The Ultra Swachh comes in two variants namely **Ozonated Space** and **Trinetra Technology**. Trinetra technology is the combination of Ozonated space and radical dispenser. Treatment is optimised with automation for quick disinfection cycle.

Nature Index 2020

- **Three** of the **autonomous** institutions of the **Department of Science & Technology**, Government of India have found **their place among top 30 Indian Institutions including universities** as per **Nature Index 2020** ratings based on the research published in the top journals, a measure of research quality.
- These are the **Indian Association for the Cultivation of Science (IACS), Kolkata at 7th** position; **Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore at 14th** position; and **S. N. Bose National Centre for Basic Sciences, Kolkata at 30th** position.
- **Globally** the top-rated Indian institutions in this list are **Council of Scientific and Industrial Research (CSIR)**, a group of 39 institutions at the **160th** position and **Indian Institute of Science (IISc) Bangalore at the 184th** position.
- The **overall ranking of India is 12th** in the index.
- The **top five positions** have gone to the United States of America, China, Germany, United Kingdom and Japan.

Nature Index

- The Nature Index is a **database of author affiliation information** collated from research articles published in an **independently** selected group of 82 high-quality science journals.
- The database is compiled by **Nature Research**. The Nature research is a **part of Springer Nature**, which is an American German academic publishing company based in Germany.
- The Nature Index provides a close to **real-time proxy of high-quality research** output and collaboration at the institutional, national and regional level.

Axons

- Scientists from **Raman Research Institute (RRI)** along with **Indian Institutes of Science Education and Research (IISER) Pune** and **Paris Diderot University**, have found out that **spectrin**, which are flexible **rod-shaped molecules present in axons**, act as ‘**shock absorbers**’ to protect axons from **stretch-induced damage**.
- The study can **help in understanding and treatment** of concussion from **head injuries** as well as **stretch-induced nerve injuries**.
- The brain undergoes **significant shear deformations** (up to 5% of strain) even under normal activities such as jumping (the human brain is as soft and wobbly as edible jelly). In contact sports, brain concussion occurs and is a leading cause of injuries.
- **Axons** are **long tubular extensions of nerve cells** that **transmit electrical signals** across long distances and can be up to a meter long in the case of humans. At such lengths, they are subjected to **large stretch deformations** during limb or other bodily movements.

Axons vs Dendrite:

- An axon is **one of two types of cytoplasmic protrusions** from the cell body of a neuron; the other type is a **dendrite**.
- Dendrites, also dendrons, are **branched protoplasmic extensions of a nerve cell** that **propagate the electrochemical stimulation** received from other neural cells to the cell body, or soma, of the neuron from which the dendrites project.
- Axons are distinguished from dendrites by several features, including
 - **Shape** (dendrites often taper while axons usually maintain a constant radius),
 - **Length** (dendrites are restricted to a small region around the cell body while axons can be much longer), and
 - **Function** (dendrites receive signals whereas axons transmit them)

Raman Research Institute (RRI)

- RRI is an institute of **scientific research** located in **Bangalore**, India.
- It was **founded by Nobel laureate C. V. Raman in 1948**.
- Although it **began** as an institute **privately** owned by **Sir C. V. Raman**, it is now an **autonomous institute** under the Department of Science & Technology government of India.

Light Detection and Ranging (LiDAR)

- By analysing thousands of images derived LiDAR data, **the U.K. based team of archaeologists** has found parts of two Roman roads, and around 30 prehistoric or Roman large embanked settlement enclosures in **Tamar Valley**, which is a rich archaeological landscape with many sites belonging to the **Iron Age and Roman era**.
- The **Tamar** is a **river in England**. The surrounding area is a **World Heritage Site** due to its historic mining activities.
- Lidar is a method for **measuring distances** (ranging) by **illuminating the target with laser light** and measuring the **reflection with a sensor**. These light pulses, **combined with other data** recorded by the airborne system, generate precise, **three-dimensional information** about the shape of the **Earth** and its surface characteristics. Lidar sometimes is called **3-D laser scanning**, a special combination of a **3-D scanning and laser scanning**.

- A lidar instrument principally **consists of a laser, a scanner, and a specialized GPS** receiver. **Airplanes** and **helicopters** are the most commonly used **platforms** for acquiring lidar data over broad areas.
- **Two types** of lidar are **topographic** and **bathymetric**. Topographic lidar typically uses a near-infrared laser to map the land, while bathymetric lidar uses water-penetrating green light to also measure seafloor and riverbed elevations.
- Lidar systems allow scientists and mapping professionals to examine both natural and manmade environments with accuracy, precision, and flexibility.

Sun's Coronal Heating

- Scientists from the **Pune-based National Centre for Radio Astrophysics (NCRA)** have recently discovered **tiny flashes of radio light** emanating from all over the Sun, which they say could help in explaining the long-pending **coronal heating problem**.
- These **radio lights** or signals result from beams of electrons accelerated in the aftermath of a **magnetic explosion** on the Sun.
- **Magnetic explosions** have **not** been **seen** but these radio lights are the strongest evidence till date that the tiny magnetic explosions, originally referred to as '**nanoflares**' by eminent American **solar astrophysicist Eugene Parker**, can indeed be heating up the corona.

Sun's Corona

- Our Sun is surrounded by a **jacket of gases called an atmosphere**. The corona is the **outermost part of the Sun's atmosphere** and **extends millions of kilometres** into outer space.
- The corona is **usually hidden** by the bright light of the Sun's surface. That makes it difficult to see without using special instruments. However, the corona **can be seen during a total solar eclipse**.
- Though corona is in the outer layer of the Sun's atmosphere, yet the it is **hundreds of times hotter** than the Sun's surface. Astronomers have been trying to solve this mystery for a long time.
- A **NASA mission called IRIS** may have provided **one possible answer**. The mission discovered **packets of very hot material** called "**heat bombs**" that travel from the Sun into the corona. In the corona, the **heat bombs explode** and release their energy as heat. But astronomers think that this is only one of many ways in which the corona is heated.

CSIR and Atal Innovation Mission (AIM) sign a Letter of Intent to Foster Innovation

Council of Scientific and Industrial Research (CSIR) has come together with **AIM** to collaborate and **promote a culture of innovation and entrepreneurship** in various sectors.

Major Areas Of Mutual Interest Include

- **Supporting world class start-ups** through CSIR Incubators under Atal Innovation mission initiatives and jointly work on new models of innovation, including setting up of **CSIR Innovation Parks**.
- Stimulating **innovation and research in the MSME industry** by CSIR in collaboration with **ARISE (Atal Research & Innovation for Small Enterprises)**. ARISE is an initiative of AIM to stimulate innovation and research in the MSME industry.
- Creating **problem solving mind-set across schools** in India through close cooperation between Atal Tinkering Labs and **Jigyasa**. Jigyasa is a **student-scientist connect programme** launched by **CSIR** in collaboration with **Kendriya Vidyalaya Sangathan(KVS)** to connect school students and scientists.

Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H)

- The Union Cabinet has given its approval to **re-establish Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H) as Subordinate Office under Ministry of AYUSH**
- It will be done by **merging of Pharmacopoeia Laboratory for Indian Medicine (PLIM) and Homoeopathic Pharmacopoeia Laboratory (HPL)**- the two central laboratories established at **Ghaziabad since 1975**.
- Presently, PCIM&H is an **autonomous body** under Ministry of AYUSH established since 2010.
- The **merger is aimed at optimizing** use of **infrastructural** facilities, technical manpower and financial resources of three organizations for enhancing the standardization outcomes of Ayurveda, Siddha, Unani and Homoeopathy drugs towards their effective regulation and quality control.
- This merger will **facilitate focused and cohesive development** of standards of AYUSH drugs and publication of pharmacopoeias and formularies.
- It is also intended to **accord legal status** to PCIM&H and its laboratory and under **Drugs & Cosmetics Rules, 1945**.

Quantum Satellite Micius

- **Micius, a quantum enabled satellite**, has recently sent particles of light to Earth establishing the world's most secure communication link. It **enables first totally secure long range communication**.
- Micius, named after the ancient Chinese philosopher also known as Mozi, **is the world's first quantum communications satellite launched by China in 2016**. It has been at the forefront of quantum encryption for several years.
- Micius has already produced a number of breakthroughs. The satellite serves as the source of pairs of entangled photons, twinned light particles whose properties remain intertwined no matter how far apart they are.
- **If one of the photons is manipulated, the other will be similarly affected at the very same moment**. It is this property that lies in the heart of the most secure forms of quantum cryptography, the entanglement-based quantum key distribution.
- If you use one of the entangled particles to create a key for encoding messages, only the person with the other particle can decode them. This gives **robust, unbreakable cryptographic protection without the need to trust the satellite**. Until now, this had never been done via satellite or at such great distances.

Quantum race

- Secure long-distance links such as established by Micius will be the **foundation of the quantum internet, the future global network with added security powered by laws of quantum mechanics and unmatched by classical cryptographic methods**.
- The quantum race has political and military implications that are hard to ignore. Any country could theoretically trust Micius to provide entangled photons to secure its communications.
- A successful long-distance quantum communications link ushers in a new era of communication security.

163348 (2002 NN4)

- **NASA** announced that a **giant asteroid, called 163348 (2002 NN4)**, is expected to pass Earth (at a safe distance) as a **Near Earth Object (NEO)** in June.
- The asteroid is estimated to be **between 250-570 m in diameter** and was **discovered in July 2002**.
- This asteroid is **classified as a Potentially Hazardous Asteroid (PHA)**, which means the asteroid has the potential to make threatening close approaches to the Earth.
- Asteroids with a **minimum orbit intersection distance (MOID)** of about 0.05 AU (AU is the distance between the Earth and the Sun and is roughly 150 million km), which is about 7,480,000 km or less and an absolute magnitude (H) of 22 (smaller than about 150 m or 500 feet in diameter) or less are considered PHAs.

Near-Earth Objects (NEOs)

NASA defines **NEOs as 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**.

Asteroids

- Asteroids, sometimes called minor planets, **are rocky, airless remnants left over from the early formation of our solar system** about 4.6 billion years ago.
- Although **asteroids orbit the sun** like planets, they are much smaller than planets.
- The **asteroid belt** is a **torus-shaped region** in the Solar System, located roughly **between the orbits of the planets Jupiter and Mars**.

THAAD

- Recently, China has reiterated its long-standing objections to the presence of **US THAAD missile defence system in South Korea**. China believes the US exerts influence over South Korea and Japan and may interfere with Beijing's long-term military, diplomatic and economic interests in the region.
- China's opposition has little to do with the missiles itself and is more about the **system's inbuilt advanced radar systems** that could track China's actions.

THAAD

- **Terminal High Altitude Area Defense (THAAD)** is a transportable, ground-based missile defense system that **intercepts ballistic missiles during their final, or terminal, phase of flight**. The system has a track record of **100% mission success in flight testing** since 2005.
- THAAD uses a **one-stage hit-to-kill interceptor** to destroy incoming ballistic missile targets. It is able to intercept incoming missiles **both inside and just outside of the Earth's atmosphere at a range of 200 kilometers**, which mitigates the effects of weapons of mass destruction before they reach the ground.
- THAAD is **coupled with space-based and ground-based surveillance stations**, which transfer data about the incoming missile and inform the THAAD interceptor missile of the threat.
- This anti-ballistic missile defense system has been **designed and manufactured by** the US Company **Lockheed Martin**. South Korea is not the only country with the THAAD missile defense system. It has been previously deployed in the **UAE, Guam, Israel and Romania**.

Digital Epidemiology

- It is a nascent field where **digital data is used to understand patterns of disease**, and **chart out interventions to prevent** it. With the outbreak of the novel coronavirus, contact tracing apps have emerged as the best examples of digital epidemiology.
- The **traditional form of epidemiology**, considered a basis of public health, consists of **studying various factors** (age, gender, location and other determinants) of the general population to study disease patterns, spread, incidence, and prevalence. Data is mostly collected by field staff through house-to-house surveys and from hospital records.
- **Digital epidemiology**, as the term suggests, **uses digital data** to study the same factors.
- **Twitter data** mining has been one of the best uses of digital epidemiology. Also, systems like **Healthmap** are good examples. In 2020, the **digital contact tracing apps (like Aarogya Setu)** will certainly become the best examples of digital epidemiology.
- Digital epidemiology has an **important role** to play in **preventing disease** outbreaks and one of the big advantages of digital speed is it is fast and will be a key contributor in keeping outbreaks under control. But, **data privacy** is an element of huge concern.

For More details on Aarogya Setu app and Privacy concern please refer to The Recitals- May 2020.

Global Partnership on Artificial Intelligence (GPAI)

- India recently joined the GPAI as its founder member. By joining GPAI as a founding member, India will actively participate in the global development of Artificial Intelligence, leveraging its experience around use of digital technologies for inclusive growth.
- **Canada, France, Germany, Italy, Japan, Mexico, New Zealand, Republic of Korea and Singapore** are among the other nations which have joined the partnership.
- GPAI is an international and multi-stakeholder initiative to **guide the responsible development and use of Artificial Intelligence (AI), grounded in human rights, inclusion, diversity, innovation, and economic growth.**
- The multi-stakeholder initiative will work towards **evolving better understanding of the challenges and opportunities around AI** using the experience and diversity of participating countries. It will also **support cutting-edge research and applied activities on AI-related priorities.**
- GPAI will be **supported by a Secretariat**, to be hosted by **Organization for Economic Cooperation and Development (OECD) in Paris**, as well as by two Centers of Expertise- **one each in Montreal and Paris.**
- India has recently launched **National AI Strategy** and **National AI Portal** and have also started leveraging AI across various sectors such as education, agriculture, healthcare, e-commerce, finance, telecommunications, etc. with inclusion and empowerment of human beings by supplementing growth and development.

Kala Azar Disease

- **Leishmaniasis** is a **neglected tropical disease** affecting almost 100 countries including India. It is **caused by a protozoan parasite called Leishmania**, which is transmitted through the bite of sand flies.
- **There are three main forms of leishmaniasis –**
 - **Visceral**, which affects multiple organs and is the most serious form of the disease,

- **Cutaneous**, which causes skin sores and is the most common form; and
- **Mucocutaneous**, which causes skin and mucosal lesions.
- **Visceral leishmaniasis**, which is **commonly known as Kala-azar** in India, is fatal in over 95% of the cases, if left untreated. **The only drug available against leishmaniasis, miltefosine**, is rapidly losing its effectiveness because of emerging resistance to this drug due to a decrease in its accumulation inside the parasite, which is necessary for the drug to kill the parasite.
- Specific types of protein molecules, called **transporter proteins**, play a major role in carrying miltefosine into and out of the parasite's body, which comprises a single cell.
 - A protein called '**P4ATPase-CDC50**', is responsible for intake of the drug by the parasite, and another protein, called '**P-glycoprotein**', is responsible for throwing this drug out from within the parasite's body.
 - A decrease in the activity of the former protein, and an increase in the activity of the latter results in less amounts of miltefosine being accumulated inside the parasite's body, thus causing it to become resistant to the drug.
- A team of researchers at the Department of Biotechnology's National Centre for Cell Science (DBT-NCCS) in Pune has found **new biomolecules to fight drug resistance in Kala-azar**.
- The disease **affects some of the poorest people on earth**, and is associated with malnutrition, population displacement, poor housing, a weak immune system and lack of financial resources.
- Leishmaniasis **is linked to environmental changes such as deforestation, building of dams, irrigation schemes, and urbanization**.

Rechargeable Batteries

- According to a recent report by the **United Nations Conference on Trade and Development (UNCTAD)**, the **supply of raw materials to produce rechargeable batteries**, crucial to move to cleaner energy, **is uncertain**.
- The report underlined **lithium, natural graphite and manganese as critical raw materials** for the manufacture of rechargeable batteries.
- **Reason For Increasing Demand For Rechargeable Batteries:**
 - As **electric vehicles (EVs) have gradually been integrated into global transportation**, there has been a rapid growth in demand for rechargeable batteries. This will consequently lead to an increase in the demand for raw material used in manufacturing these batteries.
 - The demand of raw materials used to manufacture rechargeable batteries will also grow rapidly as **other sources of energy lose their sheen**.
 - Alternative sources of energy such as electric batteries will become even more important as **investors grow more wary of the future of the oil industry**
- In the past few years, the sales of electric cars have experienced a sharp rise. They **increased 65% in 2018 from the previous year** to 5.1 million vehicles. With the increasing number of EVs, the demand for rechargeable batteries has also increased. The **worldwide market for cathodes for lithium ion batteries**, the most common rechargeable car battery, was estimated at \$7 billion in 2018 and was **expected to reach \$58.8 billion by 2024**.
- The security of supplies should be a concern for all stakeholders because the **production of the raw materials is concentrated in a few countries** which control reserves of key inputs like cobalt, manganese, lithium, graphite.

- Over 60% of the world's cobalt is mined in the Democratic Republic of the Congo while over 75% of global lithium is mined in Australia and Chile.
- Any disruption to supply might lead to tighter markets, higher prices and increased costs of rechargeable batteries.
- **Suggestions**
 - Chalking out a strategy that would allow for **dynamic monitoring of the raw material cycles, from mining through processing, refining, and manufacturing to recycling.**
 - This would facilitate early detection of supply risks. It would also enable development of mitigation strategies at either company or national level.

Maareech

- Navy inducts **Indigenously Developed Torpedo Decoy System, Maareech**, capable of being fired from all frontline warships.
- 'Maareech' has been **designed and developed indigenously by the Defence Research and Development Organization (DRDO) labs:** Naval Physical and Oceanographic Laboratory (NPOL) and Naval Science and Technological Laboratory (NSTL).
- It is **capable of detecting, locating and neutralizing incoming torpedoes.** The system offers a complete solution to detect and locate an incoming torpedo and to apply countermeasures to protect naval platforms against torpedo attack.
- **Bharat Electronics Limited**, a Defence PSU, **would undertake the production** of this decoy system.
- This induction not only stands testimony to the joint resolve of the Indian Navy and DRDO towards indigenous development of Defence technology, but has also given a major fillip to the Government's '**Make in India**' initiative and the country's resolve to become '**Atma Nirbhar**' in niche technology.
- It has given a major boost to **Anti - Submarine Warfare capability of the Indian Navy.**

Ionospheric Irregularities

- The **Earth's magnetic field** lines are **nearly horizontal** over the **magnetic equator** due to which **equatorial ionosphere** is a bed for a variety of **plasma instabilities** to cause **plasma disturbances** and **plasma irregularities.**
- These **plasma irregularities pose severe problems** to the **communication and navigation systems** and interfere with **surveillance operations** as well as **disruption in detection and tracking of aircraft, missiles, and satellites.**
- A **multi-instrument based ionospheric study of space weather storms** over India by the Scientists from the **Indian Institute of Geomagnetism (IIG)**, an **autonomous institute** under the Department of Science & Technology (DST), have found that the occurrence of **equatorial spread F (ESF) irregularities** and **GPS scintillations** are significantly affected by the **geomagnetic storms** depending upon the time of the onset of the **geomagnetic storm.**
- The **Equatorial Spread-F (ESF)** caused due to the F region **plasma irregularities** is a **complex phenomenon** encompassing a wide range of scale sizes of irregularities in **electron and ion densities** as well as in **electric fields.**
- They have also found that during **geomagnetic storms, partial enhancement in pre reversal enhancement (PRE)** (an eastward electric field enhancement before turning the westward near

the sunset hours in the equatorial ionosphere) in the zonal eastward electric field occurs during post-sunset resulting in around **30% increase** in spread F instead of total inhibition **during equinox and winter seasons**.

- **Understanding** the **thermosphere-ionosphere-magnetosphere** interactions that control the **electrodynamics behind dynamical evolution** of ionospheric irregularities under disturbed periods like geomagnetic storms is most **important** in **developing** and **maintaining communication and navigation systems**.

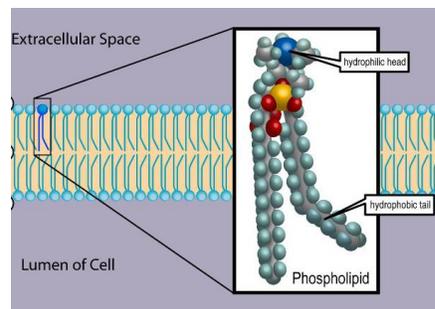
To read more about Earth's Magnetic Field, Please refer to our Recitals May, 2020.

Nanozymes

- A research team at the **Indian Institute of Science in Bengaluru** has developed **nanozymes** that **destroy the cell membrane of bacteria by directly targeting its phospholipids**.
- Nanozymes are **nanomaterials** that can **disintegrate** the **cell membranes** of a range of diseases causing bacteria. It also diminishes their **resistance-building capacity**
- It was tested on several **potentially pathogenic bacteria** causing **typhoid, gastroenteritis, dysentery, cholera** and **pneumonia**. It was found that the **nanozyme stopped** growth and killed the microbes.
- It is believed by the team that it **can replace the antibiotics** that have become ineffective as several bacteria have developed resistance to them by producing their own enzymes.

Phospholipid

- Phospholipids (PL) are a **class of lipids** that are a major component of all cell membranes.
- They can form **lipid bilayers** because of their **amphiphilic characteristic**.
- The structure of the phospholipid molecule generally consists of **two hydrophobic fatty acid "tails"** and a **hydrophilic "head"** consisting of a phosphate group. The two components are usually joined together by a glycerol molecule.
- Phospholipids have been **widely used to prepare liposomal, ethosomal** and other nanoformulations of topical, oral and **parenteral drugs** for differing reasons like improved bio-availability, reduced toxicity and increased permeability across membranes.



Extreme Helium Stars

- A study by the Indian **Institute of Astrophysics (IIA)**, an **autonomous institute** of **Department of Science and Technology**, which detected the presence of **singly ionised fluorine** for the **first time** in the **atmospheres of hot Extreme Helium Stars** makes a strong case that the main formation of these objects involves a merger of a **carbon-oxygen (CO)** and a **Helium (He) white dwarf**.
- An extreme helium star or EHe is a **low-mass supergiant** that is **almost devoid of hydrogen**, the most common chemical element of the universe. There are **21 of them** detected so far in our galaxy.
- The **origin and evolution** of these Hydrogen deficient objects have been shrouded in **mystery**. Their severe chemical peculiarities **challenge the theory of well-accepted stellar evolution** as the

observed chemical composition of these stars do not match with that predicted for low mass evolved stars.

- Clues to **evolution of extreme helium stars** require accurate determinations of their **chemical composition**, and the **peculiarities**, if any, become very important.
- **Fluorine** plays a very crucial role in this regard to determine the **actual evolutionary sequence** of these hydrogen deficient objects.
- By **comparing the observed fluorine** abundances with other abundances of the key elements, the scientists could determine the formation channels responsible for fluorine enrichment.
- The **varied range of observed fluorine abundance** across stars having similar atmospheric parameters points out the difference in the individual star's evolution and the **ensuing nucleosynthesis**.
- Particularly, the enrichment of fluorine in the atmospheres of carbon-rich EHes and absence of the same in carbon-poor EHes suggest that fluorine is profusely produced during the **merger of a He-CO WD resulting in a carbon-rich EHe**, whereas He-He WD merger that results in carbon-poor EHes does not account for fluorine overabundance.
- The detection of enhanced fluorine abundances in the atmospheres of hot EHes **solves a decade-old mystery** about their formation.

Serotonin

- **Serotonin** or **5-hydroxytryptamine (5-HT)** is a **happy neurotransmitter** that is secreted in **our brain** and it mediates the **feeling of happiness, satisfaction, and optimism**..
- It is a **chemical** that has a wide **variety of functions** in the human body. It is sometimes called the **happy chemical**, because it contributes to wellbeing and happiness, though its actual biological function is complex and multifaceted, modulating cognition, reward, learning, memory, and numerous physiological processes such as vomiting and vasoconstriction.
- **Ninety percent** of the **happiness neurotransmitter- serotonin** is **secreted** in the **gut (the part of the alimentary canal between the stomach and the anus)** with the help of **gut-friendly bacteria**.
- In fact, it is a part of some **anti-depressant medicines** as well. Eating foods that boost serotonin levels is one sure way to click happy feelings.
- Make sure to include **happy foods like - yogurt, almond, banana, and eggs**

Serotonin and Locust Swarms

- The **locust** is by nature a **recluse** and a **singleton, not mixing** with others in the same group, yet, when the **harvest season** arrives, these singletons **team up** with others as an army of swarms to attack plants for food.
- Insect experts believe, the **coming together triggered mechanical (touch) and neurochemical (serotonin) stimulations** to make **crowding** ('gregarisation') i.e. **Serotonin** is indeed **responsible** for swarm formation.

Statistics Day

- Statistics Day of India is being celebrated on **June 29, 2020** on the birth anniversary of Prof. **P C Mahalanobis**.

- 2020 Theme is "SDG- 3 (Ensure healthy lives and promote well-being for all at all ages) & SDG- 5 (Achieve gender equality and empower all women and girls)".
- **Prasanta Chandra Mahalanobis(1893 –1972)**, a **world-renowned statistician** whose invaluable contributions led to the establishment of the **National Statistical System in India**. He is also called the **father of Indian Statistics**.
- He was one of the **members of the first Planning commission** of free India. The **Mahalanobis model**, was employed in the **Second Five Year Plan**, which worked towards the rapid **industrialisation** of India.
- **World Statistics Day** is celebrated on **20 October**.

Sixth Mass Extinction

- According to new research, the ongoing sixth mass extinction may be one of the most serious environmental threats to the persistence of civilization.
- The Earth is currently experiencing an **extinction crisis largely due to the exploitation of the planet by people**. The research claims that this human-induced extinction is **more immediate than climate destruction** and described it as the “most serious environmental problem” since the **loss of species will be permanent**.

What Is The Mass Extinction Of Species?

- Mass extinction refers to a **substantial increase in the degree of extinction** or when the **Earth loses more than three-quarters of its species** in a geologically short period of time.
- So far, during the entire history of the Earth, there have been **five mass extinctions**. The sixth, which is ongoing, is referred to as the **Anthropocene extinction**.
- The five mass extinctions that took place in the last 450 million years have led to the **destruction of 70-95 per cent of the species of plants, animals and microorganisms** that existed earlier.
- These extinctions were **caused by “catastrophic alterations” to the environment**, such as massive volcanic eruptions, depletion of oceanic oxygen or collision with an asteroid. After each of these extinctions, it took millions of years to regain species comparable to those that existed before the event.

Earth’s Five Previous Mass Extinctions

- **End-Ordovician, (443 million years ago)**: A severe ice age led to sea level falling by 100m, wiping out 60-70% of all species which were prominently ocean dwellers at the time. Then soon after the ice melted leaving the oceans starved of oxygen.
- **Late Devonian, (c 360 million years ago)**: A messy prolonged climate change event, again hitting life in shallow seas very hard, killing 70% of species including almost all corals.
- **Permian-Triassic, (c 250 million years ago)**: The big one – more than 95% of species perished, including trilobites and giant insects – strongly linked to massive volcanic eruptions in Siberia that caused a savage episode of global warming.
- **Triassic-Jurassic, (c 200 million years ago)**: Three-quarters of species were lost, again most likely due to another huge outburst of volcanism. It left the Earth clear for dinosaurs to flourish.
- **Cretaceous-Tertiary, (65 million years ago)**: A giant asteroid impact on Mexico, just after large volcanic eruptions in what is now India, saw the end of the dinosaurs and ammonites. Mammals, and eventually humans, took advantage.

Impact Of Species Extinction?

- According to the Center for Biological Diversity, when species go extinct, the impact can be tangible such as in the form of a **loss in crop pollination and water purification**.
- Further, if a species has a specific function in an ecosystem, the loss can lead to consequences for other species by **impacting the food chain**.
- When the number of individuals in a population or species drops too low, its contributions to ecosystem functions and services become unimportant, its genetic variability and resilience is reduced, and its contribution to human welfare may be lost.

Way forward

- **Fight illegal wildlife trafficking:** The study calls for a complete ban on wildlife trade as many of the species currently endangered or on the brink of extinction are being decimated by legal and illegal wildlife trade.
- **Slow human population growth:** Humanity is an “unprecedented threat” to many living organisms is because of their growing numbers. The loss of species has been occurring since human ancestors developed agriculture over 11,000 years ago. Since then, the human population has increased from about 1 million to 7.7 billion.
- **Protect half the Earth's land and oceans:** Currently, only 15% of land and 4% of the world's oceans are protected from encroachment by humans.
- **Stop burning fossil fuels:** Adopt policies that promote cleaner energy such as carbon taxes, cap-and-trade pollution pricing systems and renewable energy tax credits. The Paris Agreement on climate change also creates a framework for a rapid shift away from fossil fuels.

Oil Spill In Arctic Circle

- An oil spill is the release of a liquid petroleum hydrocarbon into the environment, especially the marine ecosystem, due to human activity, and is a form of pollution.
- Russia declared a state of emergency in Krasnoyarsk Region after a **power plant fuel leak** caused 20,000 tonnes of diesel oil to escape into Ambaraya river within the Arctic Circle.
- The **thermoelectric power plant** was built on **permafrost, which has weakened over the years owing to climate change**. This caused the pillars that supported the plant’s fuel tank to sink, leading to a loss of containment.

Consequences Of Oil Spills

a) Effects on flora and fauna

- Oil on ocean surfaces is harmful to many forms of aquatic life because it **prevents sufficient amounts of sunlight from penetrating** the surface, and it also reduces the level of dissolved oxygen.
- Crude oil **ruins the insulating and waterproofing properties of feathers and fur**, and thus oil-coated birds and marine mammals may die from hypothermia.
- Ingested oil can be **toxic to affected animals**, and **damage to their habitat & reproductive rate**.
- **Damage to plant life** is also considerable as saltwater marshes and mangroves are two notable shore ecosystems that frequently suffer from oil spills.

- b) **Tourism:** If beaches and populated shorelines are fouled, tourism and commerce may be severely affected.

- c) **Commercial fishing:** Major oil spills are frequently followed by the immediate suspension of commercial fishing, at the least to **prevent damage to vessels and equipment** but also to **prevent the catch and sale of fish or shellfish that may be contaminated.**

Cleanup And Recovery Methods

- **Oil Booms:** Equipment called containment booms acts like a fence to prevent the oil from further spreading or floating away.
- **Skimmers:** Once the oil has been confined by using oil booms, skimmers or oil scoops can be deployed onto boats to remove the contaminants from the water surface. Skimmers are machines specially designed to suck up the oil from the water surface like a vacuum cleaner.
- **Burning In-situ:** In this method, the oil floating on the surface is ignited to burn it off. This in-situ burning of oil can effectively remove up to 98% of an oil spill, which is more than most of the other methods.
- **Dispersants:** Dispersal agents are chemicals that are sprayed upon the spill with the help of aircraft and boats, which aid the natural breakdown of oil components.
- **Bioremediation:** It is the use of specific microorganisms to remove any toxic or harmful substances. There are various classes of bacteria, fungi, archaea and algae that degrade petroleum products by metabolizing and breaking them into simpler and non-toxic molecules.
- **Sorbents:** Sorbents are materials that soak up liquids by either absorption (pulling in through pores) or adsorption (forming a layer on the surface).

Permafrost

- Permafrost is ground that **remains completely frozen at 0 degrees Celsius or below for at least two years.** It is defined solely based on temperature and duration.
- The permanently frozen ground, consisting of soil, sand, and rock held together by ice, is believed to have **formed during glacial periods dating several millennia.**
- These grounds are known to be **below 22 per cent of the land surface on Earth,** mostly in polar zones and regions with high mountains.
 - They are spread across **55 per cent of the landmass in Russia and Canada,** 85 per cent in the US state of Alaska, and possibly the entirety of Antarctica.
 - At lower latitudes, permafrost is found at high altitude locations such as Alps, Tibetan plateau etc.
- While permafrost itself is always frozen, the surface layer that covers it (called the “active layer”) need not be. Its thickness reduces progressively towards the south, and is **affected by a number of other factors, including the Earth’s interior heat, snow and vegetation cover, presence of water bodies, and topography.**

Nagar Van Scheme

- Union Environment Minister launched the **Urban Forest program (Nagar Van scheme)** on the occasion of World Environment Day.
- It aims to **develop 200 Urban Forests across the country in next five years** with a renewed focus on people’s participation and collaboration between Forest Department, Municipal bodies, NGOs, Corporates and local citizens.

- These forests will **primarily be on the forest land in the City or any other vacant land** offered by local urban local bodies.
- The scheme will be, **in part, paid for by CAMPA** (Compensatory Afforestation Fund Act, 2016) funds.

About CAMPA

- Because of developmental or industrial requirements, forests are routinely cut, or, “diverted for non-forest purposes”. In such cases, the **Forest (Conservation) Act of 1980** requires that non-forest land, equal to the size of the forest being “diverted”, is afforested.
- To compensate the loss of forest area and to maintain the sustainability, the Government of India came up with a well-defined Act, known as CAMPA (Compensatory Afforestation Fund Management and Planning Authority).
- According to the Act’s provision, **a company diverting forest land must provide alternative land** to take up compensatory afforestation and should pay to plant new trees in the alternative land. The loss of forest ecosystem must also be **compensated by paying for net present value (NPV)**.
- The money will be collected from the user agency by the government of the state in which the project is located, and deposited with the central government. As per the rules, **90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.**

‘iCommit’ Initiative

- Union Power Minister launched the ‘#iCommit’ initiative on the occasion of World Environment Day.
- It is centered on the idea of **building an energy resilient future**. It is a clarion call to all stakeholders and individuals to **continue moving towards energy efficiency, renewable energy, and sustainability** to create a robust and resilient energy system in the future.
- The initiative is driven by **Energy Efficiency Services Limited (EESL)**, under the administration of Ministry of Power.
- The initiative will also promote key undertakings of Government of India such as National Electric Mobility Mission 2020, FAME 1 and 2, Deen Dayal Upadhyaya Gram Jyoti Yojana etc.

Healthy And Energy Efficient Buildings Initiative

- On occasion of World Environment Day, Energy Efficiency Services Limited (EESL) in partnership with the U.S. Agency for International Development’s (USAID) **MAITREE program**, launched the “Healthy and Energy Efficient Buildings” initiative that will pioneer **ways to make workplaces healthier and greener**.
- This initiative is addressing the challenges of **retrofitting existing buildings and air conditioning systems** so that they are both healthy and energy efficient.
- It will develop specifications for future use in other buildings throughout the country, as well as aid in evaluating the effectiveness and cost benefits of various technologies and their short and long-term impacts on air quality, comfort, and energy use

Energy Efficiency Services Limited

- EESL, works under the administration of Ministry of Power, Government of India,
- It is working towards mainstreaming energy efficiency and is implementing the world’s largest energy efficiency portfolio in the country.

- It aims to create market access for efficient and future-ready transformative solutions that create a win-win situation for every stakeholder.

USAID

- USAID is the world's premier international development agency and a catalytic actor driving development results. USAID works to help lift lives, build communities, and advance democracy.
- Market Integration and Transformation Program for Energy Efficiency (**MAITREE**), under which this initiative has been launched, is a part of the US-India bilateral Partnership between the Ministry of Power and USAID
- It is **aimed at accelerating the adoption of cost-effective energy efficiency** as a standard practice within buildings, and specifically focuses on cooling.

Environment Performance Index 2020

- India secured **168 rank out of 180** in the 12th edition of the biennial Environment Performance Index (EPI Index 2020).
- **Denmark** has ranked first in the world, followed by Luxembourg, Switzerland, the United Kingdom, France, Austria, Finland, Sweden, Norway and Germany in the top 10 countries. While Japan has ranked 12th, the United States of America ranks 24th, and China stands at 120th.

India's Performance

- **All South Asian countries, except Afghanistan, were ahead of India** in the ranking. India's rank was 177 (with a score of 30.57 out of 100) in 2018. The country scored 27.6 out of 100 in the 2020 index.
- India scored below the regional average score on all five key parameters on environmental health, including air quality, sanitation and drinking water, heavy metals and waste management.
- It has also scored below the regional average on parameters related to **biodiversity and ecosystem services too**.
- Among South Asian countries, **India was at second position (rank 106) after Pakistan on 'climate change'**. Pakistan's score (50.6) was the highest under the category.
- The report indicated that black carbon, carbon dioxide emissions and greenhouse emissions per capita increased in 10 years. Its overall score under climate change has dipped 2.9 points.

Suggestions for India

- India needs to **re-double national sustainability efforts** on all fronts, according to the index.
- The country needs to focus on a wide spectrum of sustainability issues, with **a high-priority to critical issues such as air and water quality, biodiversity and climate change**.
- India can progress towards meeting its climate targets and goals if it follows **better governance**. The most crucial distinction between the worst and the best performers in EPI has been good governance.
- With **public inputs in policymaking and a more targetted regulatory mechanism**, India can perhaps better its showing—quite crucial at a time when the time to contain the deadly climate change effects might be running out fast.

About Environment Performance Index (EPI)

- Released by the **Yale University**, EPI ranks 180 countries on 32 performance indicators across 11 issue categories covering environmental health and ecosystem vitality.

- The 2020 EPI features new metrics that gauge waste management, carbon dioxide emissions from land cover change, and emissions of fluorinated gases
- The EPI offers a powerful policy tool in support of efforts to meet the targets of the UN Sustainable Development Goals and to move society toward a sustainable future.

State Of The Environment Report

Centre for Science and Environment has published the State of the Environment report.

Key Findings

- India had **one in five of all internal displacements caused by disasters** across the world in 2019, mostly caused by floods, cyclones and drought.
- There were **more than 50 lakh internal displacements** in India last year, the highest in the world.
- Flooding caused by the south-west monsoon led to 26 lakh displacements, while Cyclone Fani alone led to 18 lakh displacements, followed by Cyclone Vayu and Bulbul. On the other hand, drought conditions in 19 States led to another 63,000 displacements.
- Apart from such forced migrations, many migrants move for work. There were over 45 crore migrants in the country at the time, with the vast majority migrating within their own State.
- It notes that there were 747 more tigers in 2018 than in 2014. However, the **net area meant for tiger conservation shrunk by 179 square kilometres**.
- **Forest cover has shrunk in 38% of districts**, while five out of 21 river basins are now in a state of absolute water scarcity.

Indian Bison or Gaur

- The first **population estimation exercise of the Indian gaur**, carried out in the Nilgiris Forest Division in recent years, has revealed that more than an estimated 2,000 Indian gaurs inhabit the entire division.
- Exercise has also revealed that the majority of the animals in “conflict-prone” areas in the division live perilously close to human habitations due to **habitat loss and fragmentation**, exacerbating the probability of having problematic interactions with humans.



About Indian Gaur

- **Physical Characteristics:** It is the largest and the tallest in the family of wild cattle.
- **Habitat:** It is very much prevalent in the Western Ghats. They prefer evergreen forests and moist deciduous forests. However, they can survive in dry deciduous forests also. They are not found in the Himalayas with an altitude greater than 6,000 ft. They generally stick to the foothills only. They are attracted to grounds which are impregnated with salts and minerals.
- **Threats:**
 - **Food Scarcity:** The destruction in the grasslands has led to the decline in availability of food for these animals. Due to the planting of commercially important trees, the lush grassland has diminished which is the prime source of fodder for this wild cattle.

- **Poaching:** The illegal hunting of the Indian bison is done for their commercial value as well as due to the high demand of gaur meat in the illegal market of Nepal – India border.
- **Conservation Status:**
 - It is listed as **Vulnerable** in the International Union for Conservation of Nature (IUCN) Red List.
 - **Schedule I** of the Wild Life Protection Act, 1972.

Malabar Gliding Frog

- Malabar gliding frog (*Rhacophorus malabaricus*), a rare amphibian, was spotted in Kozhencherry, Kerala.
- **Characteristics:**
 - It can glide in the air up to 10 to 12 metres.
 - The frog has got a body length of 10 cm, making it **one of the largest mossy frogs**.
 - As their body is so soft, they can **live only in moist forests** with streams.
- Its population was declining due to deforestation, climate change, developmental activities, toxic chemicals etc.
- **IUCN status:** Least Concern.



Asiatic Lion

- Gujarat Forest Department announced that the **population of Asiatic lions in the state has grown by almost 29%** from the last count in 2015.
- Over the last several years, the Lion population in Gujarat has been steadily rising. This is powered by community participation, emphasis on technology, wildlife healthcare, proper habitat management and steps to minimize human-lion conflict.
- However, unlike in previous years, this count was estimated **not from a Census, but from a population “observation” exercise called Poonam Avlokan.** This year Lion Census was not conducted due to Corona pandemic.



How Is This ‘Observation’ Different From A Regular Census

- Conducted once every five years, the **Lion Census involves larger participation** of around 2,000+ officers and experts which makes the **Census more transparent.** The lion ‘observation’ this month was conducted by around 1,400 forest staff and a few experts.
- **The Lion Census** is done using the **block counting method** — in which census enumerators remain stationed at water points in a given block and estimate abundance of lions in that block, **based on direct sighting of lions** who need to drink water at least once in 24 hours during the summer.
- **A ‘lion observation’ is an in-house exercise,** conducted only by forest staff. The methodology too is different as, instead of remaining stationary at water points, teams keep moving in their respective territories and make their estimates based on inputs provided by lion trackers and on chance sightings.

About Asiatic Lion

- **Conservation Status:** Listed in Schedule I of Wildlife (Protection) Act 1972, in Appendix I of CITES and as Endangered on IUCN Red List.
- **Characteristics:** Asiatic lions are slightly smaller than African lions. The most striking morphological character is a longitudinal fold of skin running along belly of Asiatic Lions.
- **Habitat and Distribution:** At present, Gir National Park and Wildlife Sanctuary in Gujarat is the only abode of the Asiatic lion. They live in a compact tract of dry deciduous forest and open grassy scrublands in southwestern part of Saurashtra region of Gujarat.

Scorpionfish

- Researchers at the Central Marine Fisheries Research Institute (CMFRI) have found a rare scorpionfish (*Scorpaenospsis neglecta*) from Sethukarai coast in the Gulf of Mannar.
- The fish is called 'scorpionfish' because its **spines contain neurotoxic venom**.
- This was the **first time that the particular species was found alive in Indian waters**.
- The fish has the **ability to change colour** and blend with its surrounding environment to escape from predators and while preying.
- The specimen has been deposited in the National Marine Biodiversity Museum of the CMFRI.

**Monkey Park**

- The **Karnataka government** is planning to establish a monkey park, on the uninhabited islands in the Sharavathi backwaters region.
- Following a spike in the cases of **monkeys raiding agricultural and plantation crops** in Malnad region in recent times, the farmers had staged several protests demanding that the State government address the problem.
- As a solution to the menace, the State government took a decision to establish the park and in the 2020-21 budget, ₹6.25 crore was allocated for the purpose.
- Fearing that the project may **trigger an outbreak of diseases like the Kyasanur Forest Disease (monkey fever)**, the residents there had opposed the project. Following this, the State government has now planned to shift the project to the uninhabited islands in Sharavathi river backwaters region.

Biodiversity Park

- **Uttarakhand** forest department opened the first biodiversity park in Haldwani, which is the **state's biggest** on World Environment Day.
- The park includes wild edible plant species, fruits as well as plants of medicinal and commercial importance with cultural, religious and historical significance.
- The main objective of Biodiversity Park is to **conserve the biodiversity of the specific area and to maintain the genetic stock available therein**.

- In biodiversity Park, special thrust is also to be given for the **conservation of rare, threatened and endangered species.**

World Environment Day 2020

- World Environment Day is celebrated on June 5 every year.
- **Theme:** 'Biodiversity'.
- **Host:** Colombia in partnership with Germany.
- The UN General Assembly designates 5 June as World Environment Day, marking the first day of the **Stockholm Conference on the Human Environment.** Another resolution, adopted by the General Assembly the same day, leads to the creation of UN Environment.
- The first World Environment Day was held in 1974 with the slogan **"Only One Earth"**.
- India hosted the 45th celebration of World Environment Day under the theme **"Beat Plastic Pollution"** in 2018. The Indian government made a bold commitment to **ban all single-use plastics—which makes up 70 per cent of marine litter—by 2022** and European Union lawmakers agreed on a ban by 2025.

World Oceans Day 2020

- World oceans day is being celebrated on June 8, 2020 under the theme **"Innovation for a Sustainable Ocean."**
- In 2008, the United Nations General Assembly decided that, as of 2009, 8 June would be designated by the United Nations as "World Oceans Day".
- The purpose of the Day is to inform the public of the **impact of human actions on the ocean, develop a worldwide movement of citizens for the ocean,** and mobilize and unite the world's population on a project for the sustainable management of the world's oceans.
- World Oceans Day is uniting conservation action to grow the global movement calling on world leaders to **protect 30% of our blue planet by 2030. This critical need is called 30x30.**

Tropospheric Ozone

New research shows that while NO₂ and PM_{2.5} levels plummeted during Covid-19 lockdown period, **pollution from ozone shot up.**

Tropospheric Ozone As a Pollutant

- **In stratosphere,** the highly reactive ozone gas (O₃) helps protect life by forming ozone layer and filters **ultraviolet radiation from the sun.**
- However, **in the troposphere** (meaning at ground-level), **it is an important greenhouse gas and air pollutant,** which is harmful to human and ecosystem health. It is also a major component of **urban smog.**
- Tropospheric ozone is a **short-lived climate pollutant** with an atmospheric **lifetime of hours to weeks.**

Why Have Ozone Levels Increased?

- In many parts of the world, ozone pollution is known to increase during **warmer months.**

- It also builds up in **cleaner areas**. This happens because ozone is not directly emitted by any source but is formed by photochemical reactions between oxides of nitrogen (NOx) and other volatile organic compounds (VOCs) and gases in the air under the influence of sunlight and heat.
- **A high NOx level** can again react with ozone and mop it up. The ozone that escapes to cleaner areas has no NOx to further cannibalise it – and as a result, ozone concentration builds up in these areas. Ozone can be controlled only if gases from all sources are controlled.
- In India, as the lockdown was enforced during the summer months, this effect appears to have compounded, with lower than usual NOx levels at already high temperatures.

Money Laundering and the Illegal Wildlife Trade Report

The Financial Action Task Force (FATF) released its first-ever report on illegal wildlife trade (IWT).

Highlights Of The Report

- IWT is a major transnational organized crime, which fuels corruption, threatens biodiversity, and can have a significant negative impact on public health and the economy. It is estimated to generate **revenues of up to \$23 billion a year**.
- Syndicates involved in wildlife crime usually **poach, harvest or breed wildlife in countries that are rich in biodiversity and/or where there may be weaker law enforcement** oversight.
- Similarly, most syndicates involved in such crime **transit the wildlife through other countries to obfuscate the end destination**. Transit countries typically include trade and transport hubs or countries with higher levels of corruption. The laundering of the proceeds occurs across source, transit and destination countries.
- **Magnitude Of The Proceeds Generated In IWT Market**
 - **Rhinoceros horn:** The price of rhinoceros horn can reach around USD 65000 per kg. Criminals trafficked approximately 4500 African rhinoceros horns between 2016 and 2017.
 - **Pangolin scales:** While hunters can receive from USD 2.5 to 9 per kg of pangolin scales, the price in demand countries has reached as much as USD 700 per kg.
- **Methods to Launder Proceeds from IWT**
 - **Misuse of the Formal Financial Sector:** Criminals involved in IWT are **placing and layering funds** through cash deposits under the guise of loans or payments, e-banking platforms, licensed money value transfer systems and third-party wire transfers through banks.
 - In order to conceal the sender and the receiver of the funds, and to avoid the country-specific threshold reporting by financial institutions, syndicates are **relying on money mule accounts and low-value payments**.
 - **Shell companies:** Countries identified that criminals are primarily using shell companies to facilitate transfer of value between syndicate members, between buyers and sellers, or to hold assets.
- **Facilitation Role of New Technologies**
 - Encrypted communication platforms and illegal wildlife marketplaces hosted via social media sites, online vendor platforms, and the dark net increase the ease with which wildlife transactions can occur between buyers and sellers.
 - Although online listings are easily accessible, **VPN connections disguise the location of wildlife traffickers**.

Challenges In Tackling IWT

- Identifying the financial aspects of wildlife cases as a result of the **high rate of use of cash and the difficulty in pursuing financial trails overseas**, due to legislative differences or resources, or relationships.
- Laws and regulations in some countries **do not cover the transit and disposal of confiscated specimens**.
- **Non-native CITES-listed species are often not protected by national** legislation and regulations, creating regulatory arbitrage between jurisdictions.
- **Lack of criminalization of IWT** as a predicate offense and **low prioritization** of wildlife crime among law enforcement agencies.
- **Unclear trade rules**, primarily concerning transactions, species covered and exemptions.
- **Low penalties** e.g. non-deterrent fines and prison sentence below four (4) years for serious infractions, and vague definition of the infractions.

Recommendations

- **Legislative changes** are necessary to increase the applicability of anti-money laundering laws to the illegal wildlife trade-linked offences.
- **Build strong public-private partnerships** to prevent, detect and disrupt this activity, following the money that fuels it and the organised crime gangs, poachers and traffickers behind it.
- **Deprive criminals of the proceeds and instrumentalities of these crime** and the means to commit further offences (e.g. arms, hunting tools and animals, vehicles, and equipment used to preserve the wildlife). Jurisdictions investigating wildlife crime should, as a priority, identify, freeze, seize and confiscate associated assets.
- **Provide training for law enforcement** tasked with detecting, investigating and prosecuting money laundering from wildlife trafficking.
- **Undertake (multi-agency) case reviews** of historic/closed IWT cases that focus on the unexplored financial elements of a case. Such reviews can be useful in order to identify the trends and methods used to move funds and conceal their criminal origin.

Anthropause

Researchers in the UK are set to study the “**anthropause**”, a term they have coined to refer to the **coronavirus-induced lockdown period and its impact on other species**.

Significance Of The Study

- Scientific community can use this “extraordinary circumstance” provided by global lockdowns to understand **how human activity affects wildlife**.
- The pandemic affords an opportunity to build a **global picture of animal responses by pooling large numbers of datasets**. Such collaborative projects can integrate the spatial and temporal approaches to uncover causal relationships.

Why Is Studying The Lockdown Important?

- As **expanding human populations continue to transform their environments at “unprecedented rates”**, studying how human and animal behaviour are linked can be useful in preserving global biodiversity, maintaining the integrity of ecosystems and predicting global zoonoses and environmental changes.

- Further, because the reduction in human activity during the lockdown on both land and sea has been **“unparalleled” in recent history, the effects have been “drastic, sudden and widespread”**. Essentially, this gives them a chance to **study the extent to which modern human mobility affects wildlife**.

Assessment of Climate Change over the Indian Region

First Assessment of Climate Change over the Indian Region has been published by the Union Ministry of Earth Sciences (MoES)

Key Findings

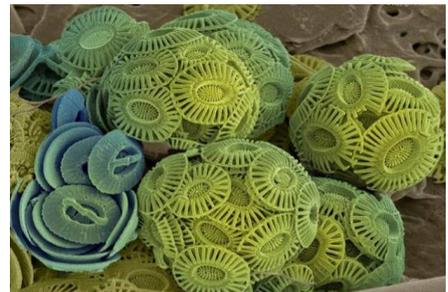
- In a worst case scenario, **average surface air temperatures over India could rise by up to 4.4 degrees Celsius** by the end of the century as compared to the period between 1976 and 2005. The worst case scenario is defined by the **Representative Concentration Pathway (RCP) 8.5** that calculates a radiative forcing of 8.5 watt per square metre due to the rising green house gas (GHG) emissions in the atmosphere.
- **By 2100, the frequency of warm days and warm nights might also increase by 55 per cent and 70 per cent respectively**, as compared to the period 1976-2005 under the RCP 8.5 scenario.
- The **incidences of heat waves over the country could also increase** by three to four times. Their duration of occurrence might also increase which was already witnessed by the country in 2019.
- The report predicts that **monsoon rainfall could change by an average of 14 per cent by 2100** that could go as high as 22.5 per cent.
- In the past few decades, there has been an **increased frequency of dry spells during the monsoon season** that has increased by 27% between 1981-2011, as compared to 1951-1980.
- The **intensity of wet spells has also increased** over the country, with central India receiving 75 % more extreme rainfall events between 1950 and 2015. This means that it either rains too little or too much.

Radiative Forcing

Radiative forcing or climate forcing is the difference between sunlight energy absorbed by the Earth (including its atmosphere) and the energy that it radiates back into space.

Ancient Marine Algae - Coccolithophores

- A study of a microscopic ancient marine algae (Coccolithophores) led by the National Centre /for Polar and Ocean Research (NCPOR) has found that there is a **decrease in the concentration of oceanic calcium carbonate (CaCO₃) in the Southern Indian Ocean**.
- This decrease in CaCO₃ is attributed to the **increase in the concentration of another single-celled algae known as diatoms**. This, in turn, will affect the growth and skeleton structure of coccolithophores, with potential significance for the world ocean ecosystem.



What Is Coccolithophores?

- Coccolithophores are **single-celled algae living in the upper layers of the world's oceans**. They have been playing a key role in marine ecosystems and the **global carbon cycle** for millions of years.

- Coccolithophores **calcify marine phytoplankton** that produces up to 40% of open ocean calcium carbonate and responsible for 20% of the global net marine primary productivity.
- Coccolithophores **build exoskeletons from individual CaCO₃ plates** consisting of chalk and seashells building the tiny plates on their exterior. Though carbon dioxide is produced during the formation of these plates, coccolithophores help in removing it from the atmosphere and ocean by **consuming it during photosynthesis**. At equilibrium, coccolithophores **absorb more carbon dioxide than they produce**, which is beneficial for the ocean ecosystem.
- Abundance and diversity enrichment of coccolithophores in the southern Indian Ocean is highly dependent on time and influenced by various environmental factors such as silicate concentrations, calcium carbonate concentration, diatom abundance, light intensity and availability of macro and possibly micronutrient concentrations.

National Centre for Polar and Ocean Research (NCPOR)

- It was established as an autonomous Research and Development Institution of the **Ministry of Earth Sciences** in 1998.
- It is designated as the nodal organization for the co-ordination and **implementation of the Indian Antarctic Programme**.
- Year-round maintenance of the two Indian stations (Maitri & Bharati) in Antarctica is the primary responsibility of the Centre. Maitri (1989) and Bharati (2011) were established, for carrying out research by the Indian scientists in all disciplines of polar research.
- NCPOR is located in the state of Goa.

Macaws

- The Directorate of Revenue Intelligence (DRI) has busted a wildlife smuggling syndicate involved in smuggling 22 macaws from Bangladesh.
- Illegally imported birds are confiscated under **Section 111 of the Customs Act** and **Sections 48 and 49 of the Wildlife Protection Act** which prohibit trade or commerce in wild animals, animal articles or trophies.

About Macaws:

- Macaws are beautiful, brilliantly colored members of the **parrot family**. The cobalt-blue **hyacinth macaw** of Brazil, Bolivia, and Paraguay is the largest of all parrots.
- **Distribution:** It is native to tropical North and South America.
- **Protection:** The macaws are protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), with hyacinth macaw being accorded the highest protection.
- There are at least **17 species of macaws**, and several are endangered. The glaucous macaw and Spix's macaw may already be extinct in the wild.



Golden Langurs

- Primatologists have observed that the Gee's golden langur **induce stillbirth of babies killed inside the womb of females, besides practicing infanticide**.

- Avoiding inbreeding is the reason why golden langurs live in specific groups. The **groups are primarily of two types — one is all-male and the other is bisexual**, which in turn has three categories. In groups of two or more males, only the dominant male can access the female.
- **Forced abortion and infanticide happen when a new male takes over.** He often kills the baby of a lactating female or hits the abdomen of a female impregnated by the deposed male till the point of abortion.



About Golden Langurs

- **Distribution:** It is found only in a few pockets in **western Assam and adjoining Bhutan.**
- **Habitat:** Golden langurs occupy moist evergreen and tropical deciduous forests as well as some riverine areas and savannas in Assam and Bhutan.
- **Threats:**
 - The main reason for low numbers of golden langurs is because of their localized habitat and the rapid loss of this habitat due to deforestation.
 - Obstructions such as wires, and gaps in the forest due to felling, have increased the threat of inbreeding among golden langurs.
- **Conservation Status:**
 - **Endangered** in the IUCN Red List.
 - **Appendix I** on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- **Chakrashila** in Assam is India's first wildlife sanctuary with golden langur as the primary species.

Pangolin

China accorded the pangolin the highest level of protection and removed the scales of the endangered mammal from its list of approved traditional medicines.

About Pangolin

- They are the **only mammals wholly-covered in scales** and they use those scales to protect themselves from predators in the wild.
- Pangolins eat ants, termites and larvae and are often known as "**the scaly anteater.**" Because they have no teeth, pangolins pick up food with their sticky tongues, which can sometimes reach lengths greater than the animal's body.
- **Eight species of pangolins** are found on two continents.
 - **Four species live in Africa:** Black-bellied pangolin, White-bellied pangolin, Giant Ground pangolin and Temminck's Ground pangolin.
 - **Four species found in Asia:** Indian pangolin, Philippine pangolin, Sunda pangolin and the Chinese pangolin



• Conservation Status:

- **Chinese and Sunda pangolins** being listed as **Critically Endangered**, the **Philippine and Indian pangolins** as **Endangered**, and the **four African species** as **Vulnerable**.
- In 2017 Convention on International Trade in Endangered Species (CITES) enforced an international trade ban of pangolin.

Schizothorax Sikusirumensis

- A **new species of fish** has been discovered in **Arunachal Pradesh**. The fish species is named as *Schizothorax sikusirumensis*.
- The fish species belongs to **genus Schizothorax**.
- The name of this fish species has been derived from the name of the rivers where it was found. This fish was collected from the **junction of River Siku and Sirum** in East Siang District.
- The fish **inhabits the water logged area** of torrential river drainage.

**International Horseshoe Crab Day**

The International Union for Conservation of Nature (IUCN)'s Horseshoe Crab Specialist Group had decided to celebrate **first-ever 'International Horseshoe Crab Day' on 20th June, 2020**.

About Horseshoe Crabs

- It belongs to the **family of spiders and scorpions**, and they are not really crabs. They are **hard-shelled bottom-dwelling arthropods** that live both in estuarine and continental shelf of the sea floor.
- **Regarded as a marine 'living fossil'**, these animals have existed virtually unchanged since the time of the dinosaurs and are important ecosystem engineers and predators of small organisms.
- There are **four extant horseshoe crab species**:
 - **American horseshoe crab** along the eastern coast of USA and in the Gulf of Mexico.
 - **Three Indo-Pacific species-** the **tri-spine horseshoe crab**, the **coastal horseshoe crab** and the **mangrove horseshoe crab** in coastal waters of India, Southeast Asia, China and Japan.
- In India, much of the horseshoe crab population is in Sundarbans in West Bengal and Bhitakanika in Orissa. **Odisha is their largest habitat in India**.
- **Medicinal value:** The medical profession uses an extract from the horseshoe crab's blue, copper-based blood, known as **lysate to test the purity of medicines**. Certain properties of this crab's shell are also being used to **speed blood clotting and to make absorbable suspensions**.
- **Conservation status:**
 - **American horseshoe crab is listed as Vulnerable** and the **tri-spine horseshoe crab is classified as Endangered** on the IUCN Red List of Threatened Species. Other two species will soon be listed on the IUCN Red List.
 - The Central government has included the horseshoe crab under the **Schedule IV of the Wildlife Protection Act of 1972**.



World Day To Combat Desertification And Drought

- World Day to Combat Desertification and Drought is being observed on June 17, 2020 with the **theme “Food. Feed. Fibre. - the links between consumption and land.”** It is observed every year to promote public awareness of international efforts to combat desertification.
- This day was proclaimed by the United Nations General Assembly resolution in 1995, after the day when United Nations Convention to Combat Desertification was drafted.

United Nations Convention to Combat Desertification (UNCCD)

- UNCCD is the **sole legally binding international agreement** linking environment and development to sustainable land management.
- The Convention **addresses specifically the arid, semi-arid and dry sub-humid areas**, known as the drylands, where some of the most vulnerable ecosystems and people can be found.
- This Convention forum is the **only convention stemming from a direct recommendation of the Rio Conference's Agenda 21**. It was adopted in Paris, France in 1994 and entered into force in December 1996.
- To help publicize the Convention, **2006 was declared "International Year of Deserts and Desertification"**.

Decarbonising Transport In India Project

- NITI Aayog in collaboration with **International Transport Forum (ITF)** will launch the “Decarbonising Transport in India” project with the intention to develop a pathway towards a low-carbon transport system for India.
- The project will **design a tailor-made transport emissions assessment framework for India**. It will provide the government with a detailed understanding of **current and future transport activity and the related CO2 emissions as a basis for their decision-making**.
- The India project is carried out in the wider context of the International Transport Forum’s **“Decarbonising Transport” initiative**. It is part of the **“Decarbonising Transport in Emerging Economies” (DTEE) family of projects**, which supports transport decarbonisation across different world regions.

About International Transport Forum (ITF)

- ITF is an intergovernmental organisation with 60 member countries.
- It acts as a **think tank for transport policy** and organises the Annual Summit of transport ministers. It is the **only global body that covers all transport modes**.
- The ITF is **administratively integrated with the Organization for Economic Co-operation and Development (OECD)**, yet politically autonomous.
- **India has been a member** of ITF since 2008.

Decarbonising Transport in Emerging Economies (DTEE)

- The DTEE is a collaboration between the ITF and the Wuppertal Institute, supported by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

SPIC MACAY

- To steer the young generation through the mental stress triggered by Covid-19, SPIC MACAY has launched **Anubhav**, a weeklong online project. The series seeks to help youngsters indulge in mystical and diverse aspects of Indian art, culture and heritage.
- SPIC MACAY (Society for the Promotion of Indian Classical Music And Culture Amongst Youth) is a non-political, nationwide, voluntary movement founded in 1977.
- It is a non-profit and participatory student movement registered under the Societies Registration Act, 1860.
- Its intention is to enrich the quality of formal education by increasing awareness about different aspects of Indian heritage and inspiring the young mind to imbibe the values embedded in it.
- For this, the most accomplished artistes of the country render programs of Indian classical music and dance, folk, poetry, theatre, traditional paintings, crafts & yoga primarily in schools and colleges.
- In 2011, SPIC MACAY was awarded the Rajiv Gandhi Sadbhavana award in recognition of its contribution to youth development.