



VAJIRAM & RAVI

(Institute for Civil Services Examination)

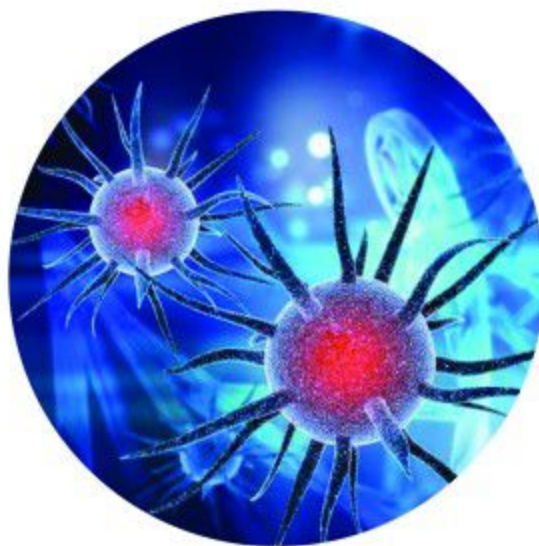
MARCH 2020

the RECITALS

Explore Current Affairs Through Q&A



**Featured
Articles**



**Mains
Q & A**



**Prelims
Q & A**

**Bridging
Gaps**

SC Quashes RBI Curb On Cryptocurrency

SAARC Covid-19 Emergency Fund

| | |
|--|---------------|
| Message From The Desk Of Director | 1 |
| 1. Feature Article | 2-9 |
| a. <i>SC Quashes RBI Curb On Cryptocurrency</i> | |
| b. <i>SAARC Covid-19 Emergency Fund</i> | |
| 2. Mains Q&A | 10-32 |
| 3. Prelims Q&A | 33-79 |
| 4. Bridging Gaps | 80-144 |
| 1. Right Of An Accused To Be Defended | |
| 2. National Interlinking of Rivers Authority (NIRA) | |
| 3. 7 MPs Suspended From Lok Sabha By The Speaker | |
| 4. States Challenging The CAA, NRC And NPR | |
| 5. Former CJI Took Oath As A Member Of Rajya Sabha | |
| 6. Quota Within SC Quota | |
| 7. Pradhan Mantri Garib Kalyan Yojana | |
| 8. India Data Portal (IDP) | |
| 9. Difference Between Lock down, Curfew and Section 144 | |
| 10. Uttar Pradesh Recovery of Damages to Public and Private Property Ordinance, 2020 | |
| 11. Electoral Reforms | |
| 12. Epidemic Disease Act, 1897 | |
| 13. Freedom In the World 2020 Report | |
| 14. Section 505 Of IPC | |

15. Gairsain Named Uttarakhand's New Summer Capital
16. International Women's Day
17. Parliamentary Standing Committee's Report On HRD
18. World University Rankings By Subject 2020
19. Sanskrit Universities Bill
20. World Consumer Rights Day
21. Kerala Seeks Relaxation Under FRBM
22. Parliamentary Committee Report on PM Ujjwala Yojana
23. RBI Guidelines For Payment Aggregators And Payment Gateways
24. Electronics Manufacturing Clusters 2.0 Scheme
25. Scheme for Promotion of Bulk Drug Parks and Production Linked Incentive (PLI) Scheme
26. JICA Signs Agreements for Major Rail Projects
27. HAL Planning to Set up Logistics Bases in Neighbouring Countries
28. G20 Virtual Summit 2020
29. India-Turkey Deal to Build Fleet Support Vessels
30. India-Israel Sign Defence Deal
31. UN Human Rights Body Moves Supreme Court over CAA
32. US Renews Four Restrictions on Iran's Nuclear Program
33. Advanced Extremely High Frequency Communications Satellite Launched by US
34. Danube-Oder-Elbe Canal
35. Iran Seeks IMF Loan
36. US Declares National Emergency Over Coronavirus
37. Defense Production Act Invoked in US
38. US Federal Reserve Cuts Interest Rates to Zero
39. LWE Related Incidents Reduced by Over 38%
40. Trends In International Arms Transfers 2019
41. India Closes its International Borders
42. New Land Immigration Posts Between India and Bangladesh
43. ICGS Varad Commissioned into Service
44. United Nations Global Compact (UNG) India Study
45. World Bank's \$1 Billion Emergency Fund for India
46. UNSC Resolution on Safety, Security of Peacekeepers
47. Whitefly Resistant Cotton
48. Endophytic Actinobacteria
49. Coronavirus Declared A Pandemic

50. Quantum Entanglement
51. Cord Blood Banking
52. Bi-luminescent Security Ink to Curb Fake Currency Notes
53. Methanotrophs (Methane-Oxidizing Bacteria)
54. Mac-binding
55. Crime Multi Agency Centre and National Cybercrime Training Centre
56. Oculudentavis Khaungraae
57. Enzyme SIRT1
58. Fuel Cell Technology For Disaster Management
59. ICONSAT
60. CRISPR (CaS9)
61. Flow Diverter Stents Technology
62. Solar Charkha Mission
63. Washing Hands In Fighting Against COVID-19
64. Scitech Airon
65. Electoral Ink For Home Quarantine Stamps
66. Hantavirus
67. Multidrug Resistant Tuberculosis (MDR-TB)
68. Iron Raining
69. Superhydrophobic Coating To Save Metallic Surfaces
70. Thiols
71. Humidity and Coronavirus
72. Innovations For Defence Excellence (iDEX)
73. Starch-based Materials To Stop Blood Loss During Accidents
74. Laser Surface Micro-Texturing
75. Jasmonic acid
76. Hydroxychloroquine As Schedule H1 Drug
77. Solidarity Trial
78. Exercise Red Flag
79. Community Transmission
80. Three Flagship Marshland Species Found In Odisha's Chilika Lake
81. Black Carbon Levels Spike At Himalayan Glaciers
82. Cheetah re-introduction Into India
83. National Clean Air Programme (NCAP)
84. Global Coalition for Biodiversity

85. Community Forest Rights (CFR)
86. Coral Bleaching At The Great Barrier Reef
87. Red-Crowned Roof Turtle (Batagur Kachuga)
88. Red Snow Or Watermelon Snow
89. GreenCo Rating
90. Olive Ridley
91. Uranium Contamination
92. Himalayan Ibex
93. Earth Hour
94. Carissa Kopilii
95. Environment Impact Assessment Notification, 2006 Amended
96. Lalit Kala Akademi Awards
97. Tablighi Jamaat
98. Navroz
99. Few Important Dates



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

SC Quashes RBI Curb On Cryptocurrency

- The Supreme Court has set aside a ban by the Reserve Bank of India (RBI) on banks and financial institutions from dealing with virtual currency holders and exchanges.
- In a circular in 2018, the RBI had banned banks from dealing with virtual currency exchanges and individual holders on the grounds that these currencies had no underlying fiat (a formal authorisation).
- RBI had also directed that other services such as maintaining their accounts, registering them or clearing loans against such currencies, accepting them as collateral was also barred with immediate effect.
- After the circular, VC exchanges and holders, as well as the Internet and Mobile Association of India (IAMAI), had challenged the RBI's powers to bar banks and financial institutions from dealing in such digital currencies.

Background

- In June 2013, the RBI had for the first time warned users, holders and traders of virtual currencies about the potential financial, operational, legal and customer protection and security-related risks that they were exposing themselves to.
- The banking regulator had also said that virtual currencies were a type of unregulated digital money, issued and controlled by its developers and used and accepted by the members of a specific virtual community.
- The following year, the Financial Action Task Force came out with a report that highlighted both legitimate uses and potential risks associated with virtual currencies and that use of such virtual currencies was growing among terror financing groups.
- In November, 2017, the Centre constituted an Inter-Ministerial Committee, which initially recommended the **Crypto-token Regulation Bill of 2018**.
- This Bill found a complete ban on VCs an "extreme tool" and suggested regulatory measures. At that point, the committee was even fine with the idea of allowing the sale and purchase of digital crypto assets at recognised exchanges.
- However, in February 2019, the Inter-Ministerial Committee went on to recommend a total ban on private cryptocurrencies through a proposed legislation called 'Banning of Cryptocurrency and Regulation of Official Digital Currency Act'.

- This law also proposes the creation of a digital rupee as official currency and a legal tender by the Central government in consultation with the RBI.

RBI's Reasons For The Ban

- The RBI had initially expressed its concerns on the lack of any underlying fiat, episodes of excessive volatility in their value, & their anonymous nature which goes against global money-laundering rules.
- Further, risks and concerns about data security and consumer protection on the one hand, and the potential impact on the effectiveness of monetary policy itself on the other hand, also had the RBI worried about virtual currencies.
- It further argued that, due to the significant spikes in the valuation of many virtual currencies and rapid growth in initial coin offerings, virtual currencies were not safe for use.

Petitioner's Arguments

- The petitioners, who included virtual currency exchanges operational in the country, told the Supreme Court that the RBI action was outside its purview as the non-fiat currency was not a currency as such.
- They also argued that the action was too harsh and there had been no studies conducted either by the RBI or by the central government.
- Arguing that the ban was solely on moral grounds, the petitioners said the RBI should have adopted a wait-and-watch approach, as taken by other regulators such as the Directorate of Enforcement or the Securities and Exchange Board of India.

Supreme Court's Judgement

- The Court said that till date RBI has not come out with a stand that any of the entities regulated by it, have suffered any loss or adverse effect directly or indirectly, on account of VC exchanges.
- The Court held that the RBI directive **came up short on the following five-prong test to check proportionality**
 - Direct and immediate impact upon fundamental rights.
 - The larger public interest sought to be ensured.
 - Necessity to restrict citizens' freedom.
 - Inherent harmful nature of the act prohibited or its capacity or tendency to be harmful to the general public.
 - The possibility of achieving the same object by imposing a less drastic restraint.

- The apex court disagreed with the submission of the petitioners that the acceptance of Distributed Ledger Technology, or blockchain, and the rejection of VCs by the RBI as well as the government is a contradiction in terms.
- As per the bench, there is nothing irrational about the acceptance of a technological advancement or innovation but the rejection of a by-product of such innovation.
- The apex court also said that the RBI could not be faulted for acting in the way it did because regulators and domestic agencies such as the Department of Economic Affairs, the Directorate of Enforcement or the Securities and Exchange Board of India (SEBI) had not acted in the same manner. Every one of these stakeholders has a different function to perform and are entitled to have an approach depending upon the prism through which they are obliged to look at the issue.
- It further stated that the RBI could not be blamed for not adopting a “light-touch” approach as adopted by other countries, as there could be no comparison with other countries such as the US, the UK, Japan, or Singapore as they were developed economies.
- Further, the court also pointed out the Centre’s failure to introduce an official digital rupee despite two draft Bills and several committees.

Future Outlook

- Even as virtual currency investors and businesses welcomed the Court’s order on cryptocurrency, the relief for such players may be only temporary given that the Centre, in a draft law, has proposed to ban all cryptocurrencies except a state-issued one.
- The Centre may introduce the bill in the Parliament to permanently ban the cryptocurrencies and to set up the basic infrastructure required to issue state-owned cryptocurrency and the digital rupee.
- However, it is expected, that the RBI might reconsider its approach to cryptocurrency and come up with a new, calibrated framework or regulation that deals with the reality of these technological advancements.
- A complete ban on cryptocurrencies would not only be difficult to implement but also lead to underground cryptocurrency trading. Regulating them, on the other hand, would enable the government to oversee their activities, thereby preventing their usage in illegitimate activities.

Virtual and Cryptocurrencies

- There is no globally accepted definition of what exactly is virtual currency. Some agencies have called it a method of exchange of value, while others have labelled it a goods item, product or commodity.

- Satoshi Nakamoto, widely regarded as the founder of the modern virtual currency bitcoin and the underlying technology called blockchain, defined bitcoins as a new electronic cash system that's entirely peer-to-peer, with no trusted third party.
- This essentially meant there would be no central regulator for virtual currencies as they would be placed in a globally visible ledger and all users of such virtual currencies would be able to see and keep track of the transactions taking place.
- **Virtual currency** is the larger umbrella term for all forms of non-fiat currency being traded online and are mostly created, distributed and accepted in local virtual networks.
- **Cryptocurrencies**, on the other hand, have an extra layer of security, in the form of encryption algorithms. Cryptographic methods are used to make the currency as well as the network on which they are being traded, secure.
- Most cryptocurrencies now operate on the blockchain, which allows everyone on the network to keep track of the transactions occurring globally.
- Blockchain is a distributed ledger technology that stores information across multiple systems in a secured manner to enable peer-to-peer transactions based on a trustworthy source.
- At its core, it is an extremely democratic ledger that can't be arbitrarily manipulated & easily shareable.

Status Of Virtual Currencies In Other Parts Of The World

- Organisations across the globe have called for caution while dealing with virtual currencies, while also warning that a blanket ban of any sort could push the entire system underground, which in turn would mean no regulation.
- Though the RBI had not placed a blanket ban on VC, other countries such as China, Russia, and Vietnam have placed a complete prohibition in any transactions using cryptocurrency. In Russia, they can be used as a mode of exchange (barter exchange), but not for payments.
- On the other hand, countries such as the US, UK, Japan, Canada, Singapore, and Australia have accepted the use of VC in some form or the other.
- The European Union: Though the European Union (EU) has followed developments in cryptocurrency, it has not issued any official decision on legality, acceptance, or regulation.

Issues Related To Virtual Currencies

- **Decentralized Nature:** Cryptocurrencies are decentralised, which makes them difficult to regulate.

- **Volatility of Virtual Currencies:** Cryptocurrencies are subjected to market fluctuations. For instance, the value of Bitcoin reduced from around USD 20,000 (Dec'17) to USD 3,800 (Nov'18).
- **Spoofing and Phishing Payment Information:** Cryptocurrency design have several vulnerabilities which leave consumers open to risk of phishing cyber-attacks and ponzi schemes. Further, transactions are irreversible, meaning there is no way to redress wrong transactions;
- **Money-laundering:** Cryptocurrencies provide greater **anonymity** making them more vulnerable to money-laundering and terrorist funding activities.
- **Absence of a well-defined legal framework:** Most countries lack a proper legal framework to control the value and flow of virtual currencies inside as well as in and out of the country which further creates hurdles to govern over a decentralized currency.
- **Tax Evasion:** Due to their pseudo anonymity if used correctly, they can easily be employed for the **purpose of tax evasion** by means of hiding assets.

Advantages Of Virtual Currencies

- **Easy to Use:** It requires just a device with access to internet and with the help of the device, you can create your wallet and use where ever and whenever you want.
- **Decentralization:** Most of the cryptocurrencies have no central authority to control, the network is distributed to all participants. This means that the central authority has no power to dictate rules for owners of coins.
- **International Usage:** The inter-country transaction is extremely easy with cryptocurrency because its function is not under the control of any central bank.
- **Low Operation Cost:** Transferring money by using any other online forum or bank gateway is expensive as they levy considerable fees for the transaction. Crypto is charging a very small amount of the transaction as a fee, and in crypto's, it is the buyer paying the small fee.
- **Fast Transactions:** Cryptocurrencies are based on the blockchain technology, it removes delays, payment of fees and a host of other third party approval that might have been present.
- **Transparency:** In cryptocurrency, every transaction is recorded on the blockchain. The blockchain keeps information about everything.
- **Highly Secured:** All the transactions will be secure as it is using cryptography. It is next to impossible for any person other than the owner of the wallet to make any payment from the wallet unless they were hacked.

SAARC Covid-19 Emergency Fund

India hosted a video-conference meet of leaders of all South Asian Association for Regional Cooperation (SAARC) member nations. Barring Pakistan, the conference witnessed participation from head of the member states. Pakistan was represented by the **Special Assistant to Pakistani PM on Health**.

Key Highlights

- One of key takeaways from video-conference was India's proposal for a **Covid-19 emergency fund**.
- During the meet, India stressed that South Asian neighbours can control the spread of the novel coronavirus by "**coming together, not growing apart**".
- India assured **SAARC leaders** that a team of Indian medical experts will be at the disposal of member nations if and when required.
- India also mentioned that India's neighbours can consider an **Integrated Disease Surveillance Portal (IDSP)** that is currently being used to detect infected patients and contact tracing.
- Bangladesh proposed that **health secretaries and experts from all SAARC member nations should coordinate via video-conference** in order to monitor and curb the spread of Covid-19.

Commitments Made To The Fund

- Contributions to a fund put together by South Asian countries to combat the pandemic seems to take taking off. Almost all nations have pledged money to the pool.
- The total amount in the Covid-19 Emergency Fund has **reached to \$18.3 million**.
- It truly reflects the deeply shared sense of determination in the participating countries to act together.
- India committed an initial amount of USD 10 million for the fund. Contribution of other members are:
Sri Lanka - \$5 million; Bangladesh - \$1.5 million; Bhutan \$100,000
Nepal - approximately \$ 1 million; Maldives - \$200,000; Afghanistan - \$1 million
- So far, Pakistan has not made any commitment to the fund.

South Asia and Coronavirus

- Many of the SAARC nations share boundaries with countries most affected with COVID-19.
- **Pakistan and Afghanistan neighbour Iran** in the west where the deaths are among the highest in the world; and **Afghanistan, Bhutan, India, Nepal and Pakistan sharing boundaries with China**, where the virus originated.

- Both Pakistan and Afghanistan are **flooded with refugees from Iran**, one of the worst hit countries globally. Afghanistan is also facing a divided government, a resurgent Taliban, and poor infrastructure.
- Given the **close quarter living conditions in South Asian towns** and cities, there is a greater likelihood of the disease spreading exponentially.
- Given the highly permeable borders of the region, the high population density and lack of public health infrastructure in the region, a **joint response may be the best course of action** in controlling the spread of COVID-19.

Why This Summit Was Important

- The video summit is significant because, since 2016, SAARC has been mostly inactive. India had refused to attend 2016 SAARC summit, which was to be held in Islamabad, following the Uri attack.
- There was an urgent need to **brainstorm on the longer-term economic consequences** of Covid-19 and how **South Asia can insulate internal trade and local value chains** from its impact.
- This crisis provided an opportunity to the member countries to draw up **common SAARC pandemic protocols** which could be applied in such situation.

Can COVID-19 Resuscitate the SAARC

- **All the eight member-states were represented** at the video conference — all at the level of head of state or government, except Pakistan.
- India's proposal to launch a COVID-19 Emergency Fund was given positive reception. Within days, all countries, except Pakistan, contributed to it voluntarily, bringing the total contributions to \$18.8 million.
- The fund has already been operationalised. It is controlled neither by India nor by the Secretariat. It is learnt that each contributing member-state is responsible for approval and disbursement of funds in response to requests received from others.
- In the domain of implementation, **India is in the lead**, with its initial contribution of \$10 million.
- It has received requests for medical equipment, medicines and other supplies from Bhutan, Nepal, Afghanistan, Maldives, Bangladesh and Sri Lanka. Many requests have already been accepted and action has been taken, whereas others are under implementation.
- A **follow-up video-conference** of senior health officials was arranged in which issues ranging from **specific protocols dealing with screening at entry points and contact tracing to online training capsules** for emergency response teams have been discussed.

- The above points highlight the fact that the current situation and the response given by the member states have raised the hopes expand regional cooperation. However, to conclude that SAARC is now returning to an active phase on a broad front **may be premature**.
- Also, it may be noted that, off lately, **India has invested huge political capital in strengthening BIMSTEC**.

Why SAARC Has Been Used Instead Of BIMSTEC

- Two SAARC member-states (Afghanistan and Pakistan) share long land borders with Iran, a hotbed of the COVID-19 crisis.
- Four SAARC member-states share land boundaries with China, the epicentre of COVID-19 outbreak.
- Also, at the time of announcement of this initiative, there **was no confirmed COVID-19 case in Myanmar**, a country that shares long land border with India's Northeast and a member of BIMSTEC.
- Moreover, no confirmed coronavirus case was reported in India's Northeast states at that time.
- Another reason that seems to have prompted Delhi to undertake this initiative is its desire to take regional leadership role. In recent years, India has been positioning itself as **"first-responder"** in regional humanitarian crisis & taking leadership role in managing emergency situations under its **"Neighbourhood First" policy**.

Website for Information related to COVID- 19

- The **SAARC Disaster Management Centre (SDMC)** has launched a website (www.covid19-sdmc.org) for information related to the COVID-19 pandemic in the region. The website shows the number of coronavirus cases in the member states while updating the numbers regularly.
- During the video conference, India had called for **using existing facilities**, like the SAARC Disaster Management Centre, to **pool in the best practices among all the member states to combat coronavirus**.
- The SDMC was established in the premise of Gujarat Institute of Disaster Management in 2016.
- The centre provides training and capacity building services to the member countries for **effective disaster risk management**.

Conclusion

This kind of regional cooperation initiatives, as propounded by India, should be undertaken in other parts of the world. This will help the global community to better understand the **values of knowledge-sharing as an important pillar of cooperation**. Regional cooperation initiatives on a global disaster like this will act as building blocks for **re-discovering the virtues of multilateralism**.

MAINS Q&A

1. Over the last few months, many people protesting against the Citizenship (Amendment) Act (CAA) have been charged with sedition across the country. In light of this, critically analyze whether the sedition law (Section 124A) needs to be scrapped?

Answer

The Indian Penal Code (IPC) defines sedition (Section 124A) as an offence committed when "any person by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards the government established by law in India.

Data from the National Crime Records Bureau (NCRB) show that **194 cases of sedition have been filed since the CAA was passed** on December 11, 2019. More cases of sedition have been filed since December 11 than in the last three years put together. In the wake of frequent misuse of sedition law, there has been a demand to scrap it.

Sedition Law Should Be Scrapped Because

- Section 124A is a **relic of colonial legacy and unsuited in a democracy**. **Dissent and criticism** of the government are **essential ingredients of robust public debate in a vibrant democracy**. They should not be constructed as sedition. Right to question, criticize and change rulers is very fundamental to the idea of democracy.
- It is a constraint on the legitimate exercise of constitutionally guaranteed freedom of speech and expression. It has a **chilling effect** on people who think and speak freely.
- If the country is not open to positive criticism, there lies little difference between the pre- and post-independence eras. **Right to criticise one's own history and the right to offend' are rights protected under free speech.**
- The terms used under Section 124A like 'disaffection' are **vague and subject to different interpretation** to the whims and fancies of the investigating officers.
- The data show that while the number of sedition cases filed has been going up in the last four years, **only four cases actually resulted in conviction.**
- In many of the cases, **sanctions are also not given**, but it is a useful tool in the hands of the local policemen or local leader to **shut down a particular dissenter** in the locality
- Most cases that are filed would not end in conviction if **Section 124A**, as read by the Supreme Court in **Kedar Nath Singh (1962)**, is actually applied — **often the speech complained about does not result in any actual incitement to violence whatsoever.**
- **United Kingdom abolished sedition laws eleven years back** citing that the country did not want to be quoted as an example of using such draconian laws. Given the fact that the section itself was introduced by British to use as a tool to oppress the Indians, it is not justified to retain s.124A in IPC

Sedition Law Should Be Retained Because:

- Section 124A of the IPC has its utility in combating anti-national, secessionist and terrorist elements
- It **protects the elected government from attempts to overthrow** the government with violence and illegal means. The continued existence of the government established by law is an essential condition of the stability of the State.

- Many districts in different states face a **Maoist insurgency and rebel groups virtually run a parallel administration**. These groups openly advocate the overthrow of the state government by revolution.
- In a country, where **contempt of Court invites penal action**, contempt against the Government established by law should also invite punishment.
- Given the fact that **all the existing statutes cover the various offences** against the individual and / or the offences against the society, reducing the rigour of s.124A or repealing it be detrimental to the nation.
- The extent to which the citizens of our country may enjoy the **right to offend** should be defined with a law.
- Against this backdrop, the abolition of Section 124A would be ill-advised merely because it has been wrongly invoked in some highly publicized cases.

Way forward:

- **Judiciary should set up a search committee** in every State, and a particular judge of the High Court has to suo moto check each sedition case being filed.
 - **National Human Rights Commission** is duty-bound to map all these misuses of the sedition law.
 - It is only Parliament that revoked a law like POTA [The Prevention of Terrorism Act, 2002], which was draconian and flagrantly misused. So there should be a **push from the public**, to make them swing into action.
 - While it is essential to protect national integrity, it **should not be misused** as a tool to curb free speech. Dissent and criticism are essential ingredients of a robust public debate on policy issues as part of vibrant democracy. Therefore, **every restriction on free speech and expression must be carefully scrutinised** to avoid unwarranted restrictions
2. **Government is planning to create a total of 75 lakh Self Help Groups by 2022 to enable more women to get livelihood. In light of this discuss the issues faced by Self Help Groups and suggest solutions?**

Answer

Self-Help Group refers to self-governed, peer controlled, informal group of people (15 or 20) with same socio-economic background and having a desire to collectively perform common purposes. There is estimated **46 million rural poor women mobilized through the Self Help Group (SHG)** architecture. These organisations, since their start in the 1990s, have been an effective vehicle, especially in providing financial intermediation solutions for unbanked rural women.

Problems Faced By Self Help Groups

- **Apathy of rural banks in granting loans to SHGs:** Banks in rural districts target big players and these groups are ignored. The long delays in application processes also make them take loans at high interest rates from microfinance institutions, landing them in debts. Also there is poor government monitoring in checking the high interest rate charged for loans to SHGs
- **Heterogeneous Character of SHGs:** Contrary to the vision for SHG development, members of a group do not come necessarily from the poorest families/ same socio-economic background.
- **Inability of SHGs to Innovate:** Many of the activities undertaken by the SHGs are **still based on primitive skills** related mostly to primary sector enterprises. With poor value addition per worker and

prevalence of subsistence level wages, such activities often do not lead to any substantial increase in the income of group members.

- **Caste plays a dominant role** in the formation and functions of the SHG. There is different etiquette for different social categories and preference to same caste could be seen in the selection of members of the respective groups.
- **Training fund** for capacity building of Self Help Groups are being diverted to political camps.
- **Gender Issues:** Prevalence of **patriarchal mind set** in the society is putting an obstacle to women joining SHGs.
- **Misappropriation of funds by members themselves:** Poor people are more likely to use their loan (credit) non-income generating activities such as marriage ceremony, education of children, shopping and any other purposes
- **Misuse of SHGs:** There has been instances of Misuse of SHGs as implementation arms of government.
- **Asymmetrical presence of SHGs across the country:** Southern Region continued its dominance in number of SHGs as well as accounted for more than half of SHGs.

Suggestions To Minimize The Problems Faced by SHGs.

- **SHG Monitoring Cell:** There is need to establish a separate Self-Help Groups monitoring cells in every state. The cells should have direct links with district and block level monitoring system. The cells should collect both qualitative and quantitative information
- **Set Up Network Of Capacity Building Institutions:** Special steps should be taken for training / capacity building of government functionaries so that they develop a positive attitude and treat the poor and marginalized as viable and responsible customers and as possible entrepreneurs.
- **Rural credit** is often viewed as a potential Non-Performing Asset. There is need to educate government employees and Bank personnel in this regard. Technology may be leveraged to reduce the cost of reaching out to the poorest of the poor. Commercial Banks and NABARD in collaboration with the State Government need to continuously **innovate and design new financial products for these groups.**
- **Gender Sensitization:** Self-Help Groups, work within an existing socio-cultural structure of a patriarchal society divide on caste, class, race and gender lines. Therefore, there is a need to address the structural inequalities in which women are located. Gradually this process will transform the power-relation so that the disempowered can achieve increased control and choice.
- Since a large number of rural households in the North-Eastern States and Central-Eastern parts of the country do not have adequate access to formal sources of credit, a major thrust on the **expansion of the SHG movement in these areas** should be facilitated. The presence of NABARD should be much more pronounced in these places.
- **Frequent awareness camps** can be organised by the Rural Development department authorities to create awareness about the different schemes of assistance available to the participants in the SHGs.

Through economic and social assistance, SHGs have proven to not just uplift the livelihoods of low-income households but also empower their social, economic and political lives. With the ever expanding scope of the self-help group channel, it is important for stakeholders to invest in providing the right kind of support to maximize the impact these groups can have on livelihoods.

3. The Supreme Court ruled that the Centre cannot deprive NGOs of their right to receive foreign money by declaring them as political organisations. Analyse the issue and discuss the regulatory framework for NGOs to receive foreign funds.

Answer

NGOs play an important role in the **upliftment of the weaker sections** of the society and their overall development. This is especially true in the case of India, where a vast majority of its population continues to **remain under the poverty line and have little or no access to even basic facilities** provided by the government.

- Being non-profit organisations, operations of **NGOs are entirely reliant on donations, both domestic and foreign**. In recent times, many NGOs have come under the government scanner for **alleged contravention of Foreign Control Regulation Act (FCRA)**. As per news reports, as many as **14,500 NGOs have even lost their permit** to receive foreign contribution in the past five years.
- While, the government claims that the **licenses were cancelled due to violation of the act**, the NGOs are contending that the **government is wrongly using its discretionary powers under the act to suppress voices of dissent**, especially those against government policy.
- Recently SC ruled that **government cannot deprive NGOs of their right to receive foreign money** by declaring them as political organisations **if they use legitimate means of dissent to support public causes**.
- However, even though foreign aid is often paramount for the expansion or sometimes even for the survival of an NGO, it is important for an NGO to have a clear understanding of legal compliances prior to availing and using such funding.

Regulatory Framework For NGOs To Receive Foreign Funds.

- **The Foreign Contribution (Regulation) Act, 2010** and rules framed under it regulate the receipt and usage of foreign contribution in India. It is **implemented by the Ministry of Home Affairs**, Government of India
- The intent of the Act is to **prevent use of foreign contribution or foreign hospitality for any activity detrimental to the national interest**.
- It has a very wide scope and is applicable to a natural person, body corporate, all other types of Indian entities (whether incorporated or not) as well as NRIs and overseas branches/subsidiaries of Indian companies and other entities formed or registered in India.
- The Act
 - i) Prohibits acceptance and use of foreign contribution or foreign hospitality by a **certain specified category of persons** such as a candidate for election, judge, journalist, columnist, newspaper publication, cartoonist, et al.
 - ii) Regulates the inflow to and usage of foreign contribution by **NGOs** by prescribing a mechanism to accept, use and report usage of the same.
- **Acceptance of Foreign Funds:** The Act permits only NGOs having a definite cultural, economic, educational, religious or social programme to accept foreign contribution, that too after such NGOs either obtain a certificate of registration or prior permission under the Act.
- **Registration And Prior Approval Under FCRA:** In order to be registered under the FCRA, an NGO must be in existence for at least three years and must have undertaken reasonable activity in its field for which the foreign contribution is proposed to be utilised. Further, it must have spent at least INR 1,000,000 over three years preceding the date of its application on its activities

- **Use Of Foreign Funding:** The Act imposes various conditions on the use of foreign funds
 - a) All funds received by a NGO must be used only for the purpose for which they were received.
 - b) Such funds must not be used in speculative activities identified under the Act.
 - c) Except with the prior approval of the Authority, such funds must not be given or transferred to any entity not registered under the Act or having prior approval under the Act.
 - d) Every asset purchased with such fund must be in the name of the NGO and not its office bearers or members
- **Reporting Requirement:** Every NGO registered or having prior approval under the Act must file an annual report with the Authority in the prescribed form.
- **Cancellation of Registration Certificate:** Under the Act, the Authority is empowered to cancel the registration certificate of a NGO in the following circumstances:
 - a) It has made false statement in any of its applications or submissions under the Act.
 - b) It has violated any of the terms and conditions of registration.
 - c) Authority is of the view that cancellation of registration is necessary in the public interest.
 - d) It has violated any of the provisions of the Act or any order passed under it.
 - e) It has been inactive for two consecutive years in its chosen field of service.

The statute that prevents organisations of a political nature from receiving foreign funds is to ensure that the administration is not influenced by foreign funds. However support to public causes by resorting to legitimate means of dissent such as bandh and hartal cannot deprive an organisation of its legitimate right of receiving foreign contribution. In that event, the central government shall follow the procedure strictly in depriving an organisation of the right to receive foreign contributions.

4. **The Election Commission has informed the Government that it is not in favour of State Funding of Elections. In light of this critically analyze the feasibility of state funding of elections in India?**

Answer

State funding of elections means that **government gives funds to political parties or candidates for contesting elections**. Its main purpose is to make it unnecessary for contestants to take money from powerful moneyed interests so that they can remain clean. In some countries, state funding is extended to meeting specific forms of spending by political parties, not confined to electioneering alone.

Arguments Against State Funding Of Elections

- It will **divert the resources from welfare to the funding political parties**. The opponents ask the government to channelize public resources towards and not diverted from such essential services.
- It may contribute to the **concentration of power in the hands of national leaders**, enabling them to become less sensitive to the needs of the grass roots and the general electorate.
- At the same time political parties **may come to be controlled by the executive** because of this dependence.
- If funds are granted to parties alone, it can **result in fielding candidates**, where a party never did before, because each vote will then entitle it to some additional amount.
- If state assistance is extended to independent candidates as well, it can encourage the **proliferation of frivolous candidates**.

- State funding would only add to money available to candidates, as it **cannot ensure that other monetary resources will not be tapped into.**
- There's need for Parliament to pass legislation to regulate the organisation and working of political parties, and whose accounts should be regularly audited by the Election Commission of India (ECI), if state funding is indeed possible. Such laws are on the statute books in a few countries but India, does not have such a rudimentary law. Enactment of such a law will have to be a precondition for the state funding of elections.

Arguments In Favour Of State Funding Of Election

- The key reason why political finance analysts push for public financing of elections is to mitigate “the importance of private money” by **keeping “the big money out of politics.”**
- Public finance protects the political process from direct, quid-pro-quo kickbacks or corruption.
- State funding is an affirmative system — not just a restrictive one — that seeks to **prevent corruption, promotes diversity among candidates, and acts as public service** to the entire society rather than only to those who contribute to the kitties of parties and candidates.
- It could contribute to the **growth of democracy by helping parties** that would otherwise decline due to resource shortage,
- It could **reduce candidates' election expenditure** and makes elections free and fair.
- Public funding proposal, is based on the normative goal of “**equalising influence,**” an effort that goes on to ensure that certain powerful groups or individuals do not exercise undue influence in electoral processes
- The growing role of money has negatively affected competition at the level of candidature within parties. Due to the increasing need for money, most candidates chosen by parties are individuals who can finance themselves and do not need to rely on party funds for campaigning. This has led to the rise of wealthy candidates — and in certain cases, even criminals — contesting elections.

Recommendations Of Various Committees:

- **The Indrajit Gupta Committee (1998):** The Committee recommended two limitations to state funding.
 - Firstly, that **state funds should be given only to national and state parties** allotted a symbol and not to independent candidates.
 - Secondly, that in the **short-term state funding should only be given in kind**, in the form of certain facilities to the recognised political parties and their candidates.
- **Law Commission of India report(1999):**
 - It concluded that total state funding of elections is “desirable” so long as political parties are prohibited from taking funds from other sources.
 - Only partial state funding was possible given the economic conditions of the country at that time.
 - Additionally, it strongly recommended that the appropriate regulatory framework be put in place with regard to political parties before state funding of elections is attempted.
- **Second Administrative Reforms Commission (2008):** It recommended partial state funding of elections for the purpose of **reducing “illegitimate and unnecessary funding”** of elections expenses.
- **National Commission to Review the Working of the Constitution, 2001** did not endorse state funding of elections but concurred with the 1999 Law Commission report that the appropriate

framework for regulation of political parties would need to be implemented before state funding is considered.

A government political fund can **disburse the money depending on the number of seats a party is contesting, its track record of development in states in which it is governing, and its size**. The Election Commission will have to recalibrate the spending limit for candidates and make it in line with actual spends, rather than dumbed down idealistic numbers currently in play. State funding of elections could be the start to **breaking link ages between policy decisions and corporate patronage**. In India, that scenario runs the risk of derailing the government's agenda of 'Sabka saath, sabka vikas' (With everyone, progress for all).

5. India is considered as the internet shutdown capital of the world. What are the procedures to be followed for Internet suspension? Discuss the Issues/impacts associated with Internet shutdowns and suggest a way forward?

Answer

The number of preventive internet shutdowns enforced by the central and the state governments in India saw a major spike between 2017 and 2019, and as many as 95 of these lasted for more than 24 hours.

Procedure For Internet Suspension

- Under the **Indian Telegraph Act of 1885**, only the Home Secretary of the central or the state government can pass orders to enforce an internet shutdown in any area.
- The order must include the detailed reasons for the shutdown and must be sent to a review committee the next day.
- The committee shall, within five days, submit its report and only if the shutdown is justified even after that will the communications blockade continue

Issues Associated With Internet Shutdowns

- There were at least 147 instances over these three years for which there is no data on the duration of the shutdowns as **there is lack of any form of communication on these blockades**, according to data available in public domain and compiled by Software Freedom Law Centre (SFLC)
- **Impact on Human Rights**
 - Arbitrary Internet shutdowns are an **attack on the civil liberties and the constitutional rights** of the citizens, by the State.
 - Internet and communications shutdowns, when in place, **violate the fundamental freedom of expression**.
 - Internet shutdowns not only curb dissent, but they **give governments excessive control over the dissemination of information and a dominance over the narrative**. Regular and indiscriminate shutdowns can have chilling effects on free speech in the long run.
- **Impact on Business & Economy:** India lost over \$1.3 billion in internet shutdowns across the country — lasting 4,196 hours in 2019 — making it the third-most economically affected country after Iraq and Sudan, says a new report, titled "The Global Cost of Internet Shutdowns", by internet research firm Top10VPN,
- **Impact on Education:** During an Internet shutdown, students are bereft of access to information, education programs, fellowships etc. Internet shutdowns are a hindrance to the ability of children to research and study.

- **Impact on Health Industry:** Internet is an indispensable utility service for health care industry. Most of patient information repositories, documentations and records are maintained on online servers. At the time of an Internet shutdown, it becomes impossible to work on these servers.
- **Psychological Impact:** When Internet services suddenly become unavailable at a time when so many aspects of our lives are dependent on it, the impact can be felt not just economically but also psychologically. Internet shutdowns prevent people from communicating with their peers and experts virtually which causes psychological issues.

Way forward

- Before completing blocking the Internet, it is essential to **conduct a proportionality and necessity test**. It is crucial to consider whether the same objective can be achieved by a less intrusive and more effective solution.
 - It is also essential to conduct a **cost-benefit analysis** and choose a measure that minimises the short-term and long-term social and economic costs incurred.
 - Democratic governments must be accountable to the public and **provide a rationale for disrupting Internet services** in a timely manner.
 - In the interest of transparency, all governments should **document the reasons, time, alternatives considered, decision-making authorities and the rules under which the shutdowns were imposed** and release the documents for public scrutiny.
 - This is the way civil society can hold governments to the high standards of transparency and accountability that befits a democracy
6. **A Full Bench of the High Court will be deciding upon whether “recommendations” made by the Human Rights Commissions are binding upon their respective State (or Central) governments. In this light, discuss the powers of Human Right commission and issues associated with it.**

Answer

In 1993, the Indian Parliament enacted the **Protection of Human Rights (PHR) Act**. The purpose of the Act was to establish an institutional framework that could effectively protect, **promote and fulfil the fundamental rights guaranteed by the Indian Constitution**. To this end, the Act created a National Human Rights Commission, and also, Human Rights Commissions at the levels of the various States. In the two-and-a-half decades of their existence, however, the functioning of the Human Rights Commissions has come under scrutiny and criticism.

Powers of Human Rights Commission

- Under the PHR Act, Human Rights Commissions are empowered to inquire into the violations of human rights **committed by state authorities**, *either upon petitions presented to them, or suo motu*.
- While conducting these inquiries, the Commissions have **powers identical to that of civil courts**, such as the examining witnesses, ordering for documents, receiving evidence, and so on.
- These proceedings are deemed to be **judicial proceedings**, and they require that any person, who may be prejudicially affected by their outcome, has a right to be heard.

- **Section 18 of the PHR Act** empowers Human Rights Commission to “**recommend**” to the concerned government to grant compensation to the victim, to initiate prosecution against the erring state authorities, to grant interim relief, and to take various other steps.
- It also obligates the concerned government to “forward its comments on the report, including the action taken or proposed to be taken thereon, to the Commission” within **a period of one month**.

Issues Associated With The Commission

- **Obscure Selection Process:** Very often, the government **does not publicise vacancies** in the Commission. The **criteria to assess candidates** is also not specified. Apart from this, the **selection committee** tasked with appointing the chairperson and the members to the Commission is **dominated by the ruling party**
- The Protection of Human Rights Act, 1993 **does not categorically empower the NHRC to act against private parties** in the case of human rights violation.
- It can **only make recommendations which are non-binding** upon their respective State (or Central) governments. Unless the recommendations of the human rights panel are given binding status, the whole exercise of conducting an inquiry or investigation by a body like NHRC would be nothing but a futile exercise.
- Police officials investigating for the NHRC are **sent on deputation** by their forces. Their allegiance lies with their home cadre to which they return after their tenure at the Commission is over. This **conflict of interest** restricts the scope of their work.
- **It does have powers to conduct its own investigation** in cases where the Centre or state government do not respond within the time stipulated by Section 17 of PHR Act. However, the Commission has rarely used this power.
- **Scarcity of resources, especially manpower shortage** hampers the working of commission. There has been long pendency of the Commission’s requests for additional funds.

NHRC's recommendations must have some value, otherwise, all recommendations in cases such as human rights violation involving the Armed forces would be rendered useless. Also, the NHRC urgently requires **officers of its own to carry out independent investigations**, and the government should provide it resources for the same. Government must commit to **greater transparency in the selection process** and also **diversify the selection committee** in order to ensure the efficient and independent working of National Human Right Commission.

7. The UN Gender Social Norms index was recently released by the United Nations Development Programme (UNDP). Highlight the findings of the index.

Answer

The Gender Social Norms index that measures how social beliefs obstruct gender equality in areas like politics, work, and education, and contains data from 75 countries, covering over 80 percent of the world’s population was recently released by the United Nations Development Programme (UNDP).

Findings Of The Index

- The index reveals that, despite decades of progress closing the equality gap between men and women, close to 90 % of men and women hold some sort of bias against women, providing new clues to the invisible barriers women face in achieving equality.

- About half of the world's men and women feel that ***men make better political leaders, men make better business executives and that men have more right to a job*** when jobs are scarce.
 - While men and women vote at similar rates, only 24 % of parliamentary seats worldwide are held by women and there are only 10 female heads of government out of a possible 193, lower than what it was five years ago at 15.
 - Women in the labour market are paid less than men and are much less likely to be in senior positions - less than 6 percent of CEOs in S&P 500 companies are women. And while women work more hours than men, this work is more likely to be unpaid care work.
- The study found that there were no countries in the world with gender equality and surprisingly, 28 per cent of men and women feel men are justified in beating their wives.
- Gender inequality within households and communities is characterized by inequality across multiple dimensions, with a vicious cycle of powerlessness, stigmatization, discrimination, exclusion and material deprivation all reinforcing each other.
- Information is also available on how bias is changing in around 30 countries. It shows that while in some countries there have been improvements, in others, attitudes appear to have worsened in recent years, signalling that progress cannot be taken for granted.
- The world has come a long way in recent decades to ensure that women have the same access to life's basic needs as men. It has reached parity in primary school enrollment and reduced maternal mortality by 45 percent since the year 1990.
- However, gender gaps are still all too obvious in other areas, particularly those that challenge power relations and are most influential in actually achieving true equality and the fight about gender equality today is a story of bias and prejudices.

Way Ahead

- The work that has been so effective in ensuring an end to gaps in health or education must now evolve to address something far more challenging: a deeply ingrained bias – among both men and women - against genuine equality, as current policies, while well intentioned, can only take the world so far.
- As 2020 marks the 25th anniversary of the **Beijing Declaration and Platform for Action (Beijing+25)**, the most visionary agenda on women's empowerment to date, UNDP is calling on governments and institutions to use a new generation of policies to change these discriminatory beliefs and practices through education, and by raising awareness and changing incentives.
- For instance, taxes must be used to incentivize fairly sharing child-care responsibilities, or by encouraging women and girls to enter traditionally male-dominated sectors such as the armed forces and information technology.
- Since gender remains one of the most prevalent bases of discrimination, policies addressing deep-seated discriminatory norms and harmful gender stereotypes, prejudices and practices are key for the full realization of women's rights.

It is imperative that the world must act now to break through the barrier of bias and prejudices if it wants to see progress at the speed and scale needed to achieve gender equality and the vision laid out in the Beijing Declaration over two decades ago and the Sustainable Development Goals.

8. Mineral Laws (Amendment) Bill, 2020 was recently passed by the Parliament. Highlight the various provisions of the bill.

Answer

The Mineral Laws (Amendment) Bill, 2020 has recently been passed by the Parliament. The Bill amends the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act) and the Coal Mines (Special Provisions) Act, 2015 (CMSP Act).

Removal Of Restriction On End-Use Of Coal

- Currently, companies acquiring Schedule II and Schedule III coal mines through auctions can use the coal produced only for specified end-uses such as power generation and steel production.
- The Bill removes this restriction on the use of coal mined by such companies. Companies will be allowed to carry on coal mining operation for own consumption, sale or for any other purposes, as may be specified by the central government. This will allow wider participation in auction of coal mines for a variety of purposes.

Eligibility For Auction Of Coal And Lignite Blocks

- The bill clearly provides that companies which do not possess any prior coal mining experience in India or have mining experience in other minerals or in other countries can participate in auction of coal/lignite blocks.
- This will not only increase participation in coal/lignite block auctions, but also facilitate the implementation of FDI policy in the coal sector.

Composite License For Prospecting And Mining

- Currently, separate licenses are provided for prospecting and mining of coal and lignite, called prospecting license, and mining lease, respectively. Prospecting includes exploring, locating, or finding mineral deposit.
- The Bill adds a new type of license, called prospecting license-cum-mining lease. This will be a composite license providing for both prospecting and mining activities, which increases the availability of coal and lignite blocks, and coal blocks of varying grades in a wide geographical distribution will be available for allocation.

Transfer Of Statutory Clearances To New Bidders

- Currently, upon expiry, mining leases for specified minerals (minerals other than coal, lignite, and atomic minerals) can be transferred to new persons through auction. This new lessee is required to obtain statutory clearances before starting mining operations.
- The Bill provides that the various approvals, licenses, and clearances given to the previous lessee will be extended to the successful bidder for a period of two years. This will allow new owners to continue with hassle-free mining operations. During the period, they may apply for the fresh licence beyond the period of two years.

Non-Exclusive Reconnaissance Permit Holders To Get Other Licenses

- Currently, the holders of non-exclusive reconnaissance permit for exploration of certain specified minerals are not entitled to obtain a prospecting license or mining lease.
- Reconnaissance means preliminary prospecting of a mineral through certain surveys. The Bill provides that the holders of such permits may apply for a prospecting license-cum-mining lease or mining lease.

Prior Approval From The Central Government

- Under the MMDR Act, state governments require prior approval of the central government for granting reconnaissance permit, prospecting license, or mining lease for coal and lignite.
- The Bill provides that prior approval of the central government will not be required in granting these licenses for coal and lignite, where the allocation has been done by the central government, and the mining block has been reserved to conserve a mineral.

Advance Action For Auction

- Under the MMDR Act, mining leases for specified minerals (minerals other than coal, lignite, and atomic minerals) are auctioned on the expiry of the lease period. The Bill provides that state governments can take advance action for auction of a mining lease before its expiry.
- By boosting coal production and reducing dependence on imports the legislation will usher in a new era in the Indian coal and mining sector by improving ease of doing business, gaining access to sophisticated technology used by global miners and giving a significant boost to the overall economy.

Extra Mile

- The MMDR Act regulates the overall mining sector in India. The CMSP Act provides for the auction and allocation of mines whose allocation was cancelled by the Supreme Court in 2014.
- Schedule I of the Act provides a list of all such mines; Schedule II and III are sub-classes of the mines listed in the Schedule I. Schedule II mines are those where production had already started then, and Schedule III mines are ones that had been earmarked for a specified end-use.
- Despite having the world's fourth largest coal reserves, India imported 235 million tonnes (mt) of coal last year, of which 135 mt valued at ₹171,000 crore could have been met from domestic reserves, and coal mines.

- 9. With the economy entering a turbulent phase due to the Covid-19 outbreak across the world, the RBI has come up with a slew of measures. Highlight the measures adopted by RBI to deal with the upcoming slowdown in the economy.**

Answer

In an unprecedented move, the RBI has come up with various measures to supplement government's efforts in order to address the economic upheaval caused by the coronavirus pandemic. The overall idea for the time being is to lower the cost of capital and to ensure ample liquidity in the system, along with narrowing the spread of the corporates.

Measures Announced

- The monetary policy committee has cut the repo rate by 75 basis points to 4.4 %. At the same time, the reverse repo rate, which is the rate at which banks keep their excess funds with the RBI, was lowered by 90 basis points to 4 %, to make it relatively unattractive for banks to passively deposit funds with RBI and instead, to use these funds for on-lending to productive sectors of the economy.
- Further, the RBI has asked all banks, financial institutions, and NBFCs, including housing finance companies as well as MFIs to allow a moratorium of three months on payment of instalments for all term loans, including agricultural term loans, retail and crop loans. This is going to be a huge relief for all EMI payers, especially for those — such as the self-employed — whose income has become uncertain in the wake of the lockdown. Similarly, in case of working capital loans of companies, companies need not pay interest in respect of all such facilities.

Liquidity Relief

- Moreover, the RBI has pumped in Rs 3.74 trillion of additional liquidity in the banking system through various policy measures. To start with, it will conduct ***auctions of targeted long-term repo operations*** of up to three years' tenor for a total amount of up to Rs 1 trillion.
- Liquidity availed through this route will have to be deployed in corporate bonds, commercial papers, and debentures. This will bring liquidity to the corporate bond market, and will lead to a fall in yields which have risen in the recent past.
- Further, the ***cash reserve ratio (CRR)*** has been reduced to 3 per cent of the deposit base, from 4 per cent earlier. This measure will pump in liquidity of about Rs 1.37 trillion uniformly across the banking system. Also, the requirement of minimum daily CRR balance maintenance was also reduced from 90 per cent to 80 per cent, as a one-time measure till June 26.
- Even after these measures, if a bank needs to borrow from the central bank, it can do so up to 3 per cent (from 2 per cent earlier) of its ***statutory liquidity ratio (SLR)*** at 4.65 per cent, from 5.4 per cent earlier under its emergency window called ***marginal standing facility (MSF)***. The MSF rate is calculated at 25 basis points above repo rate.

Future Projections

- The MPC is of the view that macroeconomic risks, both on the demand and supply sides, brought on by the pandemic could be severe. Global slowdown could make things difficult for India too, despite some help from falling crude prices.
- Food inflation will likely crash in the coming months, but apart from the continuing resilience of agriculture and allied activities, most other sectors of the economy will be adversely impacted by the pandemic, depending upon its intensity, spread and duration.

As the situation is rapidly evolving, policymakers will have to be mindful that more such measures will probably be needed and efforts of the central bank should be supplemented by more fiscal measures to preserve the financial stability of the system.

10. Recently Lok Sabha has passed Aircraft (Amendment) Bill. Highlight the provisions of the bill along with its need.

Answer

The Aircraft (Amendment) Bill, 2020 was passed by the Lok Sabha through a voice vote. The bill proposes to **amend the Aircraft Act, 1934**, which regulates the manufacture, possession, use, operation, sale, import and export of civil aircraft and licensing of aerodromes.

Need For The Bill

- The audit conducted by the **International Civil Aviation Organisation** in 2012 and 2015 indicated a **need to amend the Act to give proper recognition to the regulators**, to enhance the maximum quantum of fines and to empower the departmental officers to impose financial penalties for violations of the legal provisions.
- Civil aviation sector had been deregulated with little role for the government to set air fare.

Provisions Of The Bill

- **Authorities:** The Bill **converts three existing bodies-** *Directorate General of Civil Aviation (DGCA), Bureau of Civil Aviation Security (BCAS), and Aircraft Accidents Investigation Bureau (AAIB)* under

the Ministry of Civil Aviation into **statutory bodies** under the Act. Each of these bodies will be headed by a Director General who will be appointed by the centre.

- **Regulatory Functions:** **DGCA** will carry out safety oversight and regulatory functions with respect to matters under the Bill; **BCAS** will carry out regulatory oversight functions related to civil aviation security; and **AAIB** will carry out investigations related to aircraft accidents and incidents.
- **Power Of Centre To Make Rules**
 - Under the Act, the central government may make rules on several matters such as registration of aircraft, regulating air transport services, and prohibition of flight over any specified area. **The Bill adds the regulation of air navigation services to this list.**
 - It also **allows the centre to empower the Director General of BCAS or any authorised officer to issue directions and make rules** on certain matters such as conditions under which an aircraft may be flown, inspection of aircrafts, and measures to safeguard civil aviation against acts of unlawful interference.
- **Adjudicating officers:** The Bill provides for the appointment of designated officers, not below the rank of Deputy Secretary to adjudicate penalties under the Bill.
- **Offences and Penalties:** Under the Act, the penalty for various offences is imprisonment of up to two years, or a fine of up to Rs 10 lakh, or both. These **offences include- carrying arms, explosives, or other dangerous goods aboard aircraft**, contravening any rules notified under the Act, and constructing building or structures within the specified radius around an aerodrome reference point. **The Bill raises the maximum limit on fines for all these offences from Rs 10 lakh to one crore rupees.**
 - Under the Bill, the **central government may cancel the licences, certificates, or approvals granted to a person** under the Act if the person contravenes any provision of the Act.
 - **The Bill allows for the compounding of certain offences** under the Act or rules under the Act. These include: (i) flying to cause danger to any person or property and (ii) the contravention of any directions issued by the Director General of any of the three bodies. Offences may be compounded by the Director Generals as prescribed by the centre. Compounding of offences is not allowed in case of repeat offences.
 - **Courts will not take cognizance of any offence under this Act**, unless a complaint is made by, or there is previous sanction from the Director General of Civil Aviation, BCAS, or AAIB.
- **Exemption for Armed Forces:** Aircraft belonging to the naval, military, or air forces of the Union are exempted from the provisions of the Act.

The amendments would fulfil the requirements of International Civil Aviation Organization (ICAO). This will enable the three regulatory bodies in the Civil Aviation sector in India, namely DGCA, BCAS and AAIB to become more effective, which will lead to **enhancement in the level of safety and security of aircraft operations** in the country.

11. India's defence acquisition has not progressed as desired. In the light of this statement, discuss the various challenges faced by India's defence acquisition framework.

Answer

India's current acquisition framework consists, broadly, of a **two-tiered structure**, comprising the **Defence Acquisition Council (DAC)** and its **subordinate bodies** – *the Defence Procurement Board, the Defence Research and Development Board, and the Defence Production Board*. This structure was

created in 2001 in pursuance of the recommendations of the Group of Ministers (GoM), which was set up to review the “national security system in its entirety”.

Issues with Defence Acquisition Framework

- India’s defence acquisition framework has **failed to ensure time-bound procurement** thus forfeiting available budgetary resources, as well as vulnerability to import-centric pressures, corruption and controversies.
- In its 2007 audit report, **CAG had noted that** the basic problem of India’s defence acquisition framework was its **dispersed centres of responsibility** and **lack of professionalism** in acquisition.
- There are **too many independent actors** responsible for various acquisition functions that include drafting of technical features, issuance of tender document, undertaking of trials and evaluation etc.
- These actors are **neither trained** for their assigned **roles nor are they given adequate time to build institutional capacity**.
- So far, there has been **lip service to indigenisation/self-reliance**. Although the DPPs of recent years have tried to address this issue through a host of measures, the acquisition system still harbours its step-motherly attitude towards indigenous industry, particularly private sector companies.
- The **apathy towards domestic industry** has been institutionalised by keeping the acquisition and production functions under **two distinct power centres** in the MoD. These are the *offices of the DG (Acq.) and Secretary (Defence Production)* – the latter is responsible for indigenous arms production by both state and private entities. **Lack of convergence** has been observed between these two offices.
- Since the basic objectives of these two high offices are not necessarily driven by indigenous-centric procurement, the focus on indigenisation has become subservient to acquisition.

Way Forward

- India can learn a lot **France’s success** in devising a **sound domestic-industry-driven procurement system**.
- It should focus to integrate the procurement and acquisition functions under one administrative head.
- Create a dedicated professional acquisition cadre to bridge the knowledge asymmetry between government and industry.

Conclusion

- Creation of the post of **Chief Of Defence Staff (CDS)** is a major step towards addressing the issues related to defence acquisition. It will act as the **focal point for drawing up a consolidated procurement plan** for the defence and security forces.
- Also, the draft Defence Procurement Procedure 2020 is a right step forward towards indigenisation of defence equipment.
- By **simplifying the procedure** and **reducing the timeline**, it will go a long way in ensuring probity, transparency and accountability in defence procurement.

Extra Mile

Defence Procurement Procedure (DPP) 2020

Union Defence Minister has unveiled the Draft Defence Procurement Procedure 2020. The draft DPP 2020 has been put in public domain. It has **simplified the procedure** and **reduced the timeline** to ensure probity, transparency and accountability.

Key Highlights**I. Leasing Introduced As A New Category**

- Leasing has been introduced as a new category for acquisition in addition to **existing 'Buy' & 'Make' categories.**
- This has been done to get defence equipment at affordable rates. India now can formally take military equipment on lease from a friendly country.
- In fact, India already leases one of its most potent naval combat platforms from Russia — the **nuclear propelled attack submarine, INS Chakra.**

II. Indigenous Content Ratio Hiked

- The Draft proposes increasing the Indigenous Content stipulated in various categories of procurement by about 10% to support the 'Make in India' initiative.
- A simple and realistic methodology has been incorporated for verification of indigenous content for the first time.

III. New Category Buy (Global – Manufacture in India)

- New Category Buy (Global – Manufacture in India) has been introduced with **minimum 50% indigenous content** on cost basis of total contract value.
- Only the *minimum necessary will be bought from abroad* while the balance quantities will be manufactured in India.
- This would be **in preference to the 'Buy Global' category** as manufacturing will happen in India and jobs will be created in the country.

IV. Support to Indian Start-Ups

- A comprehensive Chapter introduced for **'Make' to cover procurement from manufacturers** in India including start-ups and innovators and from research projects of DRDO.

V. Product Support

- The scope and options for Product Support have been widened to optimise life cycle support for equipment.
- The capital acquisition contract would normally also include support for five years beyond the warranty period.

Measures Taken To Achieve Self-Reliance In Defence Production

- Two Defence Industrial Corridors have been established in Tamil Nadu and Uttar Pradesh.
- Defence Procurement Procedure was revised in 2016 to stimulate the growth of domestic Defence industry. A new category 'Buy {Indian-IDD (Indigenously Designed, Developed and Manufactured)}' was introduced to promote indigenous design and development of Defence equipment.
- 'Make-II' category encourages indigenous development by assurance for orders.
- Department of Defence Production has notified 127 items under Public Procurement Order 2017. Accordingly, DPSUs and OFB are required to give preference to domestic manufacturers while procuring these items.

- Defence Investor Cell (DIC) has been created in February, 2018 to provide all necessary guidance and information to investors, innovators, MSMEs and Start-ups interested in defence manufacturing in India.
- An innovation ecosystem to foster innovation and technology development in Defence and Aerospace titled Innovations for Defence Excellence (iDEX) has been launched in April, 2018.
- FDI Policy has been revised and FDI is allowed under automatic route upto 49% and upto 100% with Government approvals.
- Defence Products list requiring Industrial Licences has been rationalised.
- In March, 2019 Government has notified a Policy for indigenization of components and spares used in Defence Platforms.

12. Explain the mechanism of inflight WiFi. Discuss what are the emerging challenges and suggest a way forward.

Answer

The government has permitted airlines operating in India **to provide in-flight WiFi services** to passengers who can use laptop, smartphone, tablet, smartwatch, e-reader or a point of sale device in **flight mode or airplane mode**. Earlier, the **Telecom Commission had given its green signal to in-flight connectivity of Internet** and mobile communications on aircraft in Indian airspace in 2018.

How In- flight WiFi works

- Broadly, in-flight connectivity systems **use two kinds of technologies**.
 - a) **Terrestrial internet services:** An onboard antenna picks up signals from the nearest tower on the ground. However, the connection becomes an issue after a certain altitude if the aircraft is passing over an area with no towers such as a large water body.
 - b) **Satellite Internet Services**
 - Satellites can be **used to connect to ground stations** in the same way that satellite TV signals are transmitted.
 - The **data is transmitted to a personal electronic device** through an onboard router, which connects to the plane's antenna.
 - The signals are then transmitted to ground stations via satellites and are redirected to a billing server for calculation of the data consumption.
 - Finally, the signal is relayed to the World Wide Web.
- Once flight mode is activated, the plane's antenna will link to terrestrial Internet services provided by telecom service providers and when the aircraft has climbed to 3,000 m, the antenna will switch to satellite-based services.
- This way, there will be **no break in Internet services** to passengers, and cross-interference between terrestrial and satellite networks will be avoided.
- Globally, some airlines offering onboard WiFi offer a small volume of free Internet before asking the customer to buy a pack.

Challenges

- Airlines will have to **bear the huge initial cost of installing antennas** on aircraft.

- Apart from the equipment, airlines will have to **bear additional fuel costs**, given the extra weight and drag aircraft will face due to the antenna.
- The **speed of the internet** might be relatively **slow**.
- It **may also cause security risks** due to possible interference with flight communication systems.
- The additional costs may lead to **increase in the flight ticket price**.
- **Noisy cabins** may not be preferred by pilots.

Way Forward

- TRAI had suggested creating licences for In-flight connectivity (IFC) service providers. The Government will now work towards creating the license framework for IFC service providers.
- These IFC service providers will have to get themselves registered with the **Department of Telecom** and they need not necessarily be an Indian entity.
- TRAI also suggested that foreign telecom operators should be allowed to offer voice services in partnership with local telecoms so that the mandated lawful interception requirement is met and on-board internet traffic must be routed to a satellite gateway on Indian soil.

If implemented efficiently this **would give a boost to the Indian civil aviation** market by making Indian carriers compete with foreign carriers.

13. What are Cyber Physical Systems and also discuss its potential applications for development.

Answer

The Department of Science and Technology (DST) has sanctioned Rs 7.25 crore to the Indian Institute of Technology (IIT) Mandi to establish a **Technology Innovation Hub (TIH)** at the institute. This is under the **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)**.

Cyber Physical Systems (CPS)

- Cyber-physical systems **integrate sensing, computation, control and networking into physical objects and infrastructure**, connecting them to the Internet and to each other.
- **CPS and associated technologies include** Artificial Intelligence (AI), Internet of Things (IoT), Machine Learning (ML), Deep Learning (DP), Big Data Analytics, etc.
- It is necessary for the government and industries to prepare and adopt these emerging and disruptive technologies in order to remain competitive, foster economic growth, improve the overall quality of life and sustainability of the environment.
- **Benefits of CPS**
 - CPS technologies **provide a cutting edge to a Nation's scientific, engineering, and technological innovative capabilities**.
 - It **supports other missions of the government**, provides industrial and economic competitiveness and has truly become a **Strategic Resource**.
 - It would **act as an engine of growth** that would benefit national initiatives in health, education, energy, environment, agriculture, strategic cum security, and industrial sectors, Industry 4.0, SMART Cities, Sustainable Development Goals (SDGs) etc.
 - The **job opportunities will be enhanced** by imparting advanced skills and generating skilled manpower as per the requirement of the industry/ society.

- As Innovation, Entrepreneurship and Start-up Ecosystem is an integral part of the NM-ICPS, the start-ups will also **create a number of technology driven job opportunities** in CPS and allied areas.

Challenges

- Technologies like AI, Internet of Things etc may lead to displacement of workers.
- The biggest beneficiaries may be the innovators, intellectuals and investors leading to increasing inequality.
- The job market may get segregated into low skill- low pay and high skill-high pay segments.
- Availability of progressing technology to a common man can be challenging.
- Proper implementation of the program is a challenge as it is difficult to bring together government, industries and academicians.

Way Forward

- It must be ensured that the human resources are optimally utilised in every field.
- Quality of education and training must be scaled up to meet the requirement of a skilled workforce.
- Proactive programmes and initiatives are required to build on the positive aspects of cyber physical systems and reduce the widening of the inequality gap.
- Government needs to create an enabling ecosystem through incubators and accelerators including regulatory frameworks, educational ecosystems and economic incentives.
- Industries and researchers should work together on developing innovative products.

Conclusion

With one of the youngest labour forces in the world, a sizeable technical aptitude, the second largest number of internet users on mobile devices and the second largest English speaking population, India is well positioned to enhance its global leadership in a post fourth industrial revolution era.

Extra Mile

National Mission On Interdisciplinary Cyber Physical Systems (NM-ICPS)

- NM-ICPS is **implemented by the DST** with a total outlay of Rs. 3660 crore **for a period of five years.**
- It is a comprehensive Mission which would address:
 - Technology Development,
 - Application Development,
 - Human Resource Development & Skill Enhancement,
 - Entrepreneurship and Start-up Development in Cyber Physical System (CPS) and associated technologies.
- The mission aims at establishment of:
 - 15 numbers of **Technology Innovation Hubs (TIH)**,
 - 6 numbers of **Application Innovation Hubs (AIH)** and
 - 4 numbers of **Technology Translation Research Parks (TTRP)**.
- It is a **Pan India Mission** and covers the entire gamut of India that includes Central Ministries, State Governments, Industry and Academia.

Technology Innovation Hub (TIH)

- The major focus of TIH will be on **human-computer interaction (HCI)** research. HCI is situated at the intersection of computer science, behavioural sciences, design & media studies among others.
- It will also focus on human resource and skill development, entrepreneurship and collaboration with other leading institutions.
- **Main tasks:**
 - Develop **tools, education material**, hands-on experiments with specialised tool kits, connecting with existing innovation ecosystems.
 - **Interlink with different stakeholders** and connect with other initiatives of the Government of India by providing an innovation platform for schools, colleges and advanced technical training institutes in the targeted areas.
 - **Develop a technology interface for challenges** concerning landslides, environment (including climate change), air pollution, agriculture, cybersecurity, defence forces, healthcare, and forensics.
 - Development and evaluation of interfaces of **IoT-based Cyber-Physical Systems (CPS)**.

14. Recently, the UK Government suggested a strategy of Herd Immunity to deal with the Covid-19 pandemic. What is Herd Immunity and how does it work? What are the issues with herd immunity?

Answer

The government of United Kingdom recently suggested a strategy that would allow the novel coronavirus to infect 60% of the country's population so that a degree of herd immunity could be achieved.

Herd Immunity

- Herd immunity refers to preventing an infectious disease from spreading by immunising a certain percentage of the population. While the concept is most commonly used in the context of vaccination, herd immunity can also be achieved after enough people have become immune after being infected.
- The idea is that if a certain percentage of the population is immune, members of that group can no longer infect another person. This breaks the chain of infection through the community (herd), and prevents it from reaching those who are not immune and most vulnerable.
- To estimate the extent of spread and immunity, experts use a measure called the basic reproductive number- R_0 (Rought). In simple terms it indicates how contagious and infectious disease is. As an infection spreads to new people, it reproduces itself. It tells the average number of people who will catch a disease from one contagious person. It specifically applies to a population of people who were previously free of infection and haven't been vaccinated.
- Scientific evidence shows that a person with measles can infect around 12-18 persons; and a person with influenza can infect around 1.2-4.5 persons, depending on season. On the basis of the available evidence from China, and according to various experts, R_0 of COVID-19 ranges between 2 and 3.

Herd Immunity Of A Population

- The possibility of a population achieving herd immunity depends on multiple factors viz. how effective the vaccine for a given disease is, how long-lasting immunity is from both vaccination and infection, and which populations form critical links in transmission of the disease.

- Mathematically, it is defined on the basis of a number called herd immunity threshold, which is the number of immune individuals above which a disease may no longer circulate.
- The higher the R_0 , the higher the percentage of the population that has to be immunised to achieve herd immunity. Polio has a threshold of 80% to 85%, while measles has 95%.
- With the current data for COVID-19, experts have estimated a threshold of over 60%. That means more than 60% of the population needs to develop immunity to reach the stage of herd immunity.

Issues With Using Herd Immunity Against Covid-19

- Experts have underlined, that it is very risky to seek herd immunity by allowing a large proportion of the population to get infected, as such a strategy at this stage, would be based on many unknowns and variables.
- To begin with, much about the behaviour of the pathogen is still unclear. There isn't enough statistically significant data to estimate conclusively how many persons can get the virus from a single infected person.
- While herd immunity may come about from a pandemic because the people who survive may develop immunity but it is also likely that people may not develop immunity against it.
- Hence, it is important to note that for COVID-19, it is still not clear whether one can become immune to the virus, nor is it clear whether a person who develops immunity will remain permanently immune.
- Further, it can take months, or even longer, to build group immunity to COVID-19 and during that time, the need is to protect people who are at greater risk.
- Trying to achieve herd immunity would put a huge burden on the healthcare system, as allowing the virus to pass through the population means a significant increase of patients, putting pressure on existing ICU and emergency beds.

Why Britain Later Dropped This Idea?

- UK dropped this idea after the study suggested that **this approach could lead to 250,000 deaths**.
- The strategy has been criticized by the WHO, which said far greater action is required. Other health experts say the **approach is experimental at best, and dangerous at worst**.
- A herd immunity strategy might seem wise. But the **absence of a coronavirus vaccine means it is very high-risk**. The best way to rapidly develop herd immunity is through vaccination.
- Also, there is another dimension. While some people are not badly affected by the disease, under a herd immunity strategy they **could still pass the virus to elderly people who are at high risk of dying from it**.

Conclusion

A herd immunity approach can be very effective in keeping disease cases down in a population. E.g. – **Measles**. In this case of measles, it was shown that **93-95% of the population** need to be immune to measles to effectively protect the remaining population. Therefore, government all over the world resorted to vaccination process.

Although, herd immunity can be effective, **it cannot be applied to all infectious diseases**. It can be effective in those cases in which these are restricted to a **single host species within which transmission occurs** by relatively direct contact, and infection/immunization induces solid immunity. It also depends on other factors such as Rate of mutation, different pathogen, different dynamics etc. Given the said issues with herd immunity, the world should focus on flattening the curve i.e. slowing the spread of the infection over a large population, through social distancing coupled with rigorous monitoring, testing and contact tracing to get ahead of the rapidly exponential curve of the disease.

Modes Of Transmission Of An Infection

- There are three ways in which an infection can spread in a community. The first scenario looks at a community that is not immunised. When two infectious cases, both with an R_0 value of 1, are introduced, there is a possibility of the entire community being infected, with a few exceptions.
- In the second scenario, there may be some persons who have been immunised. When at least two infectious cases are introduced in the community, only these immunised persons will not be infected.
- The third scenario is when the majority of the community is immunised. So, when two infectious cases are introduced, the spread can take place only in exceptional cases, like in the elderly or other vulnerable persons. Even in such a situation, the immunised persons protect the non-immunised by acting as a barrier — which is herd immunity.

15. As India prepares for community spread of the novel coronavirus and a rise in hospital admissions, the government is seeking to increase its capacity of ventilators. What are Ventilators? Highlight the need of ventilators in a Coronavirus outbreak along with the status of ventilators in India.

Answer

- Ventilators (or respirators) are mechanical devices that help a patient breathe when they are unable to do so on their own.
- Hospitals have a supply system for gases like oxygen, which are used in ventilators. The ventilator takes the compressed gas (oxygen) and mixes it with other gases, because typically what humans breathe is 21% oxygen from the atmosphere.
- It allows to artificially push in a certain required amount of oxygen into the patient's lungs and allows them to deflate.
- Based on the mechanism used to deliver the air (**flow-delivery mechanism**), there are three major classifications for ventilators viz. *bellow-driven or piston ventilators, turbine ventilators and external compressed air driven ventilators.*
- A pneumatic external compressed air-driven ventilator in an ICU setting would be ideal for COVID-19 patients. Turbine ventilators, although less effective, are the next best option, as they have fewer components, and it would probably be easier to scale them up.

Need For A Ventilator In Covid-19 Outbreak

- The coronavirus causes inflammation in the air passages inside the lungs called bronchioles and in the alveoli, the tiny sacs that the air is delivered to, due to which air can't get in or get out.
- As the space for the exchange of air in the lungs decreases, the patient has to work harder to breathe, which may not be possible indefinitely. So, this there is need of ventilators.

Status Of Ventilators In India

- India's state hospitals together have 14,220 ICU ventilators as of now. Additionally, government and some private hospitals dedicated for the management of COVID-19 patients have about 6,000 ventilators.
- According to recent mathematical modelling by scientists of ICMR, around half of those infected and in intensive care would require mechanical ventilation. Using this model and other data, think tank

Brookings India has estimated that India could, in the worst case, need between 1 lakh and 2.2 lakh ventilators by May 15.

- At the same time various senior doctors have expressed optimism about ventilator availability, as at present there is no shortage of ventilators because very few patients need them and most of them are just on oxygen. This is probably also because other (non-COVID-19) patients have decreased tremendously.
- But in a situation like Italy's (which had nearly 98,000 infections and 11,000 deaths until 30th March), any country would have a problem, but as of now, the situation in India is not beyond control.

Difficulties In Scaling Up Production

- However, according to industry sources, only about 10% of ventilators in use in India are manufactured in the country. The pandemic has affected global supply chains, even as demand has increased suddenly everywhere.
- With imports slowing, an increased burden now lies on Indian manufacturers, who have limited capacity to scale up production.
- There is also the question of raw material as at least 40% of a ventilator's physical components are imported from countries like the US, China, France, and Germany, which include several crucial components like sensors and displays.

Way Ahead

- Experiments are on to find alternatives to imported electronic components such as sensors and displays. There are plans to do away with the display and develop a simple user interface without buttons, which can be programmed without display.
- Tata and M&M, (who are also working on developing ventilators) design their products from scratch, hence they can also look for certain automotive components that can be used for medical purposes in an emergency like this.

It is hoped that these efforts along with the measures taken by the government to keep a check on the spread of the infection, will help to flatten the curve and give time to the country's health set up to be ready to effectively deal with Covid-19.

Extra Mile

Steps Taken To Address The Shortage Of Ventilators

- Bharat Electronics Ltd (BEL), a PSU under the Ministry of Defence, is in the process of manufacturing 30,000 ventilators. Health Ministry PSU HLL Lifecare Ltd has floated a tender for 20,000 ventilators and ICF Chennai, maker of Train 18, is also attempting to manufacture ventilators.
- Maruti Suzuki India has announced an arrangement with Noida-based AgVa Healthcare to rapidly scale up production to 10,000 per month.
- Bengaluru based Skanray Technologies is working with BEL and Mahindra & Mahindra to simplify the design of ventilators, and could start a collaboration with Tata, too.

PRELIMS MCQS

1. Consider the following statements about the World Happiness Report (WHR):

1. World Happiness Report is released by the World Economic Forum.
2. Finland was ranked as the happiest country in the WHR 2020.
3. The first World Happiness Report was released in 2012.

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 only

Answer: B

Explanation:

- The World Happiness Report 2020 was recently released by the **UN Sustainable Development Solutions Network** timed to the UN's annual International Day of Happiness on March 20. It was originally launched in 2012.
- It looks at the state of global happiness in 156 countries, ranking countries using the Gallup World Poll and six factors- **levels of GDP, life expectancy, generosity, social support, freedom and corruption income.**
- The World Happiness Report 2020 for the first time ranks cities around the world by their subjective well-being and digs more deeply into how the social, urban and natural environments combine to affect our happiness.

Findings Of The Report

- The happiest countries are those where people feel a sense of belonging, where they trust and enjoy each other and their shared institutions. There is also more resilience, because shared trust reduces the burden of hardships, and thereby lessens the inequality of well-being.
- For the third year in a row, **Finland** was placed at the top of the list as the happiest country in the world, with **Denmark** coming in second, followed by **Switzerland**, which pushed Norway out of the top three this year.
- **India is ranked 144**, way lower than its neighbours. Nepal is ranked 15, Pakistan is at the 29, Bangladesh at 107 and Sri Lanka at 130.
- Canada was ranked at number 11, Australia at 12, United Kingdom at 13, Germany at 17, Japan at 62, Russia at 73 and China at 94.
- Besides the happiest countries, the report also looked at the places where people are the unhappiest. This year, **Afghanistan** was named the unhappiest place in the world, followed by **South Sudan** and **Zimbabwe.**
- For the first time, the report also ranked the happiest cities around the world. The top 10 is dominated by Scandinavian cities, with Finland's capital of **Helsinki** ranking as the happiest city in the world.
- On the other end of the spectrum, the unhappiest cities have some common themes. Most are located in underdeveloped countries and have experienced war (Kabul in Afghanistan, Sanaa in Yemen), armed conflict (Gaza in Palestine), civil war (Juba in South Sudan, Bangui in the Central African

Republic), political instability (Cairo in Egypt) or devastating natural catastrophes (Port-au-Prince in Haiti).

Impact Of Disasters On Happiness

- While it seems like a strange time to be evaluating happiness, the report points out that challenging times can actually *increase* happiness. The global pandemic poses great risks for some of the main supports for well-being, most especially health and income.
- As revealed by earlier studies of earthquakes, floods, storms, tsunamis and even economic crises, a high trust society quite naturally looks for and finds co-operative ways to work together to repair the damage and rebuild better lives.
- People are pleasantly surprised by the willingness of their neighbours and their institutions to work in harness to help each other. This delivers a heightened sense of belonging, and pride in what they have been able to achieve by way of mitigation. These gains are sometimes great enough to compensate for the material losses.

2. 'Bhoomi Rashi portal', recently in news, was launched by

- a) Niti Aayog
- b) Ministry of Home affairs
- c) Ministry of Road Transport & Highways
- d) Land Ports Authority of India

Answer: C

Explanation

The Bhoomi Rashi Portal, launched in 2018 as a major e-Governance initiative of **the Ministry of the Road Transport & Highways**, has expedited significantly the process of **land acquisition for National Highways**, making it error-free & more transparent with notifications at every stage being processed on real time basis.

About Bhoomi Rashi portal

- The Ministry of Road Transport and Highways, Govt. of India has designed Bhoomi Rashi as a **single point platform for online processing of land acquisition** notifications to accelerate highway infrastructure development projects in India.
- It will act an interface for Land owners and affected parties for adding project basic details including land acquisitions sanction details, Land Acquisition locations i.e. village, compensation determination etc.
- It is a bilingual application with Hindi and English for easy usability

Benefits

- Earlier, physical processing of the cases usually took weeks to even months. Now, the portal has **reduced the processing time to a few days**, around 2 weeks for majority of the cases.
- Its benefits would be **faster process completion**, transparent fund transfer to the land owners/beneficiaries and reduction of procedural errors.
- The portal would **enhance the efficiency of the land acquisition process**, ensure **transparency and accountability**, and result in **e-transfer of benefits directly to the accounts of the beneficiaries**.

- Bhoomi Rashi has also been integrated with the **Public Financial Management System (PFMS) platform** of the Ministry of Finance, for deposition of compensation in the account of affected/interested person, on real-time basis.

3. Consider the following statements about Land Ports Authority of India

1. It is a statutory body under Ministry of Shipping.
2. It is mandated to provide better administration and cohesive management at border crossings on India's land border.

Which of the above statements is/are Correct?

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

Answer: B

Explanation

8th Foundation Day of the Land Ports Authority of India (LPAI) was celebrated in New Delhi.

About Land Ports Authority of India (LPAI)

- The Land Ports Authority of India (LPAI) came into being on March 1, 2012.
- LPAI was established under **Land Ports Authority of India Act 2010** to function as a body corporate under administrative control of the Department of Border Management, **Ministry of Home Affairs**.
- Vested with the powers on the lines of similar bodies like Airports Authority of India, it is mandated to provide better administration and cohesive management at border crossings on India's land borders.

Functions

- LPAI is mandated inter alia to plan, develop, construct, manage and maintain Integrated Check Posts (ICPs).
- LPAI brings together various agencies responsible for coordination of various Government functions including those of Security, Immigration, Customs, Plant & Animal Quarantine etc., as also for the provision of support facilities such as warehousing, parking, banking, foreign exchange bureau among others at ICPs along India's vast land borders.

4. Consider the following statements about National Pharmaceutical Pricing Authority

1. It is a statutory body under the Ministry of Chemicals and Fertilizers
2. It is entrusted with the task of recovering amounts overcharged by manufacturers for the controlled drugs from the consumers

Which of the above statements is/are Correct?

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

Answer: B

Explanation

- National Pharmaceutical Pricing Authority (NPPA) stated that **claims of medicine price hikes due to shortages of ingredients are “unsubstantiated”** and it has already asked all states to ensure these products are not hoarded.
- Several pharmaceutical units in Himachal Pradesh had claimed that prices of APIs (active pharmaceutical ingredient) like paracetamol had nearly doubled since January and warned of suspension of production claiming scarcity of imports of such raw materials.
- **Due to international outbreak of coronavirus**, there is a huge shortage and hike in prices of N95 masks, surgical masks, alcohol based hand sanitizers etc
- NPPA’s move to invoke provisions of the Essential Commodities Act was recommended by a standing committee set up by the Department of Pharmaceuticals (DoP) over a month ago.

About National Pharmaceutical Pricing Authority (NPPA)

- NPPA is an independent body of experts under the Ministry of Chemicals and Fertilizers.
- It was formed in the year 1997 under **Drugs Prices Control Order (DPCO)** for regulating medicine prices in accordance with the powers delegated to it. (Hence not a statutory body)
- NPPA is delegated with the powers to exercise the functions of the Central Government in respect of various paragraphs of the Drug Price Control Orders (DPCO) - DPCO, 1995 and now DPCO, 2013

Functions of NPPA

- **Fixation and revision of prices of scheduled drugs** and formulations
- Monitoring of prices of decontrolled drugs and formulations, Implementation and enforcement of the provisions of DPCO in accordance with the powers delegated
- **Monitoring the availability of drugs**, identify shortages, taking remedial steps, etc.
- The organization is also **entrusted with the task of recovering amounts overcharged by manufacturers** for the controlled drugs from the consumers.

5. Consider the following statements about Zonal Councils

1. **Zonal Councils are the statutory bodies established by States Reorganisation Act of 1956.**
2. **Each Chief Minister acts as the Chairman of the council by rotation, holding office for a period of one year at a time**

Which of the above statements is/are Correct?

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

Answer: A

Explanation

Home Minister Amit Shah to chair Eastern Zonal Council meeting in Bhubaneswar.

About Zonal Councils

- The Zonal Councils are the **statutory** (and not the constitutional) bodies. They are established by an Act of the Parliament, that is, **States Reorganisation Act of 1956**.
- The act divided the country into **five zones** (Northern, Central, Eastern, Western and Southern) and provided a zonal council for each zone.
- The **Home Minister** of Central government is the common **chairman of the five zonal councils**. **Each Chief Minister acts as a vice-chairman** of the council by rotation, holding office for a period of one year at a time.
- Each zonal council consists of the following members: (a) Home Minister of Central government. (b) Chief Ministers of all the States in the zone. (c) Two other ministers from each state in the zone. (d) Administrator of each union territory in the zone.

| Name | Members | Headquarters |
|---------------------------|--|--------------|
| 1. Northern Zonal Council | Jammu and Kashmir, Himachal Pradesh, Haryana, Punjab, Rajasthan, Delhi, and Chandigarh | New Delhi |
| 2. Central Zonal Council | Uttar Pradesh, Uttarakhand, Chhattisgarh, and Madhya Pradesh | Allahabad |
| 3. Eastern Zonal Council | Bihar, Jharkhand, West Bengal and Odisha | Kolkata |
| 4. Western Zonal Council | Gujarat, Maharashtra, Goa, Dadra and Nagar Haveli and Daman and Diu | Mumbai |
| 5. Southern Zonal Council | Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Kerala and Puduchery | Chennai |

Objectives/Functions of Zonal Councils

- To achieve an emotional integration of the country.
- To help in arresting the growth of acute state-consciousness, regionalism, linguism and particularistic trends.
- To help in removing the after-effects of separation in some cases so that the process of reorganisation, integration and economic advancement may synchronise.
- To enable the Centre and States to cooperate with each other in social and economic matters and exchange ideas and experience in order to evolve uniform policies.
- To cooperate with each other in the successful and speedy execution of major development projects.
- To secure some kind of political equilibrium between different regions of the country.

North-Eastern Council

- In addition to the above Zonal Councils, a **North-Eastern Council** was created by a separate Act of Parliament—the **North-Eastern Council Act of 1971**
- Its members include Assam, Manipur, Mizoram, Arunchal Pradesh, Nagaland, Meghalaya, Tripura and Sikkim.
- Its functions are similar to those of the zonal councils, but with few additions. It has to formulate a unified and coordinated regional plan covering matters of common importance.

6. Consider the following statement about Central Information Commission

1. It was constituted under the provisions of the Right to Information Act (2005).
2. Salary and service conditions of the Chief Information Commissioner is similar to those of the Chief Election Commissioner

Which of the statements given above is/are correct?

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

Answer: C

Explanation

Information Commissioner **Bimal Julka was appointed as the Chief Information Commissioner.**

About Central Information Commission

- The Central Information Commission was established by the Central Government in 2005. It was constituted through an Official Gazette Notification under the provisions of the **Right to Information Act (2005)**. Hence, it is **not a constitutional body**.
- It entertains complaints and appeals pertaining to offices, financial institutions, public sector undertakings, etc., under the Central Government and the Union Territories.

Composition

- The Commission consists of a Chief Information Commissioner and not more than ten Information Commissioners.
- They are **appointed by the President** on the recommendation of a committee consisting of the *Prime Minister as Chairperson, the Leader of Opposition in the Lok Sabha and a Union Cabinet Minister nominated by the Prime Minister.*

Tenure and Service Conditions

- The Chief Information Commissioner and an Information Commissioner hold office for a **term of 5 years or until they attain the age of 65 years, whichever is earlier.**
- They are **not eligible for reappointment.** The President can remove the Chief Information Commissioner or any Information Commissioner from the office under the following circumstances
- The salary, allowances and other service conditions of the CIC are similar to those of the Chief Election Commissioner. and that of the Information Commissioner are similar to those of an Election Commissioner. But, they can't be varied to his disadvantage during service.

7. Consider the following statements about Central Drugs Standard Control Organization.

- 1. It works under Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers.**
- 2. It approves new drugs and clinical trial.**

Which of the statements given above is/are correct?

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

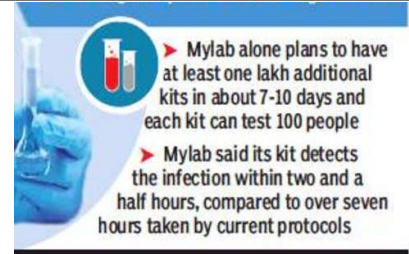
Answer: B

Explanation:

- Pune based molecular diagnostics company Mylab Discovery and Germany's Altona Diagnostics have been approved by the **Indian Council of Medical Research (ICMR)** to make **diagnostic kits to test people for Covid-19.**
- The two companies received **approval to mass manufacture the Kits** after they received **commercial approval from Central Drugs Standard Control Organisation (CDSCO).**

About Central Drugs Standard Control Organisation (CDSCO)

- CDSCO, under the **Ministry of Health and Family Welfare**, is the Central Drug Authority for discharging functions assigned to the Central Government under the Drugs and Cosmetics Act.
- CDSCO has six zonal offices, four sub-zonal offices, 13 port offices and seven laboratories under its control.
- **Major functions of CDSCO:** Regulatory control over the import of drugs, **approval of new drugs and clinical trials**, meetings of Drugs Consultative Committee (DCC) and Drugs Technical Advisory Board (DTAB), approval of certain licenses as Central License Approving Authority is exercised by the CDSCO headquarters.

**About Indian Council of Medical Research (ICMR)**

- The Indian Council of Medical Research (ICMR), New Delhi, the apex body in India for the formulation, coordination and promotion of biomedical research, is one of the oldest medical research bodies in the world.
- The ICMR is **funded by** the Government of India through the Department of Health Research, **Ministry of Health & Family Welfare**.

8. Consider the following statements about Quality Council of India

1. It is an autonomous body under Ministry of Commerce and Industry
2. It establishes and operates the National Accreditation Structure for conformity assessment bodies.

Which of the statements given above is/are correct?

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

Answer: C

Explanation:

- Agricultural and Processed Food Export Development Authority (APEDA) has been relentlessly engaged with State Govts. for the implementation of Agri Export Policy (AEP).
- It is in this perspective, APEDA has signed MoUs with specialised institutions like Indian Institute of Technology Delhi (IITD), **Quality Council of India (QCI)** Delhi, ICFA, SGT University and Pearl Academy

About Quality Council of India

- QCI has been set up by the Government of India in partnership with India's leading industry bodies - **Confederation of Indian Industries (CII)**, **Federation of Indian Chambers of Commerce and Industry (FICCI)** and **Associated Chambers of Commerce and Industry (ASSOCHAM)**.
- It is an **autonomous body under the administrative control of the Department for Promotion of Industry and Internal Trade** to establish and operate the National Accreditation Structure for

conformity assessment bodies; providing accreditation in the field of education, health and quality promotion.

- Besides the role of putting in place the accreditation structure, it also promotes the adoption of quality standards relating to Quality Management Systems (ISO 14001 Series), Food Safety Management Systems (ISO 22000 Series) and Product Certification and Inspection Bodies through the accreditation services provided by National Accreditation Board for Certification Bodies (NABCB).

9. Consider the following statements about Communist Party of India (Maoist)

- 1. The CPI (Maoist) was founded in 1967.**
- 2. People's Liberation Guerrilla Army is the armed wing of the CPI (Maoist).**
- 3. CPI (Maoist) is designated as a terrorist organisation under Unlawful Activities (Prevention) Act.**

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 only**

Answer: B

Explanation:

- 17 security personnel were recently killed in an encounter with Maoists in the jungles of Minpa in Sukma district of Chhattisgarh. All those killed were from **District Reserve Guards** — comprising mostly local youth and surrendered Maoists who are comfortable in the harsh terrain and are very tough fighters — and **Special Task Force**.
- This is the biggest Maoist attack on security forces since the attack in Sukma in 2017 when 24 CRPF personnel, part of a road opening party, were killed.
- Maoists — apparently from the dreaded 1 Battalion — had set up IED traps for the security men and taken firing positions on high ground. When the forces came within range, the rebels triggered explosions and laid down heavy fire from their hidden positions.
- Wooden plaques, carrying messages from the Maoists, were nailed to tree trunks. One of them read, 'Boycott the fake Rajya Sabha election in Chhattisgarh.'

A Worrying Sign

- The first such major attack in nearly three years, reinforces the suspicion that the relative calm is misleading.
- There are worrying signs and pointers to tactical inconsistencies as the men remained untraceable till their bodies were recovered.
- Further, there are suggestions within Chhattisgarh that its heartland politics is turning the focus away from anti-Naxal operations, and that Bastar needs priority, efficient handling.

Communist Party of India (Maoist)

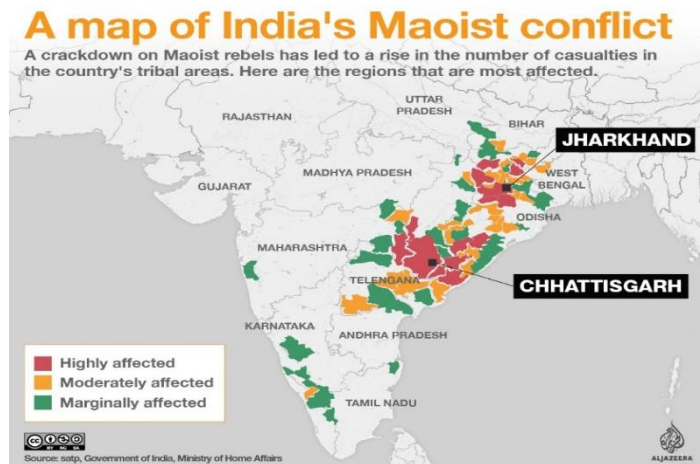
- The Communist Party of India (Maoist) is a Maoist communist party in India which aims to overthrow the government of India through a people's war.

VAJIRAM & RAVI

- It was founded in September 2004, through the merger of the Communist Party of India (Marxist–Leninist), People's War (People's War Group), and the Maoist Communist Centre of India (MCCI). It is designated as a terrorist organisation in India under Unlawful Activities (Prevention) Act.
- The CPI (Maoist) are often referred to as the Naxalites in reference to the Naxalbari insurrection conducted by radical Maoists in West Bengal in 1967. People's Liberation Guerrilla Army (PLGA) is the armed wing of the CPI (Maoists).
- The Maoist claim to be fighting for the rights of the tribes in the forest belt around central India. The rebels' military strategy is loosely based on the Chinese revolutionary leader Mao Zedong.
- Its immediate aim is to accomplish the New Democratic Revolution in India by overthrowing imperialism, feudalism and bureaucratic capitalism only through a Protracted People's War. The ultimate aim of the party is to bring about communism.

Geographical spread

- As per the Indian government, armed activity by the Left Wing extremists has been noticed in Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Karnataka, Kerala, Maharashtra, Odisha and West Bengal.
- While, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Odisha, Punjab, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal are under its ideological influence.



10. Consider the following statements about TRIFED

1. TRIFED deals in exploring marketing possibilities for tribal products for international markets.
2. TRIFED works for the development of Minor Forest Produce.
3. TRIFED is under the Ministry of Environment, Forests and Climate Change.

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 only

Answer: A

Explanation:

- A unique project aimed to transform 5 crore Tribal Entrepreneurs under the name “Tech for Tribal” has been launched by TRIFED.
- Tech for Tribals, aims at capacity building and imparting entrepreneurship skills to tribal forest produce gatherers enrolled under the Pradhan Mantri VanDhan Yojana (PMVDY). The trainees will undergo a 30 days program over six weeks comprising 120 sessions.

- Under the Tech for Tribals program, the partners will develop course contents relevant to Entrepreneurship in Value Addition and Processing of Forest Produces.
- The course curriculum will include entrepreneurial competencies, identification of locally available NTFP based business opportunities, round the year capacity utilization, product positioning - grading / sorting, branding, packaging, product certifications etc.
- The initiative will ensure higher success rate of the Tribal Entrepreneurs by enabling and empowering them to run their business with marketable products with quality certifications.

TRIFED

- TRIFED came into existence in 1987, as a national-level apex organization functioning under the administrative control of Ministry of Tribal Affairs.
- The ultimate objective of TRIFED is socio-economic development of tribal people in the country by way of marketing development of the tribal products on which the lives of tribals depends heavily as they spend most of their time and derive major portion of their income.
- It involves capacity building of the tribal people through sensitization, formation of Self Help Groups (SHGs) and imparting training to them for undertaking a particular activity, exploring marketing possibilities in national as well as international markets, creating opportunities for marketing tribal products on a sustainable basis, creating a brand and providing other services.
- It also works for the development of Minor Forest Produce (MFP) through MSPs for MFPs and conducting research and development in MFPs.

11. Women Entrepreneurship Platform is an initiative of

- a) Ministry of Women and Child Development.
- b) NITI Aayog
- c) National Commission for Women
- d) None of the above

Answer: B

Explanation:

- NITI Aayog recently organized the Fourth Edition of Women Transforming India Awards in collaboration with United Nations.
- WTI Awards are NITI Aayog's initiative to highlight the commendable and ground-breaking endeavours of India's women leaders and change makers. The award ceremony recognized women across verticals of healthcare, education and food tech amongst other fields.
- Since 2018, the Awards have been hosted under the aegis of NITI Aayog's Women Entrepreneurship Platform with a special focus on entrepreneurship.

Women Entrepreneurship Platform

- The Women Entrepreneurship Platform (WEP) is a first of its kind, unified access portal which brings together women from different parts of India.
- Launched on International Women's Day, two years ago, the Women Entrepreneurship Platform has become a forum dedicated to educating, enabling and empowering women entrepreneurs.

- The initiative is aimed at building an ecosystem for women across India to realize their entrepreneurial aspirations, scale-up innovative initiatives and chalk-out sustainable, long-term strategies for their businesses.
- It aims to address the bottlenecks faced by both aspiring and established women entrepreneurs by streamlining information across government and private sector schemes and initiatives.
- The three pillars on which WEP is built are:
 - **Ichha Shakti** - motivating aspiring entrepreneurs to start their enterprise.
 - **Gyaan Shakti** - providing knowledge and ecosystem support to women entrepreneurs to help them foster entrepreneurship.
 - **Karma Shakti** - providing hands-on support to entrepreneurs in setting-up and scaling up businesses.

12. Consider the following statements about State Disaster Response Fund

- 1. The SDRF is constituted under the Disaster Management Act, 2005.**
- 2. The Central government contributes 75 per cent towards the SDRF allocation for general category states.**

Which of the statements given above is/are correct?

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

Answer: C

Explanation

- The Ministry of Home Affairs has decided to treat **COVID-19 as a notified disaster** for the purpose of providing assistance under the State Disaster Response Fund (SDRF).
- Natural disasters like floods are also similarly notified, but this is the first time for a pandemic, and officials could not recall when the provision was last invoked at a national level for all states.
- The central assistance to states will include setting up of quarantine facilities with temporary provisions for accommodation, food, clothing and medical care, sample collection and screening.
- It will also cover costs of additional government testing labs, consumables for testing and procurement of essential equipments like protection of healthcare, police, fire and municipal personnel.
- In a similar move, the US President has declared a national emergency in the country by invoking the **Stafford Act** under which the federal govt contributes about 75 % to the cost of relief for states.

State Disaster Response Fund

- The SDRF is constituted under the **Disaster Management Act, 2005** and is the primary fund available with state governments for responses to notified disasters. The disasters covered under the SDRF include cyclones, droughts, tsunamis, hailstorms, landslides, avalanches and pest attacks among others.
- A state government may use up to 10% of funds available under SDRF for providing immediate relief to victims of an event considered to be a 'disaster' within local context in the state.

- The Central government contributes 75 per cent towards the SDRF allocation for general category states and UTs, and over 90 per cent for special category states/UTs, which includes north-eastern states, Sikkim, Himachal Pradesh and Uttarakhand).
- On the other hand, the National Disaster Response Fund, which is also constituted under the Disaster Management Act, 2005 supplements the SDRF of a state, in case of a disaster of severe nature, provided adequate funds are not available in the SDRF.

What Is A Disaster?

- According to the Disaster Management Act, a disaster is defined as a calamity, arising from natural or man-made causes, or by accident which results in substantial loss of life, human suffering, damage to property or degradation of environment.
- Also, the nature and magnitude of the event is such that it is beyond the coping capacity of the community of the affected area.
- The High Power Committee on Disaster Management, which was constituted in 1999, identified 31 disaster categories organised into five major sub-groups.
- The sub-groups are water and climate related disasters, geological related disasters, chemical, industrial and nuclear related disasters and biological related disasters, which includes biological disasters and epidemics.

13. Consider the following statements about Organization of Petroleum Exporting Countries (OPEC):

1. **OPEC's mission is to ensure the stabilization of oil markets, in order to secure an efficient, economic and regular supply of petroleum to consumers.**
2. **OPEC is headquartered in Saudi Arabia.**
3. **OPEC+ is an agreement between OPEC and 10 Non-OPEC nations, in order to protect oil prices from a global slowdown.**

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 only

Answer: C

Explanation:

- A three-year pact between OPEC and Russia collapsed recently after Russia refused to support deeper production cuts to support prices hit by the coronavirus outbreak.
- In response, Saudi Arabia, the world's top oil exporter, plans to raise its crude oil production after the current deal to curb production between OPEC and Russia - together known as OPEC+ - expires at the end of March.
- Other OPEC producers, such as Iraq, Kuwait and the United Arab Emirates, will likely follow Saudi Arabia's move with steep cuts to their own oil prices for April.

Earlier Similar Episode

- The current events are similar to an episode in November, 2014, when Saudi Arabia started a price war by obstructing an OPEC plan to cut production and offered discounts to prevent low-cost US shale oil from grabbing market share.
- The shock waves from that move led to a steep reduction in oil prices, with Brent crude prices coming down to \$29.11 per barrel in November, 2016.
- The crash had allowed the India to increase finances by raising excise duty nine times between November 2014 and January 2016 and spend on various social schemes.

Impact on India

- With the global crude oil prices on a downward spiral in the backdrop of coronavirus outbreak, analysts are expecting a steep reduction in the energy markets that will help major consumers such as India manage inflationary and fiscal pressures.
- India is the **world's third-largest oil importer** and the **fourth-largest buyer of LNG** and imports 83% of its oil. Every dollar drop in the price of oil decreases the import bill by Rs10,700 crore on an annualized basis.
- Lower crude prices will help the government's exchequer, when it is facing a revenue shortfall and an increasing fiscal deficit.
- It will reduce the pressure on government finances by reducing subsidy outgo and import bill — the latter also leads to an improvement in balance of payments position.
- Industries that are heavily dependent on crude oil such as aviation, shipping, road and rail transportation are also likely to gain from a sudden drop in crude oil prices.
- It also helps in bringing down cost of living and services, creating ground for putting money into people's pocket by reducing interest rates and an opportunity to revive growth.

OPEC

- It is an intergovernmental organization of **14 nations**, founded in 1960 in Baghdad by the first five members (Iran, Iraq, Kuwait, Saudi Arabia, Venezuela), and headquartered since 1965 in Vienna, Austria.
- The current OPEC members are Algeria, Angola, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, the Republic of the Congo, Saudi Arabia (the de facto leader), the United Arab Emirates and Venezuela. Ecuador, Indonesia and Qatar are former members.
- Its **mission** is to ensure the **stabilization of oil markets**, in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers, and a fair return on capital for those investing in the petroleum industry.
- The formation of OPEC marked a turning point toward national sovereignty over natural resources, and OPEC decisions have come to play a prominent role in the global oil market and international relations.

OPEC+

- OPEC+ is an agreement between OPEC and 10 Non-OPEC nations (notable among them Russia, Mexico and Kazakhstan) in order to protect oil prices from a global slowdown.
- OPEC's 14 members control 35 percent of global oil supplies and 82 percent of proven reserves. With the addition of the 10 Non-OPEC nations, those shares had increased to 55 percent and 90 percent respectively.

- The agreement signed in January 2017 in Vienna, called for the members of the deal to cut production by 1.8 million barrels/day of crude oil from global supplies from the beginning of 2017.
- The principle aim was to help ease the oversupply situation back then and importantly reduce the huge stocks that had been delaying the much-needed rebalancing of the oil market.

About Brent Crude

- Brent Crude is best known of the three benchmark crude oils (the other two are '**West Texas Intermediate**' and '**Dubai**')
- It is a particularly **light crude oil** which is **carried from the North Sea** to the Sullom Voe Terminal on Mainland, Shetland by an underwater pipeline. From there, the crude oil is transported by tanker.
- Brent Crude Oil have **low Sulfur/Sulphur content**. Despite having a higher sulfur content than WTI, it is considered a **sweet crude**.

14. Consider the following statements about Geological Survey of India (GSI):

- 1. GSI is under the Ministry of Earth Sciences.**
- 2. GSI is the oldest Survey organisation in India.**

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:

- In a recent statement, the Geographical Survey of India (GSI) provided estimates for the amount of gold that can be extracted from a site in Sonbhadra district of Uttar Pradesh.
- The probable resource is 52,806 tonnes of ore, with an average grade of 3.03 grams per tonne, which means the total gold that can be extracted is 160 kg.
- It is near a village called Mahuli, around 70 km from Sonbhadra district's headquarters of Roberstganj and the land is mainly forest area, inhabited mostly by tribals and members of backward classes.
- The site is part of the Mahakoshal region that includes parts of UP, Madhya Pradesh and Jharkhand and is known to be potentially mineral-rich.
- This is the reason why the whole Mahakoshal region has been of interest to geologists and they have been studying rocks in the region in search for potential mineral reserves.

Process Of Arriving At The Estimates

- Two basic processes are involved — a study of rocks and drilling of the ground. Laboratory analysis of the rocks indicates the possibility of these containing a particular mineral, in this case gold. Another indicator is the age of the rocks, which is determined by radiometric dating processes.
- For high possibility of containing such metals and minerals, the rocks need to be at least 700 million years old, while there are exceptions. The rocks in the Mahakoshal region are from the Proterozoic era, which started 2,500 million years ago.

- The GSI had drilled the ground at around 30 places, before compiling the report. This eventually provides a three-dimensional image of the area, which is necessary for determining the quality of the resource and the amount available.

Economic Viability Of The Current Site

- The GSI classifies ore into categories based on the viability of extraction, which is determined from density.
- The cost of extraction also depends on the grade of gold; the higher the gold concentration, the easier its extraction.
- The gold ore found in Sonbhadra is in the “economic” category, which means that extraction will cost less than the cost of the gold that is extracted.
- At the same time, GSI officials pointed out that the findings are two decades old and the possible gold present is just 160 kg. They also said that they have thousands of such findings, and this particular report was never a priority.

Future Course

- Once the GSI gives an estimate, the state government conducts an auction and the winner undertakes the extraction.
- Before the e-auctioning, a team of officials from the state mining department and the district administration will conduct a survey of the area and identify the land containing ore, by superimposing GSI’s geological maps on khasra maps from revenue records.

Geological Survey of India

- The Geological Survey of India (GSI), founded in 1851, is an organisation under the Ministry of Mines. It is one of the oldest such organisations in the world and the second oldest survey in India after Survey of India (founded in 1767), for conducting geological surveys and studies of India.
- It is the prime provider of basic earth science information to government, industry and general public, as well as the official participant in steel, coal, metals, cement, power industries and international geoscientific forums.

15. Consider the following statements regarding Agricultural and Processed Food Products Export Development Authority (APEDA):

1. APEDA is a statutory body.
2. APEDA is under the administrative control of Ministry of Commerce and Industry.

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

APEDA has signed an MoU with Small Farmers Agribusiness Consortium (SFAC) to bring in better synergy in their activities.

Areas of Cooperation

- SFAC will share list of all clusters in various states with APEDA for achieving scale and aggregation with export orientation. Further, APEDA and SFAC will jointly work together to link up the Farmer Producer Organisations/Farmer Producer Companies with the exporters.
- It is expected that with this joint collaboration they will be able to reach to a large farmer base for improving the production base of agri products quantitatively and qualitatively.
- They will work together to showcase to the Indian and global market, the products, technologies, processes, knowledge and services by the FPO sector stakeholders through variety of modes as may be identified by them from time to time.
- They will also work towards **capacity development, outreach programs, awareness programs and workshops** of various stakeholders.
- Further, APEDA will facilitate **certification of organic produce/areas** by the FPCs assisted or identified by SFAC.
- They will take-up an **Agri Business Promotion Unit** in the North East and will mentor and handhold the FPOs in North East.

APEDA

- APEDA, is an authority established under an act of parliament and is under the administrative control of **Ministry of Commerce and Industry**.
- It has been mandated with the responsibility of export promotion and development of the scheduled products viz. fruits, vegetables, meat products, poultry products, dairy products etc.
- In addition to this, APEDA has been entrusted with the responsibility to monitor import of sugar.

SFAC

- It is an Autonomous Society promoted by **Ministry of Agriculture, Cooperation and Farmers' Welfare**. It is a pioneer in organising small and marginal farmers as farmers interest groups, FPOs and FPCs for endowing them with bargaining power and economies of scale.
- It provides a platform for increased accessibility and cheaper availability of agricultural inputs to small and marginal farmers and in establishing forward and backward linkages in supply chain management.
- This initiative has triggered mobilization of farmers for aggregation across the country with ultimate aim of sustainable business model and augmented incomes.
- It has also been entrusted with the task of implementation of the critically important Delhi Kisan Mandi and National Agriculture Market Scheme on e-platform to progressively free agricultural trade and offer price discovery to farmers.

16. Consider the following statements about Regional Rural Banks (RRBs)

1. RRBs are owned entirely by the Central government.
2. RRBs perform the function of disbursement of MGNREGA wages.
3. RRBs can have operations in urban areas.

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 only

Answer: B

Explanation:

- The Cabinet Committee on Economic Affairs, chaired by the Prime Minister has given its approval for continuation of the process of recapitalization of Regional Rural Banks (RRBs) by providing minimum regulatory capital to RRBs for another year beyond 2019-20 that is, up to 2020-21.
- It will continue for those RRBs which are unable to maintain minimum Capital to Risk weighted Assets Ratio (CRAR) of 9%, as per the regulatory norms prescribed by the Reserve Bank of India.
- The CCEA also approved utilization of Rs 670 crore as central government share for the scheme of Recapitalization of RRBs (i.e. 50% of the total recapitalization support of Rs 1340 crore).
- This will be subject to the condition that the release of Central Government's share will be contingent upon the release of the proportionate share by the sponsor banks.

Background

- Consequent upon RBI's decision to introduce disclosure norms for Capital to Risk Weighted Assets Ratio (CRAR) of RRBs with effect from 2008, a committee was set up under the Chairmanship of Dr. **K.C. Chakrabarty**.
- Based on the Committee's recommendations, a **Scheme for Recapitalization of RRBs** was approved by the Cabinet in 2011 to provide recapitalization support of Rs 2200 crore to 40 RRBs with an additional amount of Rs 700 crore as contingency fund to meet the requirement of the weak RRBs, particularly in North Eastern and Eastern Region. Therefore, based on the CRAR position of RRBs, as on 31st March of every year, NABARD identifies those RRBs, which require recapitalisation assistance to maintain the mandatory CRAR of 9%.
- Post 2011, the scheme for recapitalization of RRBs was extended upto 2019-20 in a phased manner with a financial support of Rs 2900 crore with 50% central government's share of Rs 1450 crore.
- During this period, Government has also taken various initiatives for making the RRBs economically viable and sustainable institutions.
- With a view to enable RRBs to minimize their overhead expenses, optimize the use of technology, enhance the capital base and area of operation and increase their exposure, the Government has initiated **structural consolidation of RRBs** in three phases, thereby reducing the number of RRBs from *196 in 2005 to the present 45*.

Benefits

- Financially stronger and robust RRBs with improved CRAR will enable them to meet the credit requirement in the rural areas. As per RBI guidelines, the RRBs have to provide **75% of their total credit under Priority Sector Lending**.
- RRBs are primarily catering to the credit and banking requirements of agriculture sector and rural areas with focus on **small and marginal farmers, micro & small enterprises, rural artisans** and weaker sections of the society.

Regional Rural Banks

- RRBs are **Scheduled Commercial Banks (Government Banks)** operating at regional level in different States of India. These banks were formed under the **RRB Act, 1976**, on the

recommendations of *Narshimham Committee Working Group*, with an objective to provide credit and other facilities to small farmers, agricultural labourers and artisans in rural areas.

- As per the law, the **Centre holds 50 % stake** in RRBs, while **35 % and 15 % are with the concerned sponsor banks and state governments**, respectively.
- They have been created with a view of serving primarily the rural areas of India, however, RRBs may have branches set up for urban operations and their area of operation may include **urban areas too**.
- RRBs perform various functions under the following heads:
 - Providing banking facilities to rural and semi-urban areas.
 - Carrying out government operations like disbursement of wages of MGNREGA workers, distribution of pensions etc.
 - Providing Para-Banking facilities like locker facilities, debit and credit cards, mobile banking, internet banking, UPI etc.
 - Small financial banks.

17. Consider the following statements regarding Open Market Operations (OMOs)

- 1. OMOs regulate the money supply in the economy.**
- 2. OMO is the sale and purchase of government securities by the RBI.**

Which of the statements given above is/are correct?

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

Answer: C

Explanation

- The RBI recently bought Rs 10,000 crore bonds through an Open Market Operation. The central bank said it will conduct two more OMOs, of Rs 15,000 crore each, to pump in more liquidity.
- RBI's expressed liquidity operations also help boost the morale as the market gets a signal that the central bank is there to take care of any need, should there be any market disruption because of the coronavirus pandemic.

Open Market Operations

- Open market operation is the sale and purchase of government securities and treasury bills by RBI or the central bank of the country.
- The objective of OMO is to regulate the money supply in the economy. When the RBI wants to increase the money supply in the economy, it purchases the government securities from the market and it sells government securities to suck out liquidity from the system.
- OMO is one of the tools that RBI uses to smoothen the liquidity conditions through the year and minimise its impact on the interest rate and inflation rate levels.
- RBI carries out the OMO through commercial banks and does not directly deal with the public.

18. Consider the following statements about the Additional Tier-1 bonds (AT-1 bonds):

1. AT-1 bonds are secured bonds issued by banks to meet the Basel-III norms.
2. AT-1 bonds have no maturity date.
3. RBI can ask a bank to cancel its outstanding AT-1 bonds without consulting its investors.

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 only

Answer: B

Explanation:

- The Association of Mutual Funds in India (AMFI) has written to the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI) to allow fund houses a temporary write down of additional tier 1 bonds of Yes Bank to avoid a huge hit on the net asset value of schemes that hold such bonds.
- The industry body wrote to the banking regulator after the proposed restructuring scheme of the troubled private sector bank mentioned that such bonds would be permanently written off.
- This assumes significance as many fund houses including, Nippon India Mutual Fund, Kotak Mutual Fund and Franklin Templeton Mutual Fund, among others, stand to lose thousands of crores if the additional tier 1 bonds are completely written off.

Additional tier 1 bonds

- AT-1, short for Additional Tier-1 bonds, are a type of unsecured, perpetual bonds, with no maturity date, that banks issue to shore up their core capital base to meet the Basel-III norms.
- After a string of banks failed in the global financial crisis, central banks got together and decided to formulate new rules (called the Basel-III norms) that would make them maintain stronger balance sheets.
- In India, one of the key new rules brought in was that banks must maintain capital at a minimum ratio of 11.5 per cent of their risk-weighted loans. Of this, 9.5 per cent needs to be in Tier-1 capital and 2 per cent in Tier-2.
- Tier-1 capital refers to equity and other forms of permanent capital that stays with the bank, as deposits and loans flow in and out.
- AT-1 bonds typically do have a call option after five years and hence if the central bank allows a temporary write down, the fund houses may still be able to stem the potential losses if the valuation of the bank improves after restructuring.
- Further, banks are not obliged to use this call option and can opt to pay only interest on these bonds for eternity.
- If the RBI feels that a bank needs to be rescued, it can simply ask the bank to cancel its outstanding AT-1 bonds without consulting its investors. This is what has happened to YES Bank's AT-1 bondholders who are said to have invested ₹10,800 crore.

19. Consider the following statements about Cess:

1. Cess can only be levied on an indirect tax.
2. Cess is charged over and above existing taxes.

Which of the statements given above is/are correct?

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

Answer: B

Explanation

- The union government has asked all states to dip into the Construction Cess fund to give financial and allied benefits to the construction workers through direct benefit transfer (DBT).
- The central advice comes as Covid outbreak spreads and the country is facing an unprecedented lockdown hampering livelihood of millions of informal workers.
- The International Labour Organisation (ILO) has predicted that 25 million jobs could be lost worldwide due to the coronavirus pandemic, but an internationally coordinated policy response can help lower the impact on global unemployment.
- The **Building and Other Construction Workers Welfare Cess, 1996**, provides for levy and collection of cess at a rate not exceeding 2 %, but not less than 1 % of the cost of construction as the central government may notify.
- The cess at the rate is collected by states and union territories, and is utilised for the welfare of building and other construction workers by the State Building and Other Construction Workers Welfare Boards constituted under the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996.
- At present 35 million workers are registered under the Construction Welfare Boards and around Rs 52,000 crore of corpus are there with all fund collected and managed by the state governments.

Cess

- Cess is different from taxes such as income tax, GST, and excise duty etc as it is charged over and above the existing taxes. A cess is usually imposed additionally when the state or the central government looks to raise funds for **specific purposes**.
- For example, the government levies an education cess to generate additional revenue for funding primary, secondary, and higher education. Cess is not a permanent source of revenue for the government, and it is discontinued when the purpose levying it is fulfilled. It can be levied on both **indirect and direct taxes**.
- If the cess collected in a particular year goes unspent, it cannot be allocated for other purposes. The amount gets carried over to the next year and can only be used for the cause it was meant for.
- The procedure for introducing cess is comparatively simpler than getting the provisions done for introducing taxes, which usually means a change in the law. Cess is also easier to modify and abolish.

20. Consider the following statements about the Government Securities (G-Secs):

1. G Secs are issued by both Central government as well as State governments.
2. G Secs with a maturity of less than a year are called Dated Securities.

3. G Secs carry no risk of a default.

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 only

Answer: C

Explanation:

- In line with the Budget announcement, the RBI has opened certain specified categories of G-secs for non-resident investors as part of an initiative to deepen the bond market.
- Accordingly, a separate route namely, **Fully Accessible Route (FAR)** for investment by non-residents in securities issued by the GoI has been notified. This scheme shall operate along with the two existing routes, viz, the medium-term framework (**MTF**) and the voluntary retention route (**VRR**).
- These special securities will attract no foreign portfolio investor (FPI) limits until maturity and are the first step towards Indian G-Secs being listed on global bond indices as the Centre looks to attract access cheap liquidity in the overseas markets.
- FPIs, non-resident Indians (NRIs), overseas citizens of India (OCIs) and other entities permitted to invest in government securities under the debt regulations can invest under this route. Moreover, these securities will continue to be eligible for investment by residents.
- Specified securities, once so designated, shall remain eligible for investment under the FAR until maturity. In addition, all new issuances of government securities of 5-year, 10-year and 30-year tenors from the financial year 2020-21 will be eligible for investment under the FAR as specified securities.
- This will substantially ease access of non-residents to Indian government securities markets and facilitate inclusion in global bond indices. Further, it would also facilitate inflow of stable foreign investment in government bonds.

Government Security (G-Sec)

- A government security (G-Sec) is a tradeable instrument issued by the **central government or state governments** and acknowledges the government's debt obligations.
- Such securities are short term — called **treasury bills** — with original maturities of less than one year, or long term — called **government bonds or dated securities** — with original maturity of one year or more.
- In India, the **central govt issues both: treasury bills and bonds or dated securities, while state govts issue only bonds or dated securities**, which are called the state development loans.
- Since they are issued by the government, they carry **no risk of default**, and hence, are called risk-free gilt-edged instruments.
- Major players in the G-Secs market include commercial banks and primary dealers (PDs) besides institutional investors like insurance companies. Other participants include co-operative banks, regional rural banks, mutual funds, provident and pension funds.
- FPIs are allowed to participate in the G-Secs market within the quantitative limits prescribed from time to time, while, corporates also buy or sell G-Secs to manage their overall portfolio.

21. Consider the following statements regarding Mission Innovation (MI)

1. Its objective is to make clean energy widely affordable.
2. European Union is represented by the European Commission at this initiative.
3. India is not a member of this global initiative.

Which of the above statements is/are Correct?

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

Answer: D

Explanation

A. India-European Union to Work Together on Integrated Local Energy Systems

- India & European Union has decided to work together on Integrated Local Energy Systems.
- It was announced at **India Smart Utility Week 2020**.

Importance Of This Collaboration:

- This partnership between Indian and European Union will help in Clean Energy and Climate.
- It will also **strengthen cooperation** in energy research and innovation, mainly in **renewable energy** and its **integration in the energy system**.
- This flagship call is fully in line with both the European Union's and India's involvement in Mission Innovation (MI).

B. India-Sweden Collaborative Industrial Research & Development Programme

- It was announced at India Smart Utilities Week.
- Jointly funded by - Indian Department of Science & Technology (DST) and Swedish Energy Agency.
- It will bring together world class expertise of Sweden and India to address **challenges in the area of Smart Grids**.
- It will help to transform the clean energy sector into a **secure, adaptive, sustainable and digitally enabled ecosystem** and provide reliable and quality energy for all.

Sweden-India Science and Innovation Partnership

- High-level visits from both sides have further boosted interest in bilateral collaboration between the two countries.
- The **first ever India-Sweden High Level Dialogue on Innovation Policy** was held in New Delhi during the state visit of their Majesties the King and Queen of Sweden to India in **December 2019**.

Steps Taken by India to Promote Smart Grids:

- During the last five years DST has set up **3 major international smart grids networked virtual centers** and partnered with 24 countries for smart grids research, development and innovation.
- As **co-lead of Mission Innovation Smart Grids innovation challenge**, DST has supported 9 MI projects envisaging partnership of 17 Indian and 20 Foreign Institutions across 9 countries.
- DST has already made an investment of 60 million US \$ in Smart Grids.

About Mission Innovation (MI)

- MI is a global initiative of **24 countries and the European Commission** (on behalf of the European Union) working to reinvigorate and accelerate global clean energy innovation with the **objective to make clean energy widely affordable**.
- MI was **announced at COP21** on November 30, 2015, as world leaders came together in Paris to commit to ambitious efforts to combat climate change.
- **India along with China and United States** are few countries which are member of this initiative.

22. Which of the following country has been confirmed as the first co-chair of the Governing Council of India-led global Coalition for Disaster Resilient Infrastructure (CDRI)?

- a) USA
- b) UK
- c) Russia
- d) China

Answer: B

Explanation

- The **UK** has been confirmed as the first co-chair of the Governing Council of India-led global Coalition for Disaster Resilient Infrastructure (CDRI).
- The Governing Council is the **highest policy-making** body of the CDRI. It is **co-chaired by India** and a **representative of another national government** nominated by **rotation every two years**.

About CDRI

- CDRI was established by Indian Prime Minister Modi at the UN Climate Action Summit 2019 held in New York City, USA, on September 23, 2019.
- It is a **voluntary international grouping**, linking governments, UN agencies, banks, private sector groups, and academia to develop the resilience of infrastructure systems to climate and disaster risks.
- CDRI envisions **enabling a measurable reduction** in infrastructure losses from disasters, including extreme climate events.
- It will serve as a platform where knowledge is generated and exchanged on different aspects of disaster and climate resilience of infrastructure.

23. Consider the following international organizations:

1. **International Bank for Refinance and Development (IBRD)**
2. **International Development Association (IDA)**
3. **Multilateral Investment Guarantee Agency (MIGA)**
4. **International Centre for Settlement of Investment Disputes (ICSID)**

Which of the above institutions is/are part of World Bank Group?

- a) 1, 2, 3 and 4
- b) 1 and 2 Only

- c) 2 and 3 Only
- d) 2, 3 and 3 Only

Answer: D

Explanation

The World Bank has announced an **initial \$12 billion in immediate funds** to assist countries grappling with the health and economic impacts of the coronavirus outbreak.

Key Highlights

- The support package will make available **initial crisis resources of up to \$12 billion** in financing — \$8 billion of which is new — on a fast track basis.
- This comprises up to \$2.7 billion new financing **from IBRD**; \$1.3 billion **from IDA**, complemented by reprioritization of \$2 billion of the Bank's existing portfolio; and \$6 billion **from IFC**, including \$2 billion from existing trade facilities.
- It will also include policy advice and technical assistance drawing on global expertise and country-level knowledge.
- The package will help developing countries **strengthen health infrastructure, including better access to services to safeguard people from the epidemic.**
- It will help strengthen disease surveillance, bolster interventions, and work with the private sector to reduce the impact on economies.

About World Bank Group:

The World Bank Group is an extended family of five international organizations:

- International Bank for **Reconstruction** and Development (IBRD)
- International Development Association (IDA)
- International Finance Corporation (IFC)
- Multilateral Investment Guarantee Agency (MIGA)
- International Centre for Settlement of Investment Disputes (ICSID)

24. Consider the following Countries surrounding the Baltic sea:

1. Denmark
2. Sweden
3. Finland
4. Russia

Proceeding clockwise from the west, the correct sequence representing countries bounding the Baltic Sea is

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

Answer: A

Explanation

- A study has highlighted that **Grey Seal Pups** might face a **tough winter** in Baltic Sea due to **declining ice** in the region.
- **Grey seals need ice** - which helps them keep a distance from predators like wolves or foxes - in order to breed pups during the winter.
- Without it, they have been forced onto islets they would not normally inhabit.
- It causes overcrowding, disrupting the breeding season and reducing the survival rate of newborns.

Grey Seal

- Categorized as - "**Least Concern**" under IUCN Red List.
- Around 3,000 seal pups are born each year on the Baltic Sea coast.

Baltic Sea (Please refer the map)

- It is an **arm of North Atlantic Ocean**, extending northward from the latitude of southern Denmark almost to the Arctic Circle and separating the Scandinavian Peninsula from rest of continental Europe.
- Proceeding clockwise from the west, the countries bounding the Baltic are Denmark, Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Poland, and Germany.
- **Baltic states are Latvia, Estonia and Lithuania.**

25. Consider the following statements regarding G7 (or Group of Seven):

1. **This group was created to exchange ideas on possible solutions to a global economic crisis.**
2. **Canada, France, Germany, Italy and Russia are few prominent members of this grouping.**

Which of the above statements is/are incorrect?

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

Answer: B

Explanation

- President Donald Trump has **anceled in-person meeting** of leaders from the Group of Seven nations, as the world fights the spread of the coronavirus. Now, the summit will be **conducted by video conference**.
- The meeting was set to take place in **June at Camp David**.

About G7

- The G7 (or Group of Seven) is an organisation made up of the world's seven largest so-called advanced economies: **Canada, France, Germany, Italy, Japan, UK and the United States**.
- The group regards itself as "**a community of values**", with freedom and human rights, democracy and the rule of law, and prosperity and sustainable development as its key principles.

- The initial **group of six first met in 1975** "to exchange ideas on possible solutions" to a global economic crisis. Canada joined the following year.
- **Russia** joined the group, which then became known as the G8, in 1998 **but was suspended in 2014** after it annexed Crimea from Ukraine.

Challenges Faced By The G7

- Internally the **G7 has had a number of disagreements**, most recently when **President Trump clashed** with other members over **taxes on imports** and action on climate change at last year's summit in Canada.
- It **fails to reflect** the **current state** of global politics or economics.
- No members from Africa, Latin America or the southern hemisphere.
- Fast growing economies like Brazil and India, which are member of G20, are not members of the G7.

26. Which of the following country has become the first country in the world to offer free public transport?

- a) **Canada**
- b) **Estonia**
- c) **Belgium**
- d) **Luxembourg**

Answer: D

Explanation

- **Luxembourg** has become the **first country** in the world to **offer free public transport**.
- This step has been taken in order to help workers who are less well off and reduce road traffic. Luxembourg City, the capital of the small Grand Duchy, suffers from some of the worst traffic congestion in the world.
- It will ensure better quality of mobility while addressing the environmental issues.

27. Operation Namaste has been launched by

- a) **Indian Airforce**
- b) **Indian Navy**
- c) **Union Government**
- d) **Indian Army**

Answer: D

Explanation

- **Indian army** has launched "**Operation Namaste**".
- It has been launched in order to **insulate the 1.3 million strong force** from coronavirus infection and extend all possible assistance to the government in containing the pandemic.

Key Highlights

- Soldiers, who do not have any operational role, have been advised to follow the lockdown and stay fit. Soldiers have been assured that their families will be taken care of.
- Leave extension to on leave and curtailment of leave to bare minimum for others have been imposed.
- Segregation facilities have been built for those who have joined the forces after their leave.

Need For This Initiative

- Social distancing is not a privilege available to the forces owing to operational and strategic limitations.
- Be it those seated in an ambush or the tank crew, it becomes inevitable for the men in uniform to be close to each other. Hence it is important that the soldiers take care of their health.

28. The Border Roads Organisation (BRO) works under the administrative control of

- a) Ministry of Defence
- b) Ministry of Home Affairs
- c) Ministry of Road Transport and Highways
- d) PMO

Answer: A

Explanation

- Under **Project Arunank**, the BRO personnel are working continuously to completely *replace Daporijo bridge*. The bridge is the only line of communication to 451 villages located in the China border.
- The bridge is located over **Subansiri River** and is the only lifeline of Upper Subansiri district, Arunachal Pradesh. Subansiri river is the **largest tributary of Brahmaputra river** and runs in the states of Assam and Arunachal Pradesh.
- An important bridge connecting North Sikkim with the rest of the country was opened by BRO for traffic. It is a 360-feet-long **bailey suspension bridge over Teesta River** in Munshithang near Chungthang town.
- The construction of the bridge commenced in October 2019 under the **Project Swastik**.

About BRO

- BRO develops and maintains road networks in India's **border areas and friendly neighboring countries**. In peace time, they develop & maintain the Operational Road Infrastructure of General Staff in the Border Areas and contribute to the socio-economic development of the border states.
- Officers from the Border Roads Engineering Service (BRES) and personnel from the General Reserve Engineer Force (GREF) form the parent cadre of the Border Roads Organisation.
- The BRO consists of **Border Roads Wing under the Ministry of Defence** and the General Reserve Engineer Force (GREF).

29. Consider the following areas:

1. Whole of Arunachal Pradesh
2. Whole of Himachal Pradesh
3. Parts of Rajasthan
4. Parts of Uttarakhand

Which of the above area(s) is/are covered by the Protected Area Permit (PAP) regime ?

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

Answer: B

Explanation

The Arunachal Pradesh govt has decided to **temporarily suspend issuing PAP to foreigners** to check the spread of coronavirus. Earlier, Sikkim had announced similar curbs on visit of foreigners.

About Protected Area Permits

- The Foreign (Protected Areas) Order 1958 requires foreigners to obtain PAP to visit certain areas in India. Even Indian citizens who are not residents of those areas require an Inner Line Permit (**ILP**) to enter these places.
- Currently, Protected Areas are located in the following States - Whole of Arunachal Pradesh, **Parts** of Himachal Pradesh, Ladakh, Parts of Rajasthan, Whole of Sikkim (partly in Protected Area and partly in Restricted Area), and Parts of Uttarakhand
- Earlier, **Manipur, Mizoram and Nagaland were also under the PAP regime**. As per MHA's December 2010 circular, Manipur, Mizoram and Nagaland were excluded from protected area regime initially for a period of one year from January 2011, subject to some conditions.

30. Consider the following statements regarding Sir Creek:

1. **The Creek opens up in the Arabian Sea and roughly divides the Gujarat from the Sindh Province of Pakistan**
2. **Sir Creek lies in the Rann of Kutch marshlands of Rajasthan.**

Which of the above statements is/are Incorrect?

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

Answer: B

Explanation

- **Third edition** of WION Global Summit was held in Dubai. The Global Summit is a platform for global leaders to engage in dialogue on a common global agenda.
- At this summit, the Pakistani representative recalled **Sir Creek Pact**.
- Theme - **Navigating and Negotiating Global Imperatives**
- WION is **India's first international news channel** dedicated to putting forth India's perspective on impactful global issues.

About Sir Creek

- Sir Creek is a 96-km strip of water disputed between **India and Pakistan in the Rann of Kutch marshlands**. Originally named **Ban Ganga**, Sir Creek is named after a British representative.
- The Creek opens up in the Arabian Sea and roughly divides the **Kutch region of Gujarat from the Sindh Province of Pakistan**.

[For detailed discussion on Sir Creek issue, please refer the Topic “**India – Pakistan**” from the yellow book of International Relation]

31. Animal Protection Index 2020 has been created by

- a) **World Bank (WB)**
- b) **World Health Organisation (WHO)**
- c) **People for the Ethical Treatment of Animals (PETA)**
- d) **World Animal Protection**

Answer: D

Explanation

- The global Animal Protection Index 2020 has been created by international animal welfare charity, *World Animal Protection*.
- The index aims to showcase the area where countries are doing well, and where they fall short on animal welfare policy and legislation. The index ranks **countries from A** (being the highest score) to **G** (being the weakest score), according to their policy and legislation.
- India is one of the better performing countries in the index. It has attained a **C ranking in the index**, along with countries like **New Zealand, Mexico, France, and Spain**.
- The countries that performed weakly included **Iran, Morocco, Algeria and Belarus**.
- **Sweden, the United Kingdom, and Austria** are rated with the highest scores, which is encouraging.

Issues Related to Animal Welfare in India: As Highlighted by the Index

- Animals used in **scientific research are exempt from cruelty** considerations in the Prevention of Animal Cruelty Act 1960.
- There is a **lack of regulations** regarding the rearing of farm animals. **Unregulated urban dairy systems** are developing quickly with very poor welfare standards.
- Cows are considered to be sacred in India but **millions of cows and buffaloes continue to suffer** in cruel conditions every day in dairies.
- Poor animal welfare practices in the trade and farming of wild animals and livestock provides the perfect breeding ground for viruses to mutate and spread.

32. Consider the following statements regarding Indian Ocean Commission (IOC)

1. **The IOC is an intergovernmental African regional institution**
2. **India has become a member of this commission recently.**
3. **China and European Union are the observers of this commission.**

Which of the above statement is/are Correct?

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

Answer: C

Explanation

- India has joined as an **observer of the Indian Ocean Commission**. By becoming observer, India ensured its seat at the table that handles **maritime governance in the Western Indian Ocean**. This, in turn, will bolster the **Indo-Pacific vision** of India.
- India's entry is a consequence of its deepening strategic partnership with France as well as its expanding ties with the Vanilla Islands.

About the Indian Ocean Commission

- IOC was created in 1982 as an African regional intergovernmental institution.
- It was **institutionalized in 1984 by the Victoria Agreement** in Seychelles.
- **Member Countries** - Comoros, Reunion Island (France), Madagascar, Mauritius, and the Seychelles.
- **Observers** - China, EU, Malta and International Organisation of La Francophonie (OIF) and India (recently added)
- The main objective of the Indian Ocean Commission is to support the **sustainable growth** in the **Western Indian Ocean** Islands through the **regional integration**.
- The key **activity areas** of the Indian Ocean Commission (IOC) are:
 - Regional Trade and Tourism Promotion
 - Environmental protection
 - Cultural heritage encouragement

Significance for India

A. Important African Regional Institution –

- This commission is an **important regional institution in the Western Indian Ocean**.
- It facilitates **collective engagement** with the islands in Western Indian Ocean that are becoming strategically significant.

B. Strategic Significance

- The Western Indian Ocean is a **strategic sub-theatre of the Indian Ocean** linking the **Southeastern coast of Africa to the wider Indian Ocean** and beyond.
- It is **home to one of the key chokepoints** in the Indian Ocean- the Mozambique Channel.
- While the channel **lost its significance** post the opening of the Suez Canal, the **recent hostilities near the Strait of Hormuz** brought the channel back into focus as the original route for bigger commercial vessels (especially for oil tankers).

C. Cooperation With France –

- It boosts **cooperation with France** that has strong presence in the Western Indian Ocean and lends **depth to India's SAGAR policy of India**.

- The move also **strengthens western flank of the Indo-Pacific** and is a stepping stone to **security cooperation with East Africa**.

D. Security

- The growing importance of **Africa in Indo-Pacific engagements** combined with **potential natural gas reserves in the Mozambique Channel** will only continue to raise the significance of this region in wider maritime security.
- The Indian Navy has begun to **strengthen its presence** in this region under its mission-based deployments.
- Engagements with the region, especially with the islands- **given their geo-strategic location**- could become key in **supporting Indian naval presence** as well as furthering Delhi's Indian Ocean engagement.

33. Consider the following cultural sites in India:

1. **Dholavira: A Harappan City**
2. **Jaipur City, Rajasthan**
3. **Monuments and Forts of Deccan Sultanate**
4. **Victorian Gothic and Art Deco Ensembles of Mumbai**

Which of the above sites are inscribed on the UNESCO's World Heritage List?

- a) **1 and 2 Only**
- b) **2 and 3 Only**
- c) **2 and 4 Only**
- d) **3 and 4 Only**

Answer: C

Explanation

Government of India has nominated two to be included in the World Heritage Sites List for the year 2020. These are - Dholavira; a Harappan City and Monuments and Forts of Deccan Sultanate.

About Dholavira:

- An archaeological site, located in Kutch Desert Wildlife Sanctuary, Gujarat.
- It is older than Lothal, and is known for its water conservation system which had massive water storage reservoirs.

Deccan Sultanate Monuments and Forts:

- Representative of Indo-Islamic architecture and greatly influenced by the Mughal architecture.
- Mainly consists of 4 major places. These are:
 - Bidar
 - Fort Bijapur Monuments- Second largest dome in the world constructed before modern age.
 - Golconda Fort- Famous for its water management
 - Gulbarga fort - Capital of the Bahamani Sultanate

34. The parent organisation of Indian Council for Cultural Relations (ICCR) is

- a) The Ministry of Culture
- b) The Ministry of External Affairs
- c) The Ministry of Human Resource Development
- d) None of the above

Answer: D

Explanation

ICCR Launches Global Painting Competition on Coronavirus

- ICCR has decided to launch a global painting competition titled "**United against CORONA- Express through Art.**"
- This competition is open to all amateur and professional artists from India and the world over in all age categories.

About ICCR:

- The Indian Council for Cultural Relations (ICCR) was founded in 1950 by Maulana Abul Kalam Azad, independent India's first Education Minister.
- It is an **autonomous organisation under the Government of India.**
- Its objectives are to actively participate in the formulation and implementation of policies and programmes pertaining to India's external cultural relations; to foster and strengthen cultural relations and mutual understanding between India and other countries; to promote cultural exchanges with other countries and people, and to develop relations with nations.
- The ICCR Headquarters are situated in Azad Bhavan, New Delhi.

35. The Abel Prize 2020 has been awarded to

- a) Hillel Furstenberg
- b) Gregory Margulis
- c) Both A and B
- d) Neither A Nor B

Answer: C

Explanation

- The Abel Prize for the year 2020 has been given to the two great mathematicians **Hillel Frustenberg and Gregory Margulis.**
- They have been given this award for pioneering the use of **methods from probability and dynamics in group theory, number theory and combinatorics.**

Abel Prize

- The Abel prize, named after Niels Henrik Abel, a Norwegian mathematician, is set up more like the Nobels.
- Since 2003 it has been given **annually to highlight important advances in mathematics.**

- The prize is awarded by the Norwegian Academy of Science and Letters, which has appointed an Abel Committee consisting of five mathematicians to review the nominated candidates and submit a recommendation for a worthy Abel laureate.

36. Which of the following Indian Mountaineer has entered Limca Book of Records?

- a) Satyarup Siddhanta
- b) Bachendri Pal
- c) Santosh Yadav
- d) Malavath Poora

Answer: A

Explanation

- **Satyarup Siddhanta** has been nominated for the coveted Limca Book of World Records for his extraordinary achievement to be the **first Indian to climb the highest volcanoes of each of the 7 continents**.
- He climbed the **highest volcano of Antarctica - Mt Sidley** to complete his 7 summits and Volcanic 7 summits.
- He also holds a **world record for being the youngest in the world** to summit the highest mountains (7 Summits) of each continent, including the Mt. Everest in Nepal.
- His **Seven volcanic summits** are: Ojos del Salado (6,893 m) - Chile - South America, Mt Kilimanjaro (5,895 m) - Tanzania - Africa, Mount Elbrus (5,642 m) - Russia - Europe, Mount Pico de Orizaba (5,636 m) - Mexico - North America, Mt Damavand (5,610 m) - Iran - Asia, Mt Giluwe (4,368 m) - Papua New Guinea - Australia and Mt Sidley (4,285 m) - Antarctica.

37. Consider the following statements:

1. **MACS 4028 is a variety of rice.**
2. **Biofortification improves nutritional quality of crops during the plant growth phase.**

Which of the statements given above is/are correct?

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

Answer: B

Explanation

- Scientists from an autonomous institute under the Department of Science & Technology in Pune have developed a biofortified wheat variety MACS 4028, which shows high protein content.
- The wheat variety developed shows high protein content of about 14.7%, better nutritional quality having zinc 40.3 ppm, and iron content of 40.3ppm and 46.1ppm respectively, good milling quality and overall acceptability.

MACS 4028

- MACS 4028, is a semi-dwarf variety, which matures in 102 days and has shown the superior and stable yielding ability of 19.3 quintals per hectare. It is resistant to stem rust, leaf rust, foliar aphids, root aphids, and brown wheat mite.
- It is also included by the Krishi Vigyan Kendra (KVK) programme for United Nations Children's Fund (UNICEF) to alleviate malnutrition in a sustainable way
- It has also been notified by the Central Sub-Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops (CVRC) for timely sown, rainfed condition of Peninsular Zone, comprising Maharashtra and Karnataka.

Biofortification

- Fortification is the practice of deliberately increasing the content of an essential micronutrient, i.e. vitamins and minerals (including trace elements) in a food, so as to improve the nutritional quality of the food supply and provide a public health benefit with minimal risk to health.
- Biofortification is the process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology.
- Biofortification differs from conventional fortification as it aims to increase nutrient levels in crops during plant growth rather than through manual means during processing of the crops.
- Biofortification thus presents a way to reach populations where supplementation and conventional fortification activities may be difficult to implement.

38. Consider the following statements about Sahyadri Megha:

1. Sahyadri Megha is a variety of paddy.
2. Sahyadri Megha is resistant to blast disease.

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

- As part of its initiative to prevent decline in the area under paddy cultivation, the University of Agricultural and Horticultural Sciences (UAHS), Shivamogga, Karnataka has developed 'Sahyadri Megha', a new red variety of paddy that is **resistant to blast disease** and **rich in nutrients**.
- As the Jyothi variety, widely cultivated in the command areas of the Bhadra and the Tunga reservoirs, had become vulnerable to blast disease and other infestations, there was a demand for a new paddy variety that is resistant to the infestations.
- Another objective of developing the new variety was to cater to the strong demand for **red rice**, rich in fibre and protein, by health-savvy consumers in urban areas.

- The new variety has been approved by the State-level Seed Sub-Committee and will be available for farmers from the coming kharif season. It will also be notified under the Indian Seed Act 1966 shortly, after which it will become part of the seed chain.

Sahyadri Megha

- Sahyadri Megha is developed under the hybridization breeding method by cross-breeding the best among the '**Jyothi**' variety with that of '**Akkalu**', a native disease-resistant and protein-rich paddy variety.
- The protein content in Sahyadri Megha is 12.48%, higher than the other red rice varieties grown. Also the yield per hectare from it is around 65 quintals, substantially higher than other red paddy varieties.
- As the new variety can be harvested after 120 days of sowing, it is a medium-term paddy that can be grown when there is a delay in the onset of monsoon. Moreover, as the variety is disease-resistant, the cultivation cost will also be low.

39. Consider the following statements regarding RaiDer-X

1. RaiDer-X can detect up to 20 explosives from a stand-off distance of two meters.
2. It has been developed by the Ministry of Home Affairs to combat terrorism.

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: A

Explanation:

- A new explosive detection device, RaiDer-X, was unveiled at the National Workshop on Explosive Detection (NWED-2020) in Pune (Maharashtra).
- It has been co-developed by **High Energy Materials Research Laboratory** (HEMRL), Pune and Indian Institute of Science(IISc), Bangalore.
- RaiDer-X can detect up to 20 explosives from a stand-off distance of two meters.
- It has various applications including narcotics, for local police, for customs and other detection agencies who need to detect various elements which may be explosive or non-explosive in nature.
- A data library can be built in the system to expand its capability which helps to detect a number of explosives in pure form as well as with the contaminants.
- **High Energy Materials Research Laboratory** is a premier laboratory of Defence Research and Development Organisation(DRDO).

40. With reference to Yuva Vigyani Karyakram (YuViKa), consider the following statements:

1. YuViKa is a special programme for School Children, launched by the Ministry of Science and Technology.
2. The Program is primarily aimed at imparting basic knowledge on Space Technology, Space Science and Space Applications to the younger ones.

Which of the statements given above is/are correct?

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

Answer: B

Explanation:

- ISRO has shortlisted 358 high school students from across the country to be part of its second annual ‘catch them young’ programme, **YuViKa**.
- YuViKa is a **special programme for School Children**, launched by **ISRO**.
- It is in tune with the Government’s vision “**Jai Vigyan, Jai Anusandhan**”.
- The Program is primarily aimed at imparting basic knowledge on **Space Technology, Space Science** and **Space Applications** to the younger ones with the intent of arousing their interest in the emerging areas of Space activities.
- **Participation:**
 - a) **3 students from each State/ Union Territory** will be selected to participate in this program. **5 additional seats are reserved for OCI candidates** across the country.
 - b) The students are selected based on their **performance in the 8th Standard** (covering CBSE, ICSE and State syllabus)
- Programmes like YUVIKA might produce **a good number of scientists** in the coming years and would lead to **scientific development** and **nation building**.

41. The first supercomputer assembled indigenously is known as

- a. **Param Shivay**
- b. **Param Shakti**
- c. **Param Yuva**
- d. **Param Ishan**

Answer: A

Explanation

The first supercomputer assembled indigenously, called **Param Shivay**, was installed in IIT (BHU) and was inaugurated by the Prime Minister.

National Supercomputing Mission

- The Mission, approved in 2016, envisages empowering our national academic and R&D institutions spread over the country by installing a vast supercomputing grid comprising more than 70 high-performance computing facilities.
- These supercomputers will also be networked on National Supercomputing grid over the National Knowledge Network (NKN). The NKN is another programme of the government which connects academic institutions and R&D labs over a high speed network.

- The Mission also includes development of highly professional High-Performance Computing (HPC) aware human resource for meeting challenges of development of these applications.
- The Mission would be implemented by Department of Science and Technology (Ministry of Science and Technology) & Ministry of Electronics and Information Technology (MeitY), through Centre for Development of Advanced Computing (C-DAC), Pune & Indian Institute of Science (IISc), Bengaluru.
- Currently there are four supercomputers from India in the Top 500 list of supercomputers in the world.

42. On which of the following disease Hydroxychloroquine and Chloroquine are prescribed?

- a) Tuberculosis
- b) Malaria
- c) Kala Azar
- d) Dengu

Answer: B

Explanation:

- Hydroxychloroquine and chloroquine are oral prescription drugs that have been used for treatment of malaria and certain inflammatory conditions.
- Malaria, caused by a plasmodium **parasite**, is a mosquito-borne infectious disease that affects humans and other animals.
- Chloroquine was derived from **quinine**, isolated from the cinchona tree barks by French chemists in 1820 for treating fevers.
- Hydroxychloroquine is a **less toxic form of chloroquine** and is used for the treatment of malaria- specifically the type that is **sensitive to chloroquine**.
- It is also used for treatment of **lupus, rheumatoid arthritis and porphyria cutanea tarda**.

43. Consider the following statements regarding Tejas aircraft

1. Tejas is a light combat and multi-role supersonic fighter aircraft.
2. It is manufactured by Hindustan Aeronautics Limited (HAL) in cooperation with Russian Air Force.
3. The Tejas is the first supersonic fighter developed by Hindustan Aeronautics Limited (HAL)

Which of the above statements is/are correct?

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

Answer: A

Explanation:

- Recently, the **Defence Acquisition Council (DAC)** has approved procurement of 83 of the more advanced Mk1A version of the **Tejas aircraft**. The proposal will now be placed for consideration of the **Cabinet Committee on Security (CCS)**.

- The procurement will be a major boost to **'Make in India'** as the aircraft is indigenously designed, developed and manufactured.
- The Defence Acquisition Council also accorded approval for acquisition of indigenous Defence equipment for about Rs 1,300 crore.

Tejas

- Tejas is the **Light Combat Aircraft, indigenously-designed by Aircraft Development Agency (ADA)** under the Defence Research and Development Organisation (DRDO) and **manufactured by Hindustan Aeronautics Limited (HAL)**.
- It came from the **Light Combat Aircraft (LCA) programme**, which began in the 1980s to replace India's ageing **MiG-21 fighters**. In 2003, the LCA was officially named "Tejas".
- Tejas is a single engine, light weight, highly agile, multi-role supersonic fighter.
- It is designed to carry a range of air-to-air, air-to-surface, precision-guided and standoff weaponry.
- Tejas is the **second supersonic fighter (Mach 1.8)** developed by Hindustan Aeronautics Limited (HAL) after the HAL **HF-24 Marut**.

Defence Acquisition Council

- It is the highest decision-making body in the Defence Ministry.
- It was formed, after the Group of Ministers recommendations on 'Reforming the National Security System', in 2001, post Kargil War (1999).
- The **Minister of Defence** is the Chairman of the Council.
- It takes decisions on new policies and capital acquisitions for the three services (Army, Navy and Air Force) and the Indian Coast Guard.
- It accords **Acceptance Of Necessity (AON)** to begin acquisition proposals, and has to grant its approval to all major deals through all their important phases.
- It also has the **power to approve any deviations in an acquisition**, and **recommends all big capital defence purchases** for approval of the **Cabinet Committee on Security (CCS)** headed by the Prime Minister.

44. Consider the following statements regarding Sodium Hypochlorite:

1. Sodium Hypochlorite is used as a bleaching agent.
2. Sodium Hypochlorite is used to treat wounds like cuts.

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, in Bareilly - Uttar Pradesh migrant workers travelling to their home states, were sprayed with a disinfectant, apparently to sanitise them.

- The chemical in the spray was a sodium hypochlorite solution. This chemical is also being used in Gujarat, Maharashtra and Punjab, for disinfecting buildings and solid surfaces in a bid to wash away any presence of novel coronavirus.

Sodium Hypochlorite

- Sodium hypochlorite is commonly used as a bleaching agent used for a variety of cleaning and disinfecting purposes and is also used to sanitise swimming pools.
- It releases chlorine, which is a disinfectant. The concentration of the chemical in the solution varies according to the purpose it is meant for and large quantities of chlorine can be harmful.
- A normal household bleach usually is a 2-10% sodium hypochlorite solution. At a much lower 0.25-0.5%, this chemical is used to treat skin wounds like cuts or scrapes. An even weaker solution (0.05%) is sometimes used as a handwash.
- In Delhi, officials have said a 1% sodium hypochlorite solution was used in the spray applied on migrant workers' belongings. The concentration in other places, including those used on buildings or vehicles, is not very clear.
- Sodium hypochlorite is corrosive, and is meant largely to clean hard surfaces. It is not recommended to be used on human beings, certainly not as a spray or shower. A 1% solution can cause damage to the skin of anyone who comes in contact with it. If it gets inside the body, it can cause serious harm to lungs. Even a 0.05% solution could be very harmful for the eyes. Hence, in swimming pools, the quantity of sodium hypochlorite is very low, so that it does not harm the skin.
- According to public health experts, the chemical being sprayed on buildings could be harmful to people living inside the building and they have appealed to civic authorities to put an end to this fumigation.

Sodium Hypochlorite's Impact On Coronavirus

- The World Health Organization, and the US Centers for Disease Control and Prevention, recommend homemade bleach solutions of about 2-10% concentration to clean hard surfaces to clear them of any presence of the novel coronavirus.
- A Michigan State University tutorial says that cleaning hard surfaces with this solution can disinfect them not just from novel coronavirus but also help prevent flu, food borne illnesses, and more. However, the bleach should be used in a well-ventilated area and gloves should be worn when handling the product or solution.

45. Consider the following statements regarding various constituents of Blood

1. Plasma is the largest component of blood and consists mainly of water.
2. Red blood cells are responsible for carrying oxygen.
3. Platelets are responsible for blood clotting.

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

- Recently in America a hospital took blood from a patient who had recovered from COVID-19 two weeks ago, and infused it into another critically ill patient. The hospital's blood bank now plans to collect blood from at least 250 recovered COVID-19 patients.
- With no specific treatment available for novel coronavirus disease and a vaccine at least a year away, the US Food and Drug Administration (FDA) has approved use of blood plasma from recovered patients to treat severely critical COVID-19 patients.

Convalescent Plasma Therapy

- The said mode of treatment is called the convalescent plasma therapy. It seeks to make use of the antibodies developed in the recovered patient against the coronavirus.
- The whole blood or plasma from such people is taken, and the plasma is then injected in critically ill patients so that the antibodies are transferred and boost their fight against the virus.
- According to a study in The Lancet Infectious Diseases a COVID-19 patient usually develops primary immunity against the virus in 10-14 days. Therefore, if the plasma is injected at an early stage, it can possibly help fight the virus and prevent severe illness, however, it is not yet clear till what extent will it be successful.

Past Incidents Of Convalescent Plasma Therapy

- The United States used plasma of recovered patients to treat patients of Spanish flu (1918-1920) and Hong Kong used it to treat SARS patients in 2005.
- In 2009, H1N1 patients were also treated with plasma and a study in Oxford University found that convalescent plasma reduced respiratory tract viral load and mortality in H1N1 patients.
- In 2014, the World Health Organization released guidelines to treat Ebola patients with convalescent whole blood and plasma and Democratic Republic of Congo and Guinea eventually did so. More recently, plasma was also used for treating MERS patients as well.

The Process

- The process to infuse plasma in a patient can be completed quickly. It only requires standard blood collection practices, and extraction of plasma.
- If whole blood is donated (350-450 ml), a blood fractionation process is used to separate the plasma. Otherwise, a special machine called aphaeresis machine can be used to extract the plasma directly from the donor.
- While blood is extracted from the donor, the aphaeresis machine separates and extracts the plasma using a plasma kit, and the remaining blood components are returned into the donor's body.
- WHO guidelines in 2014 mandate a donor's permission before extracting plasma. Further, plasma from only recovered patients must be taken, and donation must be done from people not infected with HIV, hepatitis, syphilis, or any infectious disease.
- If plasma needs to be collected again from the same person, it must be done after 12 weeks of the first donation for males and 16 weeks for females.

Status In India

- India has facilities for removing 500 ml of plasma from a donor using aphaeresis.
- For this experimental therapy to be tried out, the Drug Controller General of India will first have to grant blood banks approval for removal of plasma from recovered COVID-19 patients.

Constituents of Blood

- Blood, by definition, is a fluid that moves through the vessels of a circulatory system. In humans, it includes plasma (the liquid portion), blood cells (which come in both red and white varieties), and cell fragments called platelets.
- Plasma is the largest component of blood (around 55%) and consists mostly of water (over 90%), with proteins, ions, nutrients, and wastes mixed in.
- Red blood cells are responsible for carrying oxygen and carbon dioxide.
- Platelets are responsible for blood clotting.
- White blood cells are part of the immune system and function in immune response.

46. Consider the following statements:

1. **Anosmia is the loss of smell.**
2. **Ageusia is the loss of hearing.**

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

- Anosmia, the loss of sense of smell, and ageusia, an accompanying diminished sense of taste, have emerged as peculiar telltale signs of COVID-19 and possible markers of infection.
- British physicians cited reports from other countries indicating that significant numbers of coronavirus patients experienced anosmia, saying that in South Korea, where testing has been widespread, 30% of 2,000 patients who tested positive experienced anosmia as their major presenting symptom (these were mild cases).
- In the areas of Italy most heavily affected by the virus, doctors say they have concluded that loss of taste and smell is an indication that a person who otherwise seems healthy is in fact carrying the virus and may be spreading it to others.

Anosmia

- Also known as **smell blindness**, anosmia is the partial or complete loss of the sense of smell. This loss may be temporary or permanent. Common conditions that irritate the nose's lining, such as allergies or a cold, can lead to temporary anosmia.
- More serious conditions that affect the brain or nerves or head trauma, can cause permanent loss of smell. Old age also causes anosmia sometimes.
- Anosmia is frequently caused by a swelling or blockage in the nose that prevents odours from getting to the top of the nose.

Ageusia

- Ageusia is the loss of taste functions of the tongue. True ageusia is relatively rare compared to hypogeusia – a partial loss of taste – and dysgeusia – a distortion or alteration of taste.

- The main causes of taste disorders are head trauma, infections of upper respiratory tract and exposure to toxic substances and medicines.

47. Consider the following statements about Polymerase Chain Reaction (PCR) test:

1. PCR test is used in H1N1 virus detection.
2. The PCR test uses a technique that creates copies of a segment of DNA.
3. The invention of PCR technique was awarded the Nobel Prize for Medicine.

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 only

Answer: A

Explanation:

Viral infections are mainly identified by two kinds of tests— genetic and serological. Genetic tests can identify infections that are active, but cannot be used to detect past infections.

RT-PCR tests (Genetic tests)

- As per ICMR, designated labs are using the conventional real-time polymerase chain reaction (PCR) test, which is conducted on swab collected from the back of the throat, a liquid sample from the lower respiratory tract, or a simple saliva sample.
- Kary Mullis, the American biochemist who invented the PCR technique, was awarded the Nobel Prize for Chemistry in 1993. Such tests are commonly used in Influenza A, Influenza B and H1N1 virus detection.
- The PCR test uses a technique that creates copies of a segment of DNA. 'Polymerase' refers to the enzymes that make the copies of DNA. The 'chain reaction' is how the DNA fragments are copied, exponentially — one is copied into two, the two are copied into four, and so on.
- However, SARS-COV-2 is a virus made of RNA, which needs to be converted into DNA. For this, the technique includes a process called reverse transcription. A 'reverse transcriptase' enzyme converts the RNA into DNA and copies of the DNA are then made and amplified.
- The PCR mix contains 'reagents' such as 'primers' and 'probes'. Primers are particular strands of DNA that are designed to bind with the DNA that is to be copied.
- While probes are used to detect the specific sequence in the DNA sample. The fluorescent DNA binding dye called the probe shows the presence of the virus and the test also distinguishes SARS-COV-2 from other viruses.

Antibody tests (Serological tests)

- The new testing plan also includes substantial number of rapid antibody-based blood tests as part of containment strategy in high-risk areas and hotspots. This mainly includes clusters and large migrations, gatherings or evacuee's centres.
- To trace how infections like the novel coronavirus have spread so far, it is important to detect people who contracted the disease in the past and have recovered. This is what serological tests seek to determine.

- Unlike genetic tests, which look for RNA in swab samples, serological tests work on antibodies in blood samples. Hence, they are also called antibody tests.
- Antibodies, or protective proteins produced by the immune system to neutralise pathogens such as bacteria and viruses, are present in one's bloodstream for a considerable period of time after the infection has gone.
- To disable a pathogen, the antibody latches to a unique protein molecule on pathogen's surface, called an antigen. Serological tests use antigen molecules to detect the presence of antibodies relevant to the infection.
- Generally, a blood sample is placed in a test tube that is lined with antigens on the inside. If the relevant antibodies are present, they latch on to the antigens. Such tests are relatively inexpensive, and can display results within a few minutes.
- It is important to note, however, that the PCR test is capable of identifying infection at an earlier stage. Only after the antibodies have developed, which takes several days, can the serological test come in. And even for serological tests, the positives will have to go through the PCR filter.
- Conventional RT-PCR test is a direct evidence but antibody test can only indicate the presence of the virus, therefore, it is indirect evidence.

Testing Strategy in India

- Experts have criticised India's testing strategy and raised concerns about the sample size of testing being too little to rule out community transmission. However, the government has maintained that testing had to be process driven and could not merely be a "confidence building exercise".
- The health ministry has maintained that it is framing its testing strategy in response to the developing situation, keeping in mind the need to test those who require to be scanned and to ensure wasteful testing does not clog the system.
- After focusing on foreign travellers and their contacts who showed symptoms, testing was widened to include all serious patients who reported flu-like illnesses.
- The increase in suspected cases due to the migration of workers, Tablighi Jamaat outbreak and the need to keep an eye on clusters has seen the government expand its testing coverage significantly.

48. Consider the following statements about the Huntington Disease:

- 1. Huntington disease is a genetic disease.**
- 2. Huntington disease affects the brain.**
- 3. There is no cure for Huntington disease at present.**

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 only**

Answer: D

Explanation:

Scientists from National Centre for Cell Science (NCCS) in Pune have gained insights into the Huntington disease by studying the HTT gene in fruit flies.

Huntington Disease

- Huntington disease (HD) is a progressive genetic disorder affecting the brain that causes uncontrolled movements, impaired coordination of balance and movement, a decline in cognitive abilities, difficulty in concentrating and memory lapses, mood swings and personality changes.
- It is an autosomal dominant genetic disorder, which means that even if one parent carries the defective Huntington's gene, their offspring has a 50:50 chance of inheriting the disease.
- Every individual with the gene for the disease will eventually develop the disease and there is no treatment or cure for Huntington's at present.
- It is caused by a mutation in a gene called HTT. The HTT genes are involved in the production of a protein called huntingtin. They provide the instruction for making the protein.
- When the genes mutate, they provide faulty instructions leading to production of abnormal huntingtin proteins and these form into clumps. The clumps disrupt the normal functioning of the brain cells, which eventually leads to death of neurons in the brain, resulting in Huntington disease.

Findings Of The Study

- While it is known that the clumps formed by the abnormal huntingtin protein disrupt several cellular processes, it is not known whether they also influence the key process in the formation of other proteins in the cell.
- Scientist from NCCS have observed that the pathogenic Huntingtin protein causes a decrease in the overall protein production in cells and that the Huntingtin clumps collect together (sequester) molecules of another protein called Orb2, which is involved in the process of protein formation.
- In humans, a family of proteins called CPEB is equivalent to the Orb2 protein in fruit flies. The scientists conducted further studies and found that CPEB proteins are also sequestered by the pathogenic Huntingtin clumps, similar to the Orb2 protein molecules.
- This suggests that the insights gained through the studies carried out by this group in fruit flies are relevant to and valuable in understanding Huntington Disease in humans. The findings are expected to pave the way for further exploration to understand this disease better.

49. In which one of the following States is Ghodazari Wildlife Sanctuary located?

- a) Assam
- b) West Bengal
- c) Maharashtra
- d) Arunachal Pradesh

Answer: C

Explanation

- A dam proposed on the river Human (pronounced Hooman) at Tadoba Andhari Tiger Reserve (TATR), Maharashtra's largest reserve for the wild cat, threatens to **submerge more than 90 % of a 7-km forest area**. The project not only falls in TATR buffer zone, but also **the eco-sensitive zone of Ghodazari Wildlife Sanctuary** situated close by.
- It will **break the only linking corridor for tiger movement** between TATR, Ghodazari and Umred-Karhandla wildlife sanctuaries in the state.

- **Maharashtra** Government approved Ghodazari in Chandrapur district as a new wildlife sanctuary in 2018. The new sanctuary will include about 159 sq km area of **Bramhapuri forest**. The area is home to **10 to 15 tigers and 23 leopards**.

50. Consider the following statement about Long-tailed macaques

1. **Long-tailed macaques are the only old World monkeys who use stone tools in their daily foraging.**
2. **It is listed as Vulnerable in the IUCN Red List of Threatened Species.**

Which of the statements given above is/are correct?

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

Answer: C

Explanation:

- In recent times, there has been a lot of interest among primatologists in studying object handling and tool-use in non-human primates such as apes and chimpanzees.
- A study from IISER Mohali has looked into **how long-tailed macaques (*Macaca fascicularis umbrosus*) in Greater Nicobar Island handle objects** and use tools to simplify their efforts.
- The researchers observed interesting behaviour related to **object manipulation and tool use in six behavioural contexts** involving eight different types of objects. They also saw that **males were more frequently involved in tool use than females**.
- Though the long-tailed macaques are further from humans in relatedness than chimpanzees or apes, this study could offer a perspective on evolutionary origins of tool use behaviour.

About Long-tailed macaques

- Long-tailed macaques are the only Old World monkeys who use stone tools in their daily foraging.
- This behaviour is mainly observed in **populations that live along the ocean shores of southern Thailand and Myanmar** where long-tailed macaques use tools primarily to prey on shellfish, including oysters, crabs and mussels
- **It is listed as Vulnerable** in the IUCN Red List of Threatened Species

51. Consider the following statements about Cartagena Protocol on Bio-safety

1. **It aims to ensure the safe handling, transport and use of living modified organisms (LMOs)**
2. **It is legally non-binding.**

Which of the statements given above is/are correct?

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

Answer: A

Explanation:

- Most of the countries are signatory to the Cartagena Protocol on Bio-safety which has well defined mechanism for **regulation of Genetically Modified (GM) crops** including bio-safety evaluation and environmental release.
- The acceptance of GM crops has increased at global level and area under GM crops increased from 1.7 Million hectare in 1996 to 191.7 Million hectares in 2018.

About Cartagena Protocol on Biosafety

- The Cartagena Protocol on Biosafety to the **Convention on Biological Diversity (CBD)** is an international agreement which aims to ensure the **safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology** that may have adverse effects on biological diversity, taking also into account risks to human health.
- It was adopted on 29 January 2000 and entered into force on 11 September 2003. Protocol was finalized and **adopted in Montreal, Canada** by unanimous consent with 135 countries present.
- It is a **legally binding protocol to the Convention on Biological Diversity (CBD)**.
- **It does not cover:**
 - Products derived from LMOs (e.g. paper from GM trees)
 - LMOs, which are pharmaceuticals for humans that are addressed by other relevant international agreements or organizations

What Does The Biosafety Protocol Do

- It creates an **advanced informed agreement (AIA)** procedure that requires exporters to seek consent from importing countries before the first shipment of LMOs meant to be introduced into the environment (e.g. seeds for planting, fish for release, and microorganisms for bioremediation)
- It establishes an **internet-based “Biosafety Clearing-House”** to help countries exchange scientific, technical, environmental and legal information about LMOs.

52. Consider the following statements about Yakshagana:

1. Yakshagana is a traditional Indian theatre form.
2. Yakshagana was developed in the state of Madhya Pradesh.
3. Yakshagana is strongly influenced by the Bhakti Movement.

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 only

Answer: C

Explanation:

- More than 900 Yakshagana scripts, including the ones printed in 1905 and 1907, have now been digitised and made available online for free, due to the voluntary community effort under Yakshavahini, a registered trust.

- Yakshagana is a traditional Indian theatre form, developed in Dakshina Kannada, Udupi, Uttara Kannada, Shimoga and western parts of Chikmagalur districts, in the state of Karnataka and in Kasaragod district in Kerala.
- It combines dance, music, dialogue, costume, make-up, and stage techniques with a unique style and form. It is believed to have evolved from pre-classical music and theatre during the period of the Bhakti movement.
- It is traditionally presented from dusk to dawn and its stories are drawn from Ramayana, Mahabharata, Bhagavata and other epics from both Hindu and Jain and other ancient Indic traditions.
- Yakshagana is synonymous with massive headgears, elaborate facial make-up and vibrant costumes and ornaments.
- Usually recited in Kannada, it is also performed in Malayalam as well as Tulu (the dialect of south Karnataka), with percussion instruments like chenda, maddalam, jagatta or chengila (cymbals) and chakratala or elathalam (small cymbals) acting as the accompanying orchestra.

53. With reference to Biological Weapons Convention, consider the following statements:

- 1. Biological Weapons Convention (BWC) is the first multilateral disarmament treaty to ban an entire category of weapons of mass destruction.**
- 2. Though agreeing in principle, India has not signed the convention.**

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

- **March 26** marked the **45th anniversary** of the entry into force of the **Biological Weapons Convention**.
- Biological Weapons Convention (BWC) is the **first multilateral disarmament** treaty to ban an entire category of weapons of mass destruction.
- The BWC prohibits countries that have signed the treaty from **developing, producing, stockpiling, acquiring, or retaining biological agents** or toxins of types and in quantities that have no justification for protective, defensive, or other peaceful purposes.
- The treaty also **bans any equipment or means of delivery that is designed to use biological agents** or toxins for hostile purposes or armed conflict.
- It requires signatories **to destroy biological weapons, agents, and production facilities within nine months of the treaty's entry into force**.
- It was opened for signature in 1972 and entered into force on 26 March 1975.
- India signed the convention in 1973 and ratified it in 1974.
- India reiterated its call for putting in place a **comprehensive and legally binding protocol** having a non-discriminatory verification mechanism to strengthen norms to deal with biological weapons ahead of the 9th Review Conference of the Convention in 2021.

Right Of An Accused To Be Defended

- Last month, the Karnataka High Court observed that it is **unethical and illegal for lawyers to pass resolutions against representing accused in court.**
- This was after local bar associations had objected to four students arrested for sedition being defended in court.

Constitutional Provisions For The Right Of An Accused To Be Defended

- **Article 22(1)** gives the fundamental right to every person not to be denied the right to be defended by a legal practitioner of his or her choice.
- **Article 14** provides for **equality before the law and equal protection of the laws** within the territory of India.
- **Article 39A**, part of the Directive Principles of state policy, states that **equal opportunity to secure justice** must not be denied to any citizen by reason of economic or other disabilities, and provides for free legal aid.

Supreme Court's View About Such Resolutions By Bar Associations

- In 2010, a Supreme Court dealt with **the illegality of such resolutions (A S Mohammed Rafi vs State of Tamil Nadu)**. The 2010 case arose from a confrontation between a lawyer and policemen in Coimbatore in 2006, after which lawyers passed a resolution to **not allow any lawyer to represent the police personnel**. The Madras High Court ruled this “**unprofessional**”, after which it was challenged in the Apex Court by lawyers.
- The Supreme Court cited **historical examples of accused being defended** — revolutionaries against British rule; alleged assailants of Mahatma Gandhi and Indira Gandhi; Nazi war criminals at the Nuremberg trials.
- SC rules that such resolutions were “**against all norms of the Constitution, the statute and professional ethics**”, called these “**a disgrace to the legal community**”, and declared them null and void.
- Every person, however wicked, depraved, vile, degenerate, perverted, loathsome, execrable, vicious or repulsive he may be regarded by society has a right to be defended in a court of law and correspondingly, it is the **duty of the lawyer to defend him**.

Past Resolutions By Bar Associations To ‘Not To Defend An Accused’

- After the 2008 terror attack in Mumbai, a **resolution was passed against representing Ajmal Kasab**. A Legal Aid lawyer was assigned the brief but he refused, while another who agreed to defend Kasab faced threats. Subsequently, a lawyer was appointed and given police security.
- **After 2012 gangrape in Delhi**, lawyers in Saket court passed a resolution not to defend the accused.
- In 2019, in Hyderabad, the Bar Association passed a resolution against representing four men who had been arrested for the rape and murder of a veterinary doctor, and who were later killed in an alleged encounter

Actions Against Such Resolutions

- A writ petition was filed in the Uttarakhand High Court after the Kotdwar Bar Association passed a resolution stating that anyone who represented the accused in the murder case of an advocate would have their membership of the Bar terminated.

- The court held the **resolution null and void**. It directed the State Bar Council to **initiate action against office-bearers of the Bar Association** if such resolutions were passed in the future.
- It also said that action under **Section 15(2) of the Contempt of Courts Act, 1971**, can be considered against advocates who interrupt court proceedings.

Professional Ethics of lawyers

- The Bar Council of India has Rules on Professional Standards, part of the **Standards of Professional Conduct and Etiquette** to be followed by lawyers under the **Advocates Act**.
- An advocate is **bound to accept any brief in the courts or tribunals**, at a fee consistent with his standing at the Bar and the nature of the case.
- The Rules provide for a lawyer **refusing to accept a particular brief in “special circumstances”**. Last year, The Uttarakhand High Court clarified that these special circumstances refer to an individual advocate who may choose not to appear in a particular case, but who **cannot be prohibited from defending an accused by any threat of removal of his membership of the bar association**.

National Interlinking of Rivers Authority (NIRA)

- The Central government is working on the establishment of **National Interlinking of Rivers Authority (NIRA)**, an exclusive body to implement projects for linking rivers.
- The proposed body is expected to **take up both inter-State and intra-State projects**. It will also make arrangements for generating up funds, internally and externally.
- Once approved, the projects will be pursued as national projects, wherein the Centre will absorb 90% of the cost and the States concerned the rest.

About National River Linking Project

- It aims to connect various **surplus rivers with deficient rivers**. The idea is to divert excess water from surplus regions to deficient regions to help improve irrigation, increase water for drinking and industrial use, and mitigate drought and floods to an extent.
- As of now, **six ILR projects** — the Ken-Betwa, Damanganga- Pinjal, Par-Tapi-Narmada, Manas-Sankosh-Teesta-Ganga, Mahanadi-Godavari and Godavari-Cauvery (Grand Anicut) — have been under examination of the authorities. With regard to the peninsular rivers, the Centre has chosen to focus on the Godavari-Cauvery link than the earlier proposal to link the Mahanadi-Godavari-Krishna-Pennar-Cauvery rivers.

Scope of the Project

The National River Interlinking Project will **comprise of 30 links to connect 37 rivers across the nation** through a network of nearly 3000 storage dams to form a gigantic South Asian Water Grid. It includes two components:

1. **Himalayan Rivers Development Component** under which 14 links have been identified. This component aims to construct storage reservoirs on the Ganga and Brahmaputra rivers, as well as their tributaries in India and Nepal. The aim is to **conserve monsoon flows for irrigation and hydropower generation**, along with flood control.
2. **Peninsular Rivers Development Component** or the Southern Water Grid, which includes 16 links that propose to connect the rivers of South India. It envisages **linking the Mahanadi and Godavari to feed the Krishna, Pennar, Cauvery, and Vaigai rivers**. This linkage will require several large dams and major canals to be constructed

Proposed Benefits Of The Project

- **Hydropower generation:** The river interlinking project claims to generate total power of 34,000 MW (34 GW). Out of this, 4,000 MW will come from the peninsular component while 30,000 MW from the Himalayan component.
- **Irrigation benefits:** The project claims to provide additional irrigation to 35 million hectares (m ha) in the water-scarce western and peninsular regions, which includes 25 m ha through surface irrigation and 10 m ha through groundwater.
- **Other benefits:** This will further **create employment, boost crop outputs and farm incomes** and multiply benefits through backward (farm equipment and input supplies) and forward linkages (agro-processing industries). Along with this the project is expected to create several benefits for **navigation and fisheries**.

Challenges Associated With River-Interlinking

- **Biodiversity:** The ecology of every river being unique, experts have stressed that letting the waters of two rivers mix may **affect biodiversity**.
- **Displacement:** Because the programme proposes construction of a **massive network of canals and dams**, it would lead to **large-scale displacement of people** and changes in agricultural patterns, and affect livelihoods.
- **Financial reasons.** In 2001, the total cost for linking the Himalayan and peninsular rivers was estimated at **Rs 5,60,000 crore**, excluding the costs of relief and rehabilitation, and other expenses such as measures to deal with submergence in some areas. Two years ago, a committee of the Ministry suggested that this cost was likely to be substantially higher now and the cost-benefit ratio might no longer be favourable.
- **Rainfall patterns** are changing due to climate change, so the basins now supposed to be surplus, might cease to be so in a few years.
- **Implementation:** Numerous drinking water-supply schemes, irrigation schemes, and other water management projects have been commissioned across the country. However, the efficiency of these projects are suspect, for reasons ranging from **corruption, incomplete works, infrastructure disrepair, shoddy construction, and poor planning**. For example, a study by the Ministry of Urban Development & Poverty estimates that 30-50% of water supplied to cities are lost through leakages in the distribution system.

The impacts of individual Inter-Linking of River project on the human lives, environment, landmass, etc., are should be suitably addressed through the Environment Impact and Socio-economic impact Assessment studies. Negotiation and consensus among concerned States; clearance from appraisal agencies including clearance by Ministry of Environment & Forests and Climate Change (MoEF & CC) and Ministry of Tribal Affairs; techno-economic clearance by Advisory Committee on Irrigation, Flood Control & Multipurpose Projects etc. should be done for the effective implementation of the project.

National Water Development Agency (NWDA)

- The National Water Development Agency (NWDA), was setup in 1982 as an Autonomous Society under the societies registration act 1860.
- It was established to carry out the water balance and other studies on a scientific and realistic basis for optimum utilization of water resources of the Peninsular river system.

- In the year 1990, NWDA was also entrusted with the task of Himalayan Component of National Perspective Plan (NPP), prepared by Central Water Commission and the then Ministry of Irrigation, now Ministry of Jal Shakti.
- In 2006, it was decided that NWDA will explore the feasibility of Intra-States links and to take up the work for preparation of Detailed Project Report (DPR) of river link proposals under the NPP.
- In 2016, NWDA was given the responsibility to undertake implementation of ILR projects and completion of water resources projects under Pradhan Mantri Krishi Sinchai Yojana (PMKSY).

Central Water Commission

- Central Water Commission is a premier technical organization in the field of water resources and is presently functioning as an attached office of the Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation.
- Its mission is to promote integrated and sustainable development and management of India's water resources by using state of the art technology and competency and by coordinating all stakeholders.
- The Commission is entrusted with the responsibilities of control, conservation and utilization of water resources throughout the country, for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development.

7 MPs Suspended From Lok Sabha By The Speaker

Invoking Rule 374A, the Speaker **suspended** seven Congress members **for unruly behaviour in the Lok Sabha**. They remain suspended for the remainder of the Budget Session. The motion was passed by a voice vote.

Rules of Procedure and Conduct of Business

- The general principle is that it is the **role and duty of the Speaker of Lok Sabha to maintain order** so that the House can function smoothly.
- According to Rule 373 of the **Rules of Procedure and Conduct of Business**: "The Speaker, if is of the opinion that the conduct of any Member is grossly disorderly, **may direct such Member to withdraw immediately from the House**, and any Member so ordered to withdraw shall do so forthwith and shall remain absent during the remainder of the day's sitting.
- To deal with **more recalcitrant Members**, the Speaker may take recourse to **Rules 374 and 374A**.
- **Rule 374**: The Speaker may *name a Member* who disregards the authority of the Chair or abuses the rules of the House. If a Member is so named by the Speaker, the Speaker shall, on a *motion* being made forthwith put the question that the Member be **suspended from the service of the House for a period not exceeding the remainder of the session**. Provided that the House may, at any time, on a motion being made, resolve that such suspension be terminated.
- **Rule 374A**: A Member who disregards the authority of the Chair or abuses the rules of the House shall, on being named by the Speaker, **stand automatically suspended** from the service of the House for *five consecutive sittings* or the remainder of the session, whichever is less: Provided that the House may, at any time, on a motion being made, resolve that such suspension be terminated.
- While the Speaker is empowered to place a Member under suspension, the **authority for revocation of this order is not vested in her**. It is for the House, if it so desires, to resolve on a motion to revoke the suspension.
- The **Chairman of Rajya Sabha** enjoys the similar power under **Rule 255**.

States Challenging The CAA, NRC And NPR

- Telangana Assembly has become **the seventh State Legislature to pass resolution against the CAA, NPR, and NRC** after West Bengal, Kerala, Rajasthan, Punjab, Delhi and Bihar.
- They have said that they **will not let the law passed by the parliament of India be implemented in the respective states**. Furthermore, the State of Kerala has also filed a suit in the Supreme Court under **Article 131 of the Constitution of India**

Challenge By The States Under Article 131

- Article 131 of the Constitution of India deals with the **original jurisdiction of the Supreme Court** of India to deal with **disputes between the Government of India and one or more States**.
- Article 131 has two requirements, the first being that the dispute has to be between the Government of India and one or more states and the second that the dispute involves any question (whether of law or fact) on which the existence or extent of a legal right depends.
- In **State of Bihar Vs. Union of India (1969)**, the Supreme Court has held the **dispute cannot involve the idea of a private citizen, a firm or a corporation** figuring as a disputant either alone or even along with a State or with Government of India. In the same case it has also been held that the dispute should not be of **a political character but only involving a legal right**.

Can Centre Invoke Articles 365, 355 & 356 of The Constitution

- As far as the Citizenship Amendment Act is concerned, the Union can conduct that exercise on its own from Delhi because it's related to grant of citizenship. It could ask people to send in their application and then decide on the citizenship under the provisions of the Citizenship Act. However, as far as exercises such as the NRC and NPR are concerned, it will **be difficult to go ahead without the co-operation of the state governments**.
- In light of the above, a debate has arisen if Centre can force this law on the State?
- **The Seventh Schedule** of the Constitution divides the subjects on which the Centre and states can make laws under the Union, State and Concurrent lists. The subject of citizenship, naturalisation and aliens (foreigners) finds mention **exclusively in the Union List** which contains a total of 97 subjects.
- **Article 365** provides that where any State government fails to comply with the directives of the Union, then the President could hold that a situation has arisen in which the government of the State cannot be carried on in accordance with the provision of this Constitution
- Similar is the case with the State Assemblies, passing resolutions to not implement the CAA, NRC and the NPR. And thus, in that scenario Centre can use the provisions of **Article 356**, in conjunction with Article 365 to impose State emergency citing that *the government of the State cannot be carried on in accordance with the provisions of this Constitution*.

Final Words

- The issue of citizenship clearly falls within the domain of the Union government and the State governments challenging the law before the Supreme Court under the guise of a "dispute" can possibly wreck a havoc on the unique federal system as it would leave an extremely dangerous precedent wherein any state government could challenge a law in the Union List and **create a constitutional breakdown leading to a paralysis in governance**.
- The founding fathers of the Constitution had thought of a mechanism to represent the aspirations of States through the Rajya Sabha which is the Council of States. The States who are resenting the Union Law had the forum of the Rajya Sabha to not let the bill become a law through their MPs voting against it. But opposing it through suits will hamper the federal fabric of the country.

- On the other hand, the application of Article 365 and Article 356 in imposing state emergency will also be against the popular sovereignty of the country. So, **Cooperative Federalism** is the need of the hour for the successful functioning of the Union of India and strengthen the spirit of the Constitution of India

Former CJI Took Oath As A Member Of Rajya Sabha

- Former Chief Justice of India **Ranjan Gogoi** took oath as a member of Rajya Sabha, amid uproar in the House. **He is only the second CJI to become a member of the Upper House.** Former CJI Ranganath Misra was nominated to Rajya Sabha by the Congress and served from 1998 to 2004.
- **His nomination to the Upper House by the President** has been marred by **criticism** from the Opposition as well as former Supreme Court judges.

Criticisms Against The Nomination

- Opposition said that the move was one of the most **serious, unprecedented and unpardonable assaults on the basic structure of the Constitution.** With the nomination, government is **“brazenly undermining the independence of the judiciary.”**
- Retd Supreme Court judges questioned and expressed disappointment on the decision, saying the nomination and its acceptance have **“certainly shaken the confidence of the common man”** and **“will raise a lot of doubt about the independence of the judiciary”**
- His tenure as CJI was marred by **allegations of sexual harassment levelled by a Supreme Court woman employee** — he was cleared of the charge by an in-house panel before he demitted office. There are allegations that to get himself clear from these charges, the CJI favored govt through his judgements.
- During his tenure as CJI, he delivered several important verdicts including the **Ayodhya title dispute**, which was **awarded to parties in favour of building a Ram temple** on the site where the Babri Masjid stood before its demolition in December 1992.
- He also presided on a bench that directed and oversaw the **implementation of Assam’s National Register of Citizens (NRC).**
- A bench headed by Gogoi had **declined to order a probe into alleged irregularities in India’s Rafale aircraft deal with France.**

Independence Of The Judiciary

The Constitution of India incorporates several provisions which ensure the independence of the judiciary.

- **Article 50** of the Indian Constitution speaks of the separation of judiciary from the executive.
- **Article 121** says, ‘no discussion shall take place in Parliament with respect to the conduct of any judge of the Supreme Court or of a High Court in the discharge of his duties except upon a motion for presenting an address to the President praying for the removal of the judge.’
- Similarly, once appointed, **the judges’ salary and other allowances cannot be altered to their disadvantage.** In order to maintain the independence of the judiciary, the salary of judges is charged from the consolidated fund, which is independent of budgetary allocations.
- The provisions discussed above were made to **insulate the judiciary from the influence of the legislature or the government.**
- In 1973, the Supreme Court in **Kesavananda Bharati vs. State of Kerala** held ‘independence of judiciary’ as the basic structure of the Constitution.

Way forward:

- The simple solution to resolve the impending crisis is to enact a law for fixing ‘a **period of cooling off**’ before a retired judge could take up any responsibility in the government or any other constitutional posts. The cooling-off period will **minimise the chances of judgments getting influenced** by post-retirement allurements.
- This cooling-off period can be of **six years** and no judge should be appointed before completing this period. The period of **six years is desirable as the government’s tenure is of five years** and after that, it has to face the people to acquire again the power to rule.
- This would ensure that no judge has any expectations from the powers that be. Since the government is the largest litigant, there is always a **possibility that a judge may think of favouring the incumbent government in the hope of getting some post-retirement benefits**.
- The period of six years is long enough to kill any ill-intentioned aspirations of the judge for post-retirement posts.

Quota Within SC Quota

- The Haryana Assembly passed a Bill to split the 20% quota for Scheduled Castes (SCs) in the state’s higher educational institutions into two, creating a quota within the quota for a new group of “**Deprived Scheduled Castes**”. The Deprived Scheduled Castes category has 36 communities including Valmiki, Bazigar, Sansi, Deha, Dhanak, and Sapera.
- The Bill says that **50% of the 20 % seats reserved for Scheduled Castes** for admission in any Govt educational institution shall be set aside for candidates belonging to deprived Scheduled Castes.
- Further if a seat set aside for candidate from deprived Scheduled Caste is **not filled up in any academic year** due to non-availability of candidate of deprived Scheduled Castes possessing the requisite qualifications, the same shall be made available to *candidate of Scheduled Castes*.

Government’s Argument

- The representation of the Scheduled Castes now categorised as “**Deprived Scheduled Castes**” is “**only 4.7%, 4.14% and 6.27% in Group A, Group B and Group C services** respectively, even though their **population is about 11% of the total State population**”.
- Also “the population of other Scheduled Castes in Haryana is also about 11% of the total State population but in respect of representation in Government Services their share is 11%, 11.31% and 11.8% in Group A, B and C, respectively
- Even though the “minimum prescribed educational qualification for majority of the posts of Group A, B & C services... is Graduation, the **SECC (Socio-Economic Caste Census) data** reveals that **in terms of education, only 3.53% population of the Deprived Scheduled Castes is Graduate**, 3.75% of them are Senior Secondary level and 6.63% are Matric/Secondary level. Also 46.75% of them are illiterate”.

Constitutional Provisions

- **Article 15(5)** of the Constitution authorises the State to make special provisions for the advancement of any socially and educationally backward classes of citizens or for SCs/STs for admission to educational institutions.
- However, **Article 15(5) did not mention powers to bifurcate the quota**

Analysis

- A similar bifurcation of scheduled caste quota done by former chief minister Bhajan Lal in 1994. In 2006, the **Punjab and Haryana High Court quashed the 1994 notification**, citing the decision of a five-judge Bench of the Supreme Court in **E V Chinnaiiah vs State Of Andhra Pradesh** (2004).
- In the E V Chinnaiiah case, the Supreme Court held that the castes etc. specified as Scheduled Castes under Article 341 of the Constitution is a **homogeneous group** for the purpose of the Constitution. The **benefits of reservation are available to members of all such castes** which have been specified as Scheduled Caste in relation to a State/Union Territory.
- Hence the new bill is unlikely to withstand legal scrutiny in view of the Supreme Court order in EV Chinnaiiah case of 2004.

Pradhan Mantri Garib Kalyan Yojana

In light of the COVID-19 pandemic, the Finance Minister announced a **relief package under the Pradhan Mantri Garib Kalyan Yojana** for the poor. An amount of Rs 1.7 lakh crore has been allocated for the same.

Key Features Of The Package Under The Scheme:

1. Insurance Scheme For Health Workers

- Safai karamcharis, ward-boys, nurses, ASHA workers, paramedics, technicians, doctors and specialists and other health workers would be covered by a **Special insurance Scheme**.
- Any health professional, who while treating Covid-19 patients, meet with some accident, then he/she would be **compensated with an amount of Rs 50 lakh under the scheme**. Approximately 22 lakh health workers would be provided insurance cover to fight this pandemic.

2. PM Garib Kalyan Ann Yojana

- **80 crore individuals**, i.e, roughly two-thirds of India's population **would be covered under this scheme**. Each one of them would be provided double of their current entitlement over next three months. This additionality would be free of cost.
- **Pulses**: 1 kg per family, would be provided pulses according to regional preferences for next three months. (free of cost)

3. Benefit to Farmers: The first instalment of Rs 2,000 due in 2020-21 will be front-loaded and paid in April 2020 itself under the PM KISAN Yojana. It would cover 8.7 crore farmers

4. Cash Transfers Under PM Garib Kalyan Yojana

- **Help to Poor:** A total of 20.40 crores **PMJDY women account-holders would be given an ex-gratia of Rs 500 per month** for next three months.
- **Gas cylinders:** Gas cylinders, free of cost, would be provided to 8 crore poor families for the next three months.
- **Help to low wage earners in organised sectors:** Wage-earners below Rs 15,000 per month in businesses having less than 100 workers are at risk of losing their employment, government proposes to pay 24 percent of their monthly wages into their PF accounts for next three months.
- **Support for senior citizens (above 60 years), widows and Divyang:** Government will give them Rs 1,000 to tide over difficulties during next three months.
- **MNREGA:** MNREGA wages would be increased by Rs 20 with effect from 1 April, 2020.
- **Self-Help Groups:** Limit of collateral free lending would be increased from Rs 10 to Rs 20 lakhs.

5. Other Components of PM Garib Kalyan package

- **Organised Sector:** Employees' Provident Fund Regulations will be amended to include Pandemic as the reason to **allow non-refundable advance of 75 % of the amount or three months of the wages**, whichever is lower, from their accounts.
- **Building and Other Construction Workers Welfare Fund** has been created under a Central Government Act.
- **District Mineral Fund:** The State Government will be asked to utilise the funds available under DMF for supplementing and augmenting facilities of medical testing, screening as well as treatment and other requirements in connection with preventing the spread of COVID-19 pandemic.

India Data Portal (IDP)

- Indian School of Business (ISB) has developed a one-stop open data portal called **India Data Portal**.
- It is aimed at **collating government data, scattered across multiple sources** for consumption of policymakers, researchers, students and journalists.
- It is a **Bill and Melinda Gates Foundation (BMGF) funded project** to develop a portal to house all public data on agriculture and financial services for the poor.
- In the first phase, the focus is on agriculture data, and in later phases the portal will diversify to include datasets on financial inclusion, rural development etc.

Significance

- Mostly, data is available at different locations generally **in inaccessible formats**, which then requires extra effort in converting them into a format which can be analysed.
- In other cases, even if the data is easily available, **comparing it across geographies becomes a considerable challenge**.
- These issues of unavailability of organised and linked data and inadequate platforms for rapid visualisations are addressed by the IDP.

Difference Between Lock down, Curfew and Section 144

Entire country has been brought to a standstill but different words are being used to describe the situation in different states. So the terminology can get a little confusing. Each state has its own laws and is implementing measures depending on the resources it has.

Lock down

- A lock down can be enforced by a **Collector or Chief Medical Officer** in their particular area under the **Epidemic Diseases Act, 1897**. This gives them the power to **restrict the assembly of 5 or more people in close quarters**. However, **essential services** like hospitals, banks, ATMs, grocery stores, vegetables, and milk shops will still be open.
- **Under a lockdown, the police do not have the power to arrest anyone who is violating the lockdown** without the court's permission. They can issue a warning and advise the people to head home.
- If the person gets adversarial, the police does have the right to arrest them under **Section 269 and 270 of the Indian Penal Code (IPC)**. If someone were to escape from quarantine, the authorities can book him under Section 271 of the IPC.

Section 144

Section 144 of the IPC **restricts the congregation of 5 or more people within a particular area**. Under the law, anyone found in violation will be booked for disobeying a public servant under **Section 188**.

Curfew:

- In Curfew, the **power is with the Collector and the Police Commissioner**.
- In addition to Section 144, **all essential services are also shut down**. Aside from emergency services like hospitals— banks, ATMs, grocery stores, vegetables and milk shops will all be shut.
- **Only administration and police personnel are allowed on the street**. Once the curfew is implemented, the district administration is exempt from action.

Janta Curfew

- ‘Janta curfew’ can also be called as a **self-curfew**. It is a kind of **self-imposed lockdown**. It means that the people in the country **are following the lockdown on their own conscience and will**.
- Going outside the house during the lockdown **will not invite severe penal action**. The intention behind the curfew was to get the people ready for any social distancing procedures if any emergencies come up.

Uttar Pradesh Recovery of Damages to Public and Private Property Ordinance, 2020

Uttar Pradesh government gave its approval to an Ordinance for the recovery of damage to public and private property during protests. The ordinance aimed at dealing with violent acts at public places.

Background

- After anti-CAA protests in the state turned violent in December, the government has been running a **recovery exercise to collect damages to property**. In Lucknow alone, 57 such accused have been sent notices to recover a total of **Rs 1.5 crore**.
- In addition to this, the **government also had put up hoardings of all these accused along with their pictures, names and addresses** at a number of prominent areas in the state capital Lucknow in a bid to name and shame the accused.
- The act of putting up the banners, however, was **questioned by the Allahabad High Court and ordered the government to remove the banners**. The move was challenged by the government in the Supreme Court. The **apex court also refused to put a stay on the HC's order**.

Features Of The Ordinance

- The ordinance makes provisions for the **setting up of ‘claims tribunals’**, one or more, to “investigate the damage caused (during protests) and to award compensation” and to cover “cost of action” taken by police and administration for prevention of damage to public properties.
- **Tribunal will be headed by a retired district judge** appointed by the state government and may include a member who is an officer of the rank of Additional Commissioner.
- Tribunal has the power to **collect compensation ex-parte if required**, that is, **without hearing the individual who is accused of vandalism**. The award of **compensation made by the tribunal will be final and cannot be appealed against before any civil court**.
- The **burden of proving** that one has no “nexus” to a protest is **on the individual**, failing which the individual’s properties will be seized

- While the **liability will be borne by the “actual perpetrators of the crime”, one who “instigates” or “incites” the crime would share the liability** as per the decision of the claims tribunal.
- Criminal proceedings can be conducted parallel to the claims proceedings against the same accused, **it bars any civil court from interfering with any directives of the claims tribunal.**
- The claims petition can be initiated by a circle officer of police based on the FIR of the incident. On receipt of the circle officer’s report, the district magistrate or commissioner of police will take immediate step to file a “claims petition”.

Electoral Reforms

The nine working groups, constituted after the Lok Sabha election and comprising ECI officials and State Chief Electoral Officers, had presented their draft recommendations.

Recommendations

- **Single simplified Form for all services to voters** eg. Registration, change of address, deletion of names etc. At present, citizens and electors use different forms for specific electoral service
- **Expanding the network and Electoral Service Centres (ESCs)/ Voter Facilitation Centres (VFCs)** to streamline Electoral Services to citizens.
- **Door-step electoral services to Persons with Disability (PwDs) and Senior citizens (80+ years).**
- **Online registration of prospective voters at age of 17 years** – registration facilities to be provided in schools and colleges.
- **Preparing Electoral Roll of Graduates’ and Teachers’ Constituency through online platforms** of ERO Net. At present, electoral roll of graduates’ and teachers’ constituency is prepared in the offline mode.
- **Revamping Booth Level Officer (BLO) System** and appointing full time tech-savvy BLOs in a phased manner for services through handheld digital devices.
- **Provision of e-EPIC for voters:** Commission provides Electoral Photo Identity Cards (EPIC) (Voter I-Card) to each voter. In the digital environment it is recommended to have **e-version of this EPIC** for the voters for better mobility.
- **Quarterly /six monthly qualifying date for voter registration** instead of one annual date (1st January) as qualifying date.
- **GIS based Electoral Atlas for mapping of Parliamentary Constituencies, Assembly Constituencies or Polling Stations** for public information.
- **Digital Election Calendar** for information and schedule of Elections to public.
- **New Voting Methods:** Exploring the possibility and feasibility of different voting methods, which are secure, for enhancing electoral participation.

Epidemic Disease Act, 1897

- The Central government decided to invoke a provision of a nearly 125-year-old **Epidemic Disease Act, 1897** to ensure that multiple government advisories on COVID-19 becomes enforceable.
- “It was decided that all States and Union Territories should be advised by the Union Ministry of Health and Family Welfare to invoke provisions of **Section 2 of Epidemic Disease Act, 1897** so that all

advisories being issued from time to time by the Ministry of Health and Family Welfare/State/UTs are enforceable.

- The Epidemic Diseases Act is routinely enforced across the country for dealing with outbreaks of diseases such as **swine flu, dengue, and cholera**.

History of 1897 Epidemic Diseases Act

- The colonial government introduced the Act to tackle the epidemic of **bubonic plague** that had spread in the erstwhile **Bombay Presidency** in the 1890s.
- The law had an objective of preventing the spread of “**dangerous epidemic diseases**” better.
- The Governor-General of colonial India used the act to **confer special powers upon the local authorities** to implement the measures necessary for the **control of this epidemic**.
- Using powers conferred by the Act, **colonies authorities would search suspected plague cases in homes and among passengers**, with forcible segregations, evacuations, and demolitions of infected places.

Provisions of The Act

- In case of any disease outbreak of epidemic proportions, the law **empowers the State to take measures going beyond the scope of the ordinary law** after issuing public notices prescribing such temporary regulations that are to be observed by the public
- Under the law, the state government may prescribe appropriate regulations for the **inspection of persons travelling by railways (or any other transportation)**.
- A subsequent **section (Sec-2A)** allows the government to **inspect any ship leaving or arriving at any port** and detention of any person intending to sail or arriving.
- **Penalty:** Any person disobeying any regulation or order made under this Act shall be deemed to have committed an offence punishable under section 188 of the Indian Penal Code (Disobedience to order duly promulgated by public servant)
- **Protection to persons acting under Act:** No suit or other legal proceeding shall lie against any person for anything done or in good faith intended to be done under this Act.

Criticisms Against The Act

- Historians described the law as “one of the **most draconian pieces of sanitary legislation** ever adopted in colonial India”.
- The law that has **enormous potential for abuse:** In 1897, the year the law was enforced, freedom fighter **Bal Gangadhar Tilak was punished with 18 months’ rigorous imprisonment** after his newspapers **Kesari and Mahratta** admonished imperial authorities for their handling of the plague epidemic.

Examples Of Implementation

- In 2018, the district collector of **Gujarat’s** Vadodara issued a notification under the Act declaring the Khedkarmsiya village as **cholera-affected**.
- In 2015, the Act was implemented to deal with **malaria and dengue in Chandigarh**.
- In 2009, Section 2 powers were used to tackle the **swine flu outbreak in Pune**.

Freedom In the World 2020 Report

Highlights Of The Report

- Freedom in the World 2020 report ranks **India among least free democracies**. It ranks India at the **83rd position**, along with Timor-Leste and Senegal. This is near the bottom of the pile among the countries categorised as “Free”, with only Tunisia receiving a lower score.
- India scored **34 out of 40 points in the political rights category**, but only **37 out of 60 in the civil liberties category**, for a total score of 71, a drop from last year’s score of 75.
- The **annulment of autonomy and the subsequent shutdown of Kashmir, the NRC and the Citizenship (Amendment) Act**, as well as the **crackdown on mass protests** have been listed as the main signs of declining freedom.
- The report noted that India has long been seen as a **democratic counterweight to China** and hence a strategic partner for the United States in the region. However, that view is changing, **with India attracting criticism similar to that levied against China**.
- The report **slammed the internet blackout in Kashmir, terming it the longest shutdown ever imposed by a democracy**. It said **freedom of expression was under threat** in India, with journalists, academics and others facing harassment and intimidation when addressing politically sensitive topics.
- The report treats “Indian Kashmir” as a separate territory, which saw its total score drop precipitously from 49 to 28 this year, **moving it from a status of “Partly Free” to “Not Free”**.

The Freedom House report said that India showed a deteriorating trend when it came to personal autonomy

| Year | Political rights | Civil Liberties | Total Score |
|------|------------------|-----------------|-------------|
| 2017 | 35/40 | 42/60 | 77/100 |
| 2018 | 35/40 | 42/60 | 77/100 |
| 2019 | 35/40 | 40/60 | 75/100 |
| 2020 | 34/40 | 37/60 | 71/100 |

Top five countries in the free category:
Finland, Norway, Sweden, Netherlands, Luxembourg

Bottom five countries in the free category:
Botswana, Peru, India, Timor-Leste, Tunisia

About Freedom In The World 2020 Report

- Freedom in the World is a yearly survey by **U.S.-based NGO Freedom House** that measures the degree of civil liberties and political rights in every nation and significant related and disputed territories around the world.
- The report derives its methodology from the **Universal Declaration of Human Rights, adopted by the United Nations General Assembly in 1948**.
- It covers 195 countries**, awarding scores based on **political rights indicators** such as the *electoral process, political pluralism and participation and government functioning*, as well as **civil liberties indicators** related to *freedom of expression and belief associational and organisational rights, the rule of law and personal autonomy and individual rights*.

Section 505 Of IPC

- Delhi police got over 3,000 distress calls on Sunday from people panicked over riot-related rumours like violence, arson and stone pelting across the national capital.
- Likewise, the Coimbatore city police booked two persons for allegedly creating communal hatred on social media and registered a case under **Section 505 IPC**

About Section 505 IPC

- Section 505** criminalises making statements, reports or rumours that encourages members of armed forces or a police officer to refuse to perform his duty, encourages a person to commit offences against the state or disturb public tranquillity and incites persons to disturb public tranquillity.

- Offences committed under both sections are cognizable which means that an accused can be arrested without a warrant.

Gairsain Named Uttarakhand's New Summer Capital

- Uttarakhand government named **Gairsain as the new summer capital** of the state, partially fulfilling an over two-decade demand by statehood crusaders to make it the permanent capital.
- With this, Uttarakhand becomes the **second state in the country after Jammu and Kashmir** to have two state capitals.
- Modalities still have to be worked out on the duration (number of months each year) for which Gairsain, would function as state capital.
- Uttarakhand was **carved out as a separate state from Uttar Pradesh in 1998**. Statehood activists had long contended that Gairsain, a tehsil in Chamoli district, was best suited to be the capital of the mountainous state as **it was a hilly region** falling on the border of Kumaon and Garhwal regions.
- But it was **Dehradun, located in the plains, that served as the temporary capital**. With the fresh announcement, there is no clarity on either the city's current status or a new winter capital.
- The state Assembly is located in Dehradun, but sessions are held in Gairsain as well.

International Women's Day

- International Women's Day is celebrated on March 8 every year. It is a day when the world comes together to appreciate womanhood and their importance in society. The day also celebrates the social, economic, cultural and political achievements of women.
- The IWD 2020 campaign theme is **"#EachforEqual"** and the United Nations theme for the same is **"I am Generation Equality: Realizing Women's Rights"**.

History of Women's Day

- Its roots can be traced to 1908, when 15,000 women marched through New York City demanding voting rights, better pay and shorter working hours.
- A year later, the first National Woman's Day was observed in the US on February 28, in accordance with a declaration by the Socialist Party of America.
- National Women's Day was recognised as International Women's Day only in 1910 after German women's rights activist Clara Zetkin suggested the idea at an International Conference. A conference of more than 100 women from 17 countries agreed to her suggestion and IWD was formed.
- In 1911, it was celebrated for the first time in Austria, Denmark, Germany and Switzerland on 19th March. After women gained suffrage in Soviet Russia in 1917, March 8 became a national holiday there. The day was then predominantly celebrated by the socialist movement and communist countries until it was adopted by the feminist movement in about 1967.
- The United Nations began celebrating the day in 1975.

Parliamentary Standing Committee's Report On HRD

- The Parliamentary Standing Committee on Human Resource Development (HRD) recently submitted its report on the 2020-2021 demand for grants for school education to the Rajya Sabha.

- It expressed concern that budgetary allocations saw a 27% cut from proposals made by the School Education department. Despite proposals for ₹82,570 crore, only ₹59,845 crore was allocated.
- Overall, for the core Samagra Shiksha Scheme, the department had only spent 71% of revised estimates by December 31, 2019.

Highlights Of The Report

- Only 56% of schools have electricity, with the lowest rates in Manipur and Madhya Pradesh, where less than 20% have access to power.
- Less than 57% of schools have playgrounds, including less than 30% of schools in Odisha and Jammu and Kashmir.
- Almost 40% of schools didn't have a boundary wall, endangering safety of students & school property.

Dismal Progress

- The parliamentary panel also slammed the government for its “dismal” rate of progress in building classrooms, labs and libraries to strengthen government higher secondary schools.
- Out of 2,613 sanctioned projects for 2019-20, only three had been completed in the first nine months of the financial year.
- In government higher secondary schools, not a single additional classroom had been built by December 31, 2019, although 1,021 had been sanctioned for the financial year 2019-20.
- Only three laboratories had been built despite sanctioned funds for 1,343 labs. Although 135 libraries and 74 art/craft/culture rooms had been sanctioned, none had been built with just three months left in the financial year.
- The record is better at secondary schools, where 70-75% of such facilities had been finished by December, although less than 5% of the facilities aimed at disabled students — ramps and special toilets — had been completed. At primary schools, there was a 90-95% record of infrastructure completion.

Recommendations

- The committee has asked the department to look into the factors impeding the infrastructure development and resolve them at the earliest so as to ensure that the students get the best possible facilities.
- In doing so, the panel recommended that the Centre should replicate the model of States which have done well in creating and maintaining such facilities.
- Noting 27% reductions for the Central and Centrally Sponsored Schemes as well, the panel recommended that these core schemes get additional funds at the revised estimates stage.

World University Rankings By Subject 2020

- The **Quacquarelli Symonds (QS) World University Rankings by Subject 2020** was recently released. The rankings provide authoritative comparative analysis on the performance of 13,138 individual university programs, taken by students at 1368 universities in 83 locations across the world, across 48 academic disciplines and five broad faculty areas.
- QS uses four key metrics to compile the rankings including **academic reputation, employer reputation, citations per paper and the h-index** which measures how productive an institution's research faculty are. However, the precise weighting of each metric varies by subject to reflect differing publication cultures across disciplines.

- **Massachusetts Institute of Technology (MIT)** emerged as the world's best-performing institution, achieving 12 number-one positions, followed by **Harvard University** with 11 number-one positions and **Oxford University** with eight top ranked subjects.

India's Performance

- The **Indian Institutes of Technology, Bombay and Delhi**, have both broken into the world's top 50 engineering and technology institutions. IIT-Bombay was ranked at 44, while IIT-Delhi stood at 47.
- Further, with nine of its programs getting ranked in the upper echelons, IIT Bombay emerged with more top-100 ranks than any other Indian university.
- As against 21 institutions getting ranked in 2019, the latest edition has seen 26 Indian departments entering the top-100 list for their subjects.
- However, **engineering and technology** was the only major subject group where Indian institutions were able to crack the elite top 100 tier. Overall, 12 institutions from the country were ranked in the top 500 in this category alone. In the natural sciences category, three Indian institutions made it to the top 200.
- **Jawaharlal Nehru University** remained the country's top institution in the *arts and humanities* category, with a global ranking of 162, followed at a distance by Delhi University (DU) at 231. However, **DU** topped the *social sciences and management category*, with a global ranking of 160.
- In the business and management studies subject category, both **Indian Institute of Management (IIM) Ahmedabad and IIM Bangalore** were ranked in the 51-100 band.
- The list did not have any Indian institutions in the world's top 200 when it came to the **life sciences and medicine categories**.

Sanskrit Universities Bill

- The Central Sanskrit Universities Bill, 2019 that intends to convert India's three deemed-to-be Sanskrit universities into Central Sanskrit Universities has been passed by the Parliament.
- The said Universities are Rashtriya Sanskrit Sansthan, New Delhi; Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth, New Delhi; and Rashtriya Sanskrit Vidyapeeth, Tirupati.
- Granting of central university status to the three has been a long-standing demand from Sanskrit scholars as the deemed-to-be universities do not have powers to grant affiliation to colleges and attract more students from within India and abroad.

Powers and Functions of The University

- The proposed central universities will spread and advance knowledge for the promotion of Sanskrit and make special provisions for integrated courses in humanities, social sciences and science.
- The Universities will also train manpower for the overall development and preservation of Sanskrit and allied subjects and provide facilities through a distance education system.
- They will have the power to grant degrees, diplomas and certificates and will also have the power to confer autonomous status on a college or an institution.

University Authorities

- Each University will have the following authorities:
 - **A court**, which will review the policies of the university and suggest measures for its development.
 - **An Academic and Activity Council**, which will supervise academic policies.

- **A Board of Studies**, which will approve the subjects for research and recommend measures to improve standards of teaching.
- Each University will have an **Executive Council**, which will be the principal executive body. The 15-member council will include the Vice-Chancellor appointed by the Centre, who will be the chairperson; a Joint Secretary of the Ministry of Human Resource Development, and two eminent academics from the field of Sanskrit or allied subjects.
- The council will create teaching and academic posts and deal with their appointment and will also manage the revenue and property of the University.

Visitor Of The Universities

- Like at all central universities, President of India will be the visitor of the central Sanskrit universities.
- He may appoint persons to review and inspect the functioning of the University. The Executive Council may take action based on the findings of the inspection. If no action is taken within a reasonable time period, the Visitor may issue binding directions to the Council.
- In addition, the Visitor may annul any proceeding of the University which do not conform with the Bill.

World Consumer Rights Day

The World Consumer Rights Day was recently celebrated on March 15th across the world. It is an annual occasion, observed on a global level to protect the rights of consumers and to ensure that consumers are not subjected to market abuse or social injustice that may undermine their rights.

Background

- The idea of World Consumer Rights Day was inspired by **President John F Kennedy**. On March 15 1962, President John F Kennedy sent a special message to US Congress formally addressing the issue of consumer rights and had declared four basic consumer rights. He was the first world leader to do so.
- In 1985, the United Nations approved the general guidelines for consumer protection and in the year 1983, the first celebration of World Consumer Rights Day was marked. Since then, this day is celebrated annually on March 15.

Theme

- The theme for this year, is 'The Sustainable Consumer'. The aim of sustainable consumption is to increase resource efficiency and fair trade while helping to alleviate poverty and enable everyone to enjoy a good quality of life with access to food, water, energy, medicine and more.
- The consumer movement will highlight the lifestyle changes consumers can make to play their part, and what governments and businesses need to do to make sustainability the easy choice for consumers.

Consumer Rights In India

In India, consumer rights were protected under the Consumer Protection Act, 1986, before the act was replaced by the **Consumer Protection Act, 2019**. Refer *The Recitals- July 2019* for details of this Act.

Kerala Seeks Relaxation Under FRBM

- To help fund the emergency relief package for Covid-19, Kerala has proposed to borrow as much as ₹12,500 crore from the market in April itself.

- Post which, Kerala has urged the Centre to provide the State the flexibility under the Fiscal Responsibility and Budget Management (FRBM) Act so as to ensure that the State's finances are not adversely impacted in the rest of the financial year starting on April 1. As per Kerala's current fiscal position, it can borrow about ₹25,000 crore during the financial year 2020-21.
- The State government is concerned that the stringent borrowing cap under the fiscal responsibility laws should not constrain its borrowing and spending ability over the remaining 11 months to meet other expenditure for routine affairs related to the running of the State's socio-economic programmes as well as the post pandemic recovery.

FRBM Act

- The Fiscal Responsibility and Budget Management (FRBM) Act is a fiscal sector legislation enacted in 2003 to set targets for the government to reduce fiscal deficits.
- It aims to ensure fiscal discipline by setting targets including reduction of fiscal deficits and elimination of revenue deficit, however, the targets were postponed several times.

Objectives of FRBM Act

- Ensure inter-generational equity in fiscal management
- Long run macroeconomic stability
- Better coordination between fiscal and monetary policy
- Transparency in fiscal operation of the government.

NK Singh Committee

- As the government believed the targets were too rigid, the government set up a committee in May 2016, under NK Singh to review the FRBM Act.
- The committee recommended that the government should target a fiscal deficit of 3 per cent of the GDP in years up to March 31, 2020; cut it to 2.8 per cent in 2020-21; and to 2.5 per cent by 2023.
- It recommended to replace the FRBM Act, 2003, by a new **Debt and Fiscal Responsibility Act** and advised on setting up of a **Fiscal Council** to provide forecasts and analysis for fiscal deficit as well as advise the finance ministry on escape clauses.

Recommendations For States

- For states, the FRBM panel has suggested a fiscal deficit glide path of 0.16 % per annum over a period of eight years.
- Further, the combined fiscal deficit of states needs to be brought down to 1.70 per cent by 2024-25.
- In case of debt-GDP ratio of states, the report said it ought to be reduced from 21.65 per cent (in 2016-17) to 21.02 per cent in 2024-25.

Relaxation Under FRBM

- Under the 'escape clause' of the Act, the Centre can exceed the annual fiscal deficit target citing grounds that include national security, war, national calamity, collapse of agriculture, structural reforms and decline in real output growth of a quarter by at least three percentage points below the average of the previous four quarters.
- Given that the ongoing pandemic could be considered as a national calamity — which in conjunction with the ongoing lockdown to combat it is in all likelihood going to cause a severe contraction in economic output as well — the current circumstances would be apt for suspending both the Centre's and States' fiscal deficit targets.

- This would allow both the Union government and States including Kerala to undertake the much-needed increases in expenditure to meet the extraordinary circumstances.

Parliamentary Committee Report on PM Ujjwala Yojana

- As per the report of Parliamentary committee on Petroleum, **only three States** (Haryana, Punjab and Andhra Pradesh) **and five Union Territories** (Delhi, Chandigarh, Daman & Diu and Dadar & Nagar Haveli, Andaman & Nicobar Island and Puducherry) have become kerosene-free, even though the government met the target of eight crore LPG connections under the Pradhan Mantri Ujjwala Yojana.
- The Petroleum Ministry informed the committee that the government had met the target in September, 2019, and 96.9% coverage had been achieved nationwide, except in Jammu and Kashmir. The 97% coverage has been calculated by dividing the number of households at 2850.5 lakh as on February 1, 2020 and the domestic LPG consumers, at 2772.2 lakh.
- The report points to the gap between the continuing use of kerosene and the claim of 97% LPG coverage nationwide, as large segments of people in various States still depended on kerosene for cooking and household lighting.
- The committee was upset at the closure of the scheme and said there was still a lot of ground to cover. As per the committee there are poor households in the general category in urban and semi-urban localities that also need to be covered.
- The committee, therefore, recommends that the scheme be extended to poor households in urban and semi-urban slum areas, and achieve a higher LPG coverage of the population by providing connections to households that do not have LPG.

Pradhan Mantri Ujjwala Yojana

- Pradhan Mantri Ujjwala Yojana is a scheme of the **Ministry of Petroleum & Natural Gas** for providing LPG connections to **women** from **Below Poverty Line (BPL)** households.
- The Scheme provides a financial support of **Rs 1600 for each LPG connection to the BPL households, interest free loan to purchase stove and refill by Oil Marketing Companies.**
- The administrative cost of Rs. 1600 per connection, which includes a cylinder, pressure regulator, booklet, safety hose, etc. is borne by the Government.

RBI Guidelines For Payment Aggregators And Payment Gateways

- The RBI has released guidelines for regulating payment aggregators (PAs) and payment gateways (PGs), nearly six months after it first proposed regulating these entities in a discussion paper.
- While the original discussion paper, which was released in September 2019, suggested three ways to look at the issue- no regulation, light touch regulation or full regulation, the final guidelines seem to have favoured the third alternative.
- PAs are entities that facilitate e-commerce sites and merchants to accept various payment instruments from the customers for completion of their payment obligations without the need for merchants to create a separate payment integration system of their own.
- PAs facilitate merchants to connect with acquirers. In the process, they receive payments from customers, pool and transfer them on to the merchants after a time period.
- Entities like Billdesk, CCAvenue, Firstdata, Techprocess were original players in this space. Then came the wave of startups who transformed the gateway business altogether. Players like Razorpay,

Cashfree, Paytm Payment Gateway and others started offering payment services to ecommerce companies.

- RBI decided to regulate PAs and provide baseline technology-related recommendations to PGs, keeping in mind the important function these intermediaries play in facilitating online payments.

Guidelines

1. Authorisation

- The new guidelines say that a payment aggregator should be a company incorporated in India under the Companies Act, 1956 / 2013.
- Non-bank entities offering payment aggregator services will have to apply for authorisation on or before June 30, 2021.
- E-commerce marketplaces, according to the guidelines, providing payment aggregator services will have to be separated from the marketplace business and they will have to apply for authorisation on or before June 30, 2021. The biggest examples of this- PhonePe, a Flipkart company, and Paytm's payment aggregator business are already separate entities from the marketplace models.
- RBI also stated that payment gateways shall be considered as 'technology providers' or 'outsourcing partners' of banks or non-banks.

2. Capital Requirements

- RBI has reduced the capital requirements for payment aggregators to ₹15 crore from ₹100 crore proposed earlier. PAs existing today will have to achieve a net worth of ₹15 crore by March 31, 2021 and a net worth of ₹25 crore by the end of third financial year (March 31, 2023).
- This has been a major relief for the payments industry, as Rs 100 crore was too big and could have forced many smaller payment companies to move out of the aggregation business.

3. Governance

- PAs would be professionally managed and promoters would need to clear the fit and proper criteria prescribed by RBI. Furthermore, these companies would now be subjected to more audits as well.
- PAs have also been asked to adhere to strict security guidelines, adhere to all KYC (Know Your Customer) and AML (Anti Money Laundering) rules. Further, the guidelines have mandated that PAs need to check their merchant customers are not involved in selling of prohibited or fake items.
- RBI has also asked PAs to set up designated nodal offices to deal with customer grievance.
- Another important development is that the RBI has prohibited PAs from allowing online transactions to be done with ATM pin as the second factor of authentication, which few payment gateway companies were offering as a service.

Electronics Manufacturing Clusters 2.0 Scheme

The Union Cabinet has approved financial assistance to the Modified Electronics Manufacturing Clusters (EMC2.0) Scheme which would support setting up of both Electronics Manufacturing Clusters (EMCs) and Common Facility Centres (CFCs). The total outlay of the EMC 2.0 Scheme is Rs 3,762.25 crore.

Background

- The EMC scheme was notified in 2012 to provide support for creation of world-class infrastructure for attracting investments in the **Electronics Systems Design and Manufacturing (ESDM)** sector.

- Under EMC scheme, 20 greenfield EMCs and three Common Facility Centres (CFCs) have been approved in 15 States across the country.
- India's share in global electronics manufacturing grew from 1.3 per cent (2012) to 3 per cent (2018). It accounts for 2.3 per cent of India's GDP at present.
- The Cabinet believes that there is a need for continuation of such scheme in modified form to further strengthen infrastructure base for the electronics industry in country & deepen electronics value chain.

Details Of The Scheme

- EMC 2.0 advances the vision expressed in the ***National Policy for Electronics (NPE), 2019*** to make India a global hub for mobile and component manufacturing.
- The EMCs would be set up in geographical areas of certain minimum extent, preferably contiguous, where the focus is on development of basic infrastructure, amenities and other common facilities for the ESDM units.
- For the Common Facility Centre (CFC), there should be a significant number of existing ESDM units located in the area and the focus is on upgrading common technical infrastructure and providing common facilities.

Benefits

- It will lead to the availability of ready infrastructure and 'plug & play' facility for attracting investment in electronics sector and greater employment opportunities.
- It will aid the growth of the ESDM sector, help the development of the entrepreneurial ecosystem, drive innovation and catalyse the economic growth of the region by attracting investments in the sector and improved revenue in the form of taxes paid by the manufacturing units.

Scheme for Promotion of Bulk Drug Parks and Production Linked Incentive (PLI) Scheme

The Union Cabinet has recently approved the scheme on Promotion of Bulk Drug Parks and the Production Linked Incentive (PLI) Scheme.

Background

- The Indian pharmaceutical industry is the 3rd largest in the world by volume. However, despite this achievement, India is significantly dependent on import of basic raw materials, viz., bulk drugs that are used to produce medicines. In some specific bulk drugs, the import dependence is 80 to 100%
- Continuous supply of drugs is necessary to ensure delivery of affordable healthcare to the citizens. Any disruption in supplies can have significant adverse impact on drug security, which is also linked to the overall economy of the country. Hence, self-sufficiency in manufacturing of bulk drugs is highly required.

Promotion of Bulk Drug Parks Scheme

- The scheme will finance **Common Infrastructure Facilities** in 3 Bulk Drug Parks with financial implication of Rs. 3,000 crore for next five years.
- Government will give grants-in-aid to States with a maximum limit of ₹1,000 crore per bulk drug park.
- The parks will have common facilities such as solvent recovery plant, distillation plant, power and steam units, common effluent treatment plant etc.
- The scheme is expected to reduce manufacturing cost of bulk drugs in the country and dependency on other countries for bulk drugs.

Production Linked Incentive (PLI) Scheme

- The PLI scheme aims for promotion of domestic manufacturing of critical key starting material (KSMs)/Drug Intermediates and APIs in the country. A sum of Rs 6,940 crore has been approved for the next 8 years.
- Financial incentive will be given to eligible manufacturers of identified 53 critical bulk drugs on their incremental sales over the base year (2019-20) for a period of 6 years.
- Out of 53 identified bulk drugs, 26 are fermentation based bulk drugs and 27 are chemical synthesis based bulk drugs. Rate of incentive will be 20 % (of incremental sales value) for fermentation based bulk drugs and 10% for chemical synthesis based bulk drugs.
- The scheme will be implemented through a Project Management Agency (PMA) to be nominated by the Department of Pharmaceuticals.
- It will lead to expected incremental sales of Rs. 46,400 crore and significant additional employment generation over 8 years.

JICA Signs Agreements for Major Rail Projects

- Japanese government funding agency JICA has signed agreements with the Indian government for **three mega rail infrastructure projects**. The **three projects** include:
 - a) phase-1 of the Dedicated Freight Corridor;
 - b) Mumbai Trans Harbour Link Project (II) and
 - c) Mumbai Metro Line 3 Project (III).
- The **Dedicated Freight Corridor (DFC) project** (Phase 1) comes with the objective to cope up with the increase in freight transport demand in India by constructing new **dedicated freight railway system between Delhi and Mumbai**.

Western Dedicated Freight Corridor

- It runs between **Delhi and Mumbai** and is an important part of the Delhi-Mumbai Industrial Corridor (DMIC) initiative.
- **Dedicated Freight Corridor Corporation of India Ltd (DFCCIL)** is the executing agency of the project.
- In this phase-1 project, a new 950-km freight line (**Rewari to Vadodara**) **connecting the major cities in Gujarat, Rajasthan, and Haryana** states has being constructed.
- The project will help in creating India's largest industrial belt in DMIC area by linking the industrial parks and harbours of the states between Delhi and Mumbai in order to promote foreign export and direct investment.

The Mumbai Trans Harbour Link

It will connect **Mumbai with Navi Mumbai**. It will mitigate traffic congestion and promote economic development.

HAL Planning to Set up Logistics Bases in Neighbouring Countries

- Hindustan Aeronautics Ltd (HAL) is looking to set up **logistics bases in Malaysia, Indonesia, Vietnam, and Sri Lanka**.
- This step is being taken as part of initiatives to woo the **countries to buy India's light combat aircraft Tejas and other military helicopters**.

Opportunities For India

- These countries use a number of Russian-origin military aircraft and choppers whose **serviceability is “very poor”**. India can give them a lot of support as these countries use a lot of platforms which are common to India.
- Recently, Indian government has also tried to **promote defence export** on priority basis. In February 2020, Indian PM set an **ambitious defence export target of \$5 billion dollars** in next five years.
- In sync with the govt.’s priority, HAL has identified South East Asia, West Asia and North Africa to sell key platforms like **Tejas**, attack helicopters **Rudra** and advanced light helicopter **Dhruv**.
- India’s Tejas has a very good export potential as it is four and half generation fighter jet which can compete with some of the famous military jets in its class.

G20 Virtual Summit 2020

- An emergency virtual summit of G20 leaders was held through video conferencing.
- The virtual summit was **planned by Saudi Arabia, which is the current chair** of the group.
- It was called to discuss the global challenges posed by the coronavirus outbreak.

Key Highlights

- The leaders pledged to **inject \$5 trillion** into the global economy to reduce the economic impact of the coronavirus pandemic.
- The leaders also agreed to contribute to **WHO’s COVID-19 Solidarity Response Fund** on voluntary basis. This contribution would be in addition to the pledged amount of \$5 trillion.
- The leaders agreed to use all the available policy tools to **minimise the economic and social cost of the outbreak** and restore global growth, strengthen market resilience and stability.
- They also pledged to **ensure the flow of vital medical supplies** and other goods across borders and to resolve supply chain disruptions.

India’s Response

- Indian PM Modi attended the virtual summit of G20. India highlighted the fact that that **90 % of the coronavirus cases and 88 % deaths** were in G20 nations.
- India urged the G20 nations to come up with a **concrete action plan to fight coronavirus**.
- India also highlighted the need to put **people at the centre of the vision of global prosperity and cooperation**.
- It also stressed on the importance of **promoting new crisis management procedures** and protocols to enable the creation of an interconnected global village.
- PM Modi urged a **new approach to globalisation and multilateralism** not just through the prism of economic and financial issues, but also through **humanitarian aspects**, in order to address future pandemics effectively.
- India was **lauded by other G20 leaders** on the effort it has made to deal with this unprecedented crisis under the **framework of the South Asian Association for Regional Cooperation (SAARC)**.

[For detailed discussion on G20, please refer the topic “G20 Summit” from the June 2019 edition of CA magazine]

India-Turkey Deal to Build Fleet Support Vessels

India has decided to go ahead with a **\$2.3 billion deal to manufacture fleet support vessels (FSVs)** in collaboration with a Turkish shipyard.

Background

- The Indian FSV project was initially given a go-ahead in 2016 after the Navy projected a **requirement for ships that could carry fuel and other supplies** for warships at sea.
- Turkey's TAIS had emerged as the lowest bidder for a contract to manufacture five of the 45,000-tonne FSVs at the **Vizag-based Hindustan Shipyard Limited (HSL)** last year.
- However, the **contract signing was put on hold** in October 2019 following the **repeated raising of Kashmir issue** by Turkish President Erdogan at international forums.

Other Concerns:

- Turkish shipyards are a **major supplier of warships to the Pakistani Navy**. Therefore, concerns had been raised on how access to the strategic HSL by its engineers and workers could result in **serious security issues**.
- HSL is located close to the Ship Building Centre, where India's nuclear armed submarines are built, as well as the Eastern Naval headquarters.

India-Turkey Relations: Brief Discussion

- Diplomatic relations were established and Ambassadors exchanged in 1948. High level visits were exchanged regularly.
- Prime Minister Shri Narendra Modi attended the G20 Summit held in Antalya on 15-16 November, 2015 on the margins of the Summit, Prime Minister had bilateral talks with President Erdogan.
- President Erdogan paid a state visit to India on 30 April -1 May, 2017

A. Economic & Commercial Relations

- The Bilateral Trade Agreement between India and Turkey was signed in 1973.
- In April 2015, Confederation of Indian Industry (CII) signed an MoU with the Union of Chambers and Commodity Exchanges of Turkey (TOBB) to promote bilateral trade and economic cooperation.
- **Bilateral trade** grew 22% to cross US\$ 8.6 billion in 2018. India ranked 6 in Turkey's overall imports in 2018.
- Indian companies have invested in Turkey to the tune of USD 125 million while Turkish investments in India stands at USD 223 million.

B. Cultural Relations

- A **Festival of India in Turkey**, India by the Bosphorus, was held in March-april 2019 showcasing Indian dance, music, food and fashion in major cities in Turkey.
- The **second edition** of the India by the Bosphorus is planned to be held in March-April 2020.
- Mission organized '**Glimpses of India Tagore Painting Competition**' for school children of Turkey in four cities in April 2019.
- The **Indology Department in Ankara University** has been in operation since 1930s.
- Turkish students are regularly nominated to study **Hindi in Central Institute of Hindi (Kendriya Hindi Sansthan), Agra**. Slots have been allotted to Turkey under ITEC.

- In 2018-19, 16 ITEC scholarship slots have been utilized. A Teacher for Indian Culture has also joined the Mission in December 2018.

C. Strain In The Ties

- Turkey has been **fiercely critical** of the Indian government's decision to repeal Article 370 from Jammu and Kashmir and divide the state into two union territories.
- **India's decision to put off Prime Minister Modi's visit to Turkey** scheduled for later in 2019 was seen as a retaliation to Turkey's stand over abrogation of Article 370.
- **Turkey government's constant support to Pakistan** on various issues is creating problem in the relationship between India and Turkey.
- Last year, **India strongly condemned the unilateral Turkish military action in Syria** and urged Ankara to exercise restraint.

India-Israel Sign Defence Deal

- The Defence Ministry has signed a major contract for procuring more than 16,000 **light machine guns from an Israeli firm** for frontline troops.
- The contracted **Negev 7.62X51 mm LMG** is a combat proven weapon and currently used by several countries around the globe.
- The LMG, is believed, will enhance the lethality and range of a soldier in comparison with **presently used weapon, the INSAS LMG** that has a calibre of 5.56x45mm.

Significance Of India-Israel Relations

- Israel is a **major defence partner** of India and it is **set to topple the US** as the chief exporter of arms and ammunitions to India with Barak missiles, surveillance drones and other big league defence deals.
- Although Israel does not produce entire military systems, it is a **crucial supplier** and maker of parts of arms and ammunitions.
- India and Israel are boosting up the **counter-terrorism cooperation** and sharing **real-time intelligence** on issues crucial to national security.
- India has benefited from Israeli expertise and **technologies in horticulture** mechanization, protected cultivation, orchard and canopy management, nursery management, **micro-irrigation and post-harvest management** particularly in Haryana and Maharashtra.
- **Israel's drip irrigation technologies** and products are now widely used in India. Some Israeli companies and experts are providing expertise to manage and improve dairy farming in India through their expertise in high milk yield.
- Israel has become one of the foremost technology superpowers in areas such as **rainwater harvesting, use of oceanic water** and using that for irrigation in the most dry land.
- Israel has transitioned from a **water-deficit state to a water-surplus state** and has pioneered the water desalination technique something that is absolutely significant in the era of climate change, rapid loss of fresh water bodies and rise in seawater levels.
- In India, tormented by an unruly monsoon and languishing agriculture sector reeling under alternating droughts and flash floods, the use of efficient irrigation techniques has immense importance.

What Makes Israel A Good Arms Supplier To India

- India **suffers from many constraints in defence production** and acquisition including lack of technical expertise, complex bureaucracy, lack of manufacturing infrastructure etc.
- Israel fills these shortcomings by **supplying ready-to-use critical technologies**, even on short notices.
- Israel has created its **niche in the market with its innovation-backed technologies** such as UAVs, missile defence systems, avionics, precision-guided munitions and surveillance radars.
- The Israeli imports are instrumental for India in patrolling and surveillance purposes in peacetime and **eases the operational ability of armed forces in wartime**.
- The export-oriented Israeli defence industry and its **openness to establishing joint ventures complement** both 'Make in India' and 'Make with India' in defence.
- Israeli arms can be **flexibly deployed to various wings of the military**, which simplifies the operation during mission time.
- Israel has always been a '**no-questions-asked supplier**', i.e., it transfers even its most advanced technology without placing limits to its use.

UN Human Rights Body Moves Supreme Court over CAA

The United Nations Commissioner for Human Rights has moved the Indian Supreme Court over the contentious Citizenship Amendment Act.

Key Highlights

- The commissioner has moved an **intervention application** in the Supreme Court over the CAA.
- This means that the **global human rights body wants to be made a party** in the existing pleas filed against the CAA in the SC.
- Basically, the High Commissioner intends to submit an '**amicus curiae**' brief shortly on the CAA in the Indian Supreme Court, in accordance with the Court's established procedures.
- The **amicus curiae will focus on providing an overview of relevant and applicable international human rights standards** and norms to support the Court's deliberations in the context of its review of the CAA

India's Position

- India maintained that the CAA is an **internal matter and concerns the sovereign right of the Indian Parliament to make laws**.
- No foreign party has any locus standi on issues pertaining to India's sovereignty.

What Legal Experts Say

- The U.N. official **could not be impleaded on international law in a domestic matter**.
- The CAA has to be tested **on the touchstone of the Indian Constitution** and not some U.N. Convention.
- If such interventions as 'amicus curiae' are allowed, it will set a wrong precedent.
- Many experts have termed this move as "objectionable", as the U.N. was an **inter-governmental body** and "they are not supposed to approach the Supreme Court of India."

US Renews Four Restrictions on Iran's Nuclear Program

- The Trump administration has **renewed four restrictions** on Iran's nuclear program **for the next 60 days**. This step was taken in order to make it harder for Tehran to develop further nuclear weapons.
- The move by the Trump administration will allow nonproliferation work to continue at the **Arak heavy-water research reactor**, the **Bushehr nuclear power plant**, the **Tehran Research Reactor** and other nuclear initiatives.
- As part of its “**maximum pressure**” campaign, the United States has restored to sanctions it had removed under the Iran nuclear deal.
- It has also tightened them to try to force Iran to curb its nuclear, missile and regional activities.

[For detailed discussion on Iran Nuclear deal, please refer the topic “**Iran Fully Withdraws from Nuclear Deal**” from January 2020 edition of CA magazine]

Advanced Extremely High Frequency Communications Satellite Launched by US

- USA has launched a **highly advanced communications satellite** for the **U.S. Space Force**.
- This was the **sixth and final satellite** of the Advanced Extremely High Frequency (AEHF) constellation.
- This would provide **secure, jam-proof voice and data communications** for U.S. national leadership, military forces and **international partners** Canada, the Netherlands, the United Kingdom and Australia.
- The AEHF constellation is **built by Lockheed Martin** and consists of six secure military communications satellites that will **replace the military's aging Milstar constellation**.

[For detailed discussion on US Space Force, please refer the topic “**Space Force: A New US Military Service**” from December 2019 edition of CA magazine]

Danube-Oder-Elbe Canal

- Environmental organisations from across central and eastern Europe have criticized the Danube-Oder-Elbe Canal project.
- They want the project be **excluded from EU funding**, and not be included as part of the **Trans-European Transport Network**.
- The Canal intends to **connect the Danube, Oder and Elbe rivers** and thus provide another navigable link from the Black Sea to the North and Baltic Seas.

Concerns Raised

- The project, if constructed, would destroy the region's river landscapes, in **violation of EU environmental laws**.
- The canal passes through areas which are safe haven to Europe's most valuable and threatened species. It is being feared that the project would result into **major biodiversity loss**.
- The riverbeds need to be deepened for the ships to navigate. This will increase **risks of flooding**.
- Despite its enormous cost, at least 23 billion euros, the canal project would still fail to establish a reliable connection between the North Sea, the Baltic Sea and Berlin.

North Sea

The North Sea is a part of the Atlantic Ocean. It is bounded by the UK, Denmark, Norway, Germany, the Netherlands, Belgium and France.

Black Sea

- The Black Sea is a body of water and marginal sea of the **Atlantic Ocean** between Eastern Europe, the Caucasus, and Western Asia.
- It is bordered by Turkey, Bulgaria, Romania, Ukraine, Russia and Georgia.

Iran Seeks IMF Loan

- Iran has sought **financial assistance from the International Monetary Fund (IMF)** to help it combat the novel coronavirus. This is the **first time** the nation has **sought money from the IMF** since 1962.
- Iran has sought an assistance of five billion US dollar through IMF's **Rapid Financial Instrument (RFI)**. The RFI "provides **rapid financial assistance**, which is available to all **member countries** facing an **urgent balance of payments need**."
- Iran is facing severe economic crisis due to US sanctions. These restrictions have affected Iran's access to medicine/equipment. US after **withdrawing from JCPOA** (Joint Comprehensive Plan of Action) had imposed sanctions on Iran.

Coronavirus In Iran

- Iran is one of the **worst affected nations** in the coronavirus pandemic. According to the Health Ministry, the total number of coronavirus cases has now risen to 69,000. The official death toll is 4300.
- The virus has **now spread to every province** in the country and people are fearful that the true scale of the outbreak is even worse than is being disclosed.

US Declares National Emergency Over Coronavirus

- US President Donald Trump has declared a **national emergency to help handle** the growing outbreak of coronavirus.
- The declaration will allow the federal government to **tap up to \$50bn in emergency relief funds**.
- The national emergency was declared using powers conferred on him by the **National Emergencies Act 1976**.

National Emergencies Act 1976

- The National Emergencies Act 1976, authorizes the President to declare such national emergency.
- However, it contains **no definition of what constitutes a national emergency**; rather, it merely states that "the President is authorized to declare such national emergency".
- Unlike many other constitutions, the US Constitution **confers no additional powers on the executive** during an emergency.
- But while the constitution itself may be silent on emergency powers, **Congress has over time conferred a vast array** of legislative powers on the president, which they can trigger when a national emergency is declared.

- In February 2019, Trump had declared the **southern border of the United States (US-Mexico border)** to be a **national emergency**.
- He has also issued the order to deal with **wildfires in California and flooding in the Midwest**.

- Under current law, **emergency powers lapse within a year** unless the president renews them. A national emergency can be **re-declared indefinitely**, and, in practice, that is done frequently.
- Anyone directly affected by the order can challenge it in court.
- Congress can also draft a **concurrent resolution to terminate** the state of emergency, leading to a somewhat novel act. Ordinarily, congressional resolutions support a president's declaration of a national emergency.
- There have been **58 pronounced under the National Emergencies Act**, of which 31 are still in effect.

Defense Production Act Invoked in US

The United States has invoked the **Defense Production Act, or DPA**, in order to provide necessary medical equipment to treat Corona patients.

What Is Defense Production Act

- The DPA was inspired by **laws from 1941 and 1942** that gave the **White House the ability to tell private companies what to make for the good of the country**. For example, Ford Motor Company made nearly 300,000 vehicles — including tanks — for World War II.
- Defense Production Act was established **in 1950 in response to production needs during the Korean War**.
- This act is described as "the **primary source of presidential authorities** to expedite and expand the **supply of resources from the US industrial base** to support military, energy, space and homeland security programs.

US Federal Reserve Cuts Interest Rates to Zero

- The US Federal Reserve has decided to cut the interest rates to essentially zero. It has also launched a massive \$700 billion quantitative easing program. These measures are meant to stimulate the nation's economy as it takes a major hit from the coronavirus pandemic.
- The last time the Federal Reserve did this was **back in 2008**, when the **global economy sank into a major recession**. The Fed kept rates that low until 2015.

Key Highlights:

- The new fed funds rate will now be targeted at 0% to 0.25% down from a previous target range of 1% to 1.25%. These rates are used as a benchmark both for short-term lending for financial institutions and as a peg to many consumer rates.
- It will play an important role in supporting the liquidity and stability of the banking system. It will support the smooth flow of credit to households and businesses.

Criticism

- In cutting its key interest to zero, the Fed has practically **lost a major policy tool** — one that it would need if the economy tumbles into recession.
- **Low rates make borrowing cheap**. However, they **do not necessarily get businesses to increase workers' hours** or get people shopping at a time when government officials are asking **bars and restaurants to shut down** and telling workers to stay home to stall the spread of the virus.

LWE Related Incidents Reduced by Over 38%

- The Union Minister of State for Home Affairs, in his reply in Rajya Sabha, highlighted about the **decline in Left Wing Extremism in the last five years.**
- In 2019, the number of LWE related incidents **have reduced by over 38% in comparison to 2014.**
- The reduced number of incidents have been the result of **steadfast implementation of the National Policy and Action Plan – 2015.**

[For detailed discussion on National Policy and Action Plan – 2015, please refer the topic “**Linkages Between Development and Extremism**” from the Yellow book on Internal Security]

Trends In International Arms Transfers 2019

- The **Stockholm International Peace Research Institute (SIPRI)** has released the “**Trends in International Arms Transfers 2019**” Report.
- Assessment Period – Five-year period from 2015 to 2019

Key Highlights

- Worldwide major arms exports have increased on growing demand from countries in conflict. Over five years from 2015 to 2019, international **arms exports grew by 5.5 %** from the 2010-2014 period.
- World’s **top five arms importers** during the five-year period are **Saudi Arabia, India, Egypt, Australia and China.** Together, these five countries *accounted for 36% of all arms imports.*
- During the period 2015-19, **Pakistan was ranked the 11th largest arms importer** in the world.
- Pakistan strengthened its arms import relations with Turkey, with orders for 30 combat helicopters and four frigates in 2018.

India Specific Observation:

- India has been in the **second place**, behind Saudi Arabia, in SIPRI’s list of arms importers for several years.
- Reason for this is the fact that India has been taking steps to modernise its armed forces by acquiring combat jets, helicopters, submarines, warships, artillery guns and assault rifles from countries like Russia, the US, France and Israel.
- India’s arms **imports from both Russia and the US fell** during the five-year period, though the decline was **more pronounced in the case of Russian arms deals.**
- Russia was the **largest supplier to India in 2010-14 and 2015-19.**
- **Arms imports from Israel and France increased**, by 175% and 715% respectively, making them the **second- and third-largest suppliers** during 2015-19.
- In 2015-19, India continued with its **policy of supplier diversification**, and imports of arms from the USA were 51 % lower than in 2010-14.
- With Myanmar, Sri Lanka and Mauritius as main clients, **India now ranks 23rd in the exporter list, a slight increase from earlier.**

Stockholm International Peace Research Institute (SIPRI)

- SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.

- Established in 1966, SIPRI provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public. Based in Stockholm, SIPRI also has a presence in Beijing, and is regularly ranked among the most respected think tanks worldwide.
- Its mission is to:
 - undertake research and activities on security, conflict and peace;
 - provide policy analysis and recommendations;
 - facilitate dialogue and build capacities;
 - promote transparency and accountability; and
 - deliver authoritative information to global audiences.

India Closes its International Borders

India has announced the **closure of 18 immigration checkpoints** with **four neighbouring countries** as part of measures to prevent the spread of coronavirus.

Key Highlights

- All passenger movements through all immigration land check posts at **India-Bangladesh, India-Nepal, India-Bhutan, India-Myanmar** borders have been suspended.
- However, visa free entry for nationals of Bhutan and Bangladesh would continue.
- Among the 18 checkpoints being closed is the **Wagah-Attari crossing with Pakistan**.
- The **19 checkpoints that will remain open** are in Assam, Bihar, Meghalaya, Mizoram, Tripura, Uttar Pradesh, Uttarakhand and West Bengal along the borders with Bangladesh, Bhutan, Nepal and Myanmar.

New Land Immigration Posts Between India and Bangladesh

- **Agartala** of Tripura and West Bengal's **Ghojadanga** have been designated as authorised **land immigration check posts** to enter or exit India.
- Both Agartala and Ghojadanga are located along the Indo-Bangladesh border.
- This step has been taken in pursuance of **sub-rule (b) of rule 3 of the Passport (Entry into India) Rules, 1950**.
- Immigration check posts and inland custom ports are used to facilitate the movement of Goods and people while securing the border.

ICGS Varad Commissioned into Service

- The Indian Coast Guard's **Offshore Patrol Vessel**, ICGS Varad has been commissioned into service.
- Designed and built by - Larsen and Toubro at its shipyard in Kattupalli, near Chennai
- It will be deployed at **Paradip in Odisha**, under the operational control of the **North-Eastern Region's Coast Guard**.
- The vessel is the **first major defence ship to clear all the sea trials in one single sea sortie**, creating a record of sorts in the Indian shipbuilding industry.
- ICGS Varad is the **fifth in the series of seven offshore patrol vessels**, being constructed by Larsen and Toubro.

United Nations Global Compact (UNGC) India Study

UNGC has recently released a study on women's participation in India's labour force.

Key Highlights

- Globally, **38.7% of employed women** are working in agriculture, forestry and fisheries, but **only 13.8% of landholders are women**.
- **Female labour-force participation** in India has **declined** from 34% in 2006 to 24.8% in 2020.
- India is the only country among the 153 surveyed countries where the **economic gender gap is larger than the political gap**.
- The report highlighted that **raising women's participation** in the labour force to the same level as men can **boost India's GDP by 27%**.

Key Factors Responsible for Low Female Labour Force Participation in India

- Gender stereotypes and lack of infrastructure
- Absence of policies and procedures needed to **adapt to various life changes** in their employees, including maternity, changing care needs, dual career couples and continuity
- Increasing attendance in educational institutions (it has increased the supply of female labour)
- Increased household income
- Insufficient job opportunities for women

About United Nations Global Compact

- It is a **strategic initiative** that **supports global companies** that are committed to responsible business practices in the areas of human rights, labor, the environment and corruption.
- This UN-led initiative promotes activities that contribute to sustainable development goals to create a better world.
- The UN Global Compact is based on 10 principles that should define a company's value system and approach to doing business.

World Bank's \$1 Billion Emergency Fund for India

- WB has sanctioned \$1 billion to roll out a **COVID-19 Emergency Response and Health Systems Preparedness Project in India**.
- The emergency funds will be managed by the **National Health Mission (NHM)**, the **National Center for Disease Control (NCDC)** and the **Indian Council of Medical Research (ICMR)** under the Ministry of Health and Family Welfare.
- The project to help India against the COVID-19 pandemic and strengthen its public health preparedness is the **largest ever health sector support from the World Bank to India**.
- The project is financed from **International Bank for Reconstruction and Development (IBRD)**.
- It is part of World Bank Group's \$14 billion fast track package to strengthen the COVID-19 response in developing countries.

UNSC Resolution on Safety, Security of Peacekeepers

- The UN Security Council (UNSC) has unanimously **adopted Resolution 2518**, which talks about the safety of the peacekeepers.

- **A first of its kind**, the resolution vows to take **all-dimensional measures to ensure the safety and security of peacekeepers**.
- The 15-nation powerful organ of the UN, chaired by Council President, China's Ambassador to the UN, met via **video-conferencing to pass this resolution**.
- There are currently more than **95,000 peacekeepers** on active duty in 13 mission areas.
- The challenges faced by these operations were on the rise, with traditional and non-traditional security factors posing serious threats to the security of peacekeepers.
- This year marks the **75th anniversary of the founding of the UN** and a crucial year for the implementation of the "**Action for Peace**" initiative.
- Action for Peacekeeping (A4P) initiative was launched by UN to refocus peacekeeping with more targeted mandates, make our operations stronger and safer, mobilize support for political solutions and better equipped and trained forces.

Whitefly Resistant Cotton

- In a move to fight against whiteflies National Botanical Research Institute (NBRI) Lucknow has developed a pest-resistant variety of cotton and is going to start field trials this year from April to October in Faridkot Center of Punjab Agriculture University, Ludhiana.

Need For The Research

- Whiteflies are one of the top ten devastating pests in the world that damage more than 2000 plant species and also function as vectors for some 200-plant viruses.
- Cotton is one of the worst hit crops by these, in 2015 two third of the cotton crop was destroyed by the pest in Punjab.
- Although Bt cotton is also a genetically modified cotton it is resistant to two pests only and is not resistant against white flies.

Findings

- To develop the pest-resistant variety researchers explored 250 plants from lower plant biodiversity to identify novel protein molecules that are toxic to whitefly. It was found that the leaf extract of an edible fern *Tectaria macrodonta* causes toxicity to the whitefly.
- When whiteflies feed on sub-lethal doses of this insecticidal protein, it interferes with the life cycle of insect that in turn resulted with very poor egg laying, abnormal egg, nymph and larval development and extraordinary poor emergence of the fly.
- This fern is known to be used as salad in Nepal and as a concoction for the gastric disorders in many regions of Asia. Thus it is safe for application on the crops and provides protection from whiteflies, without being harmful to other beneficial insects like butterfly and honeybee.

Endophytic ActinoBacteria

- Scientists at Institute of Advanced Study in Science and Technology have found significant plant-growth-promoting and antifungal activities of **endophytic actinobacteria** associated with Tea plants and related genera, *Eurya*.
- Situated at Guwahati, Assam, IASST is an autonomous institute under Department of Science & Technology (DST).

- They have identified bacteria that can replace fertilizers & fungicides in tea plants. Thus, application of endophytic Actinobacteria could reduce chemical inputs in Tea plantation.
- Scientists isolated 46 endophytic actinobacteria (predominantly free-living microorganisms) found in diverse environments that live within a plant for at least part of its life cycle.
- Most of the endophytic actinobacteria isolates having antifungal activity showed presence of chitinase, NRPS (Nonribosomal peptides synthetase) or PKS-1 (Polyketide Synthase) gene, suggesting the presence of distinctive mechanisms to inhibit the growth of pathogenic plant fungi.
- This research finding confirms that endophytic actinobacteria have the potential to exhibit multiple growth-promoting traits such as IAA production, phosphate solubilization, siderophore production and so on that positively influence tea growth and production and can hence be used in the management and sustainability of Teacrop.

Coronavirus Declared A Pandemic

- As fresh coronavirus cases continue to be reported from different countries, the World Health Organization has finally declared the novel coronavirus a 'pandemic'.
- The alarming levels of spread and severity and the alarming levels of inaction across the world, led the WHO to declare coronavirus as a pandemic.

What Is A Pandemic

- According to the WHO, a pandemic is the worldwide spread of a new disease. The US Centers for Disease Control and Prevention defines a pandemic as an epidemic that has spread over several countries or continents, usually affecting a large number of people.
- The same body defines an epidemic as an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area. Thus, the 'pandemic' status has to do more with the spread of the disease, than its severity.
- The word pandemic comes from the Greek 'pandemos', demos stands for population and pan stands for everyone. So 'pandemos' is a concept where there's a belief that the whole world's population will likely be exposed to an infection and potentially a proportion of them will fall sick.
- While the WHO looks for sustained outbreaks causing a larger-than-expected number of cases on multiple continents, there is no specific number of countries that a disease must touch for WHO to classify it as a pandemic.

Impact Of Declaring A Pandemic

- Declaring a disease pandemic doesn't mean that WHO gets more funds or more powers to fight it.
- Moreover, describing the situation as a pandemic does not change WHO's assessment of the threat posed by this coronavirus.
- However, the declaration is a formal announcement that the WHO assesses the impact of COVID 19 to have reached a new level.

Quantum Entanglement

- Researchers from Raman Research Institute (RRI) have devised a new test for fairness of quantum coin or 'qubit' using entanglement theory.
- Qubit is the basic unit of information in a quantum computer.

- Quantum entanglement is a quantum mechanical phenomenon in which the quantum states of two or more objects have to be described with reference to each other, even though the individual objects may be spatially separated.
- This leads to correlations between observable physical properties of the systems.
- For example, think of a pair of gloves. If you found a right glove alone in your drawer, you can be certain the missing glove would fit your left hand. The two gloves could be described as entangled, as knowing something about one would tell you something important about the other that isn't a random feature.
- Hence, quantum entanglement is the physical phenomenon that occurs when a pair or group of particles is generated, interact, or share spatial proximity in a way such that the quantum state of each particle of the pair or group cannot be described independently of the state of the others, even when the particles are separated by a large distance.
- The topic of quantum entanglement is at the heart of the disparity between classical and quantum physics.

Quantum State

- In quantum physics, a quantum state is the state of an isolated quantum system.
- A quantum state provides a probability distribution for the value of each observable, i.e. for the outcome of each possible measurement on the system.

Raman Research Institute (RRI)

- It is located in Bangalore, Karnataka.
- It is an autonomous institution under the Department of Science & Technology (DST).

Cord Blood Banking

- There has been growing concern regarding the aggressively promoted concept of cord blood banking.
- Over the past decade, stem cell banking has been aggressively marketed even as its use is still in experimental stages.
- Enormous fees are charged from parents to preserve cells merely by emotional marketing.
- However, according to **Indian Council of Medical Research (ICMR)**, there is **no scientific basis for preservation of cord blood for future self use** and this practice therefore raises ethical and social concerns.
- The ICMR does not recommend commercial stem cell banking.

About Cord Blood

- Cord blood (short for umbilical cord blood) is the **blood from the baby that is left in the umbilical cord and placenta after birth.**
- It contains **special cells called hematopoietic stem cells** that can be used to treat some types of diseases.
- Hematopoietic stem cells can mature into different types of blood cells in the body.
- Globally, cord blood banking is recommended as a source of hematopoietic stem cell (derived from bone marrow, peripheral blood, or umbilical cord blood) transplantation for haematological cancers and disorders where its use is recommended.
- For all other conditions, the use of cord blood as a source of stem cells is not yet established.

Stem Cells

- Stem cells are **special human cells** that have the **ability to develop into many different cell types**, from muscle cells to brain cells.
- Stem cells are **divided into two main forms**:
 1. **Embryonic stem cells** come from unused embryos resulting from an in vitro fertilization procedure and that are donated to science. These embryonic stem cells are pluripotent, meaning that they can turn into more than one type of cell.
 2. **Adult Stem Cells**: There are two types of adult stem cells.
 - One type comes from **fully developed tissues**, like the brain, skin, and bone marrow. There are only small numbers of stem cells in these tissues, and they are more likely to generate only certain types of cells. For example, a stem cell derived from the liver will only generate more liver cells.
 - The second type is **induced pluripotent stem cells**. These are adult stem cells that have been manipulated in a laboratory to take on the pluripotent characteristics of embryonic stem cells.
- The stem cells are being researched for healing damaged tissue and treating cardiovascular and neurodegenerative conditions.

Bi-luminescent Security Ink to Curb Fake Currency Notes

- Scientists from Council of Scientific and Industrial Research (CSIR) - National Physical Laboratory have developed a bi-luminescent security ink which glows in red and green colours when illuminated by two different excitation sources at 254 nanometers (nm) and 365 nm, respectively.
- It can prevent printing of fake passports and counterfeiting of currency notes and can also be used to check the authenticity of passports, Government documents, tamper evident labels, identity cards, etc.
- The ink was prepared in a batch of 1kg and given to Bank Note Press (BNP), Dewas, a unit of Security Printing Minting Corporation of India Ltd. (SPMCIL), New Delhi.

Council of Scientific and Industrial Research (CSIR)

- It was established by the Government of India in September 1942 as an autonomous body that has emerged as the largest research and development organisation in India.
- The research and development activities of CSIR include aerospace engineering, structural engineering, ocean sciences, life sciences, metallurgy, chemicals, mining, food, petroleum, leather, and environmental science.
- It ranked first in the Nature Ranking Index-2020.
- **President**: Prime Minister (Ex-Officio)
- **Vice President**: Minister of Science & Technology, India (Ex-Officio)

Methanotrophs (Methane-Oxidizing Bacteria)

- Scientists at Agharkar Research Institute (ARI) have isolated 45 different strains of **methanotrophic** bacteria which have been found to be capable of reducing methane emissions from rice plants and freshwater mud.
- They have enriched, isolated, and cultivated different strains of methanotrophs and created the first indigenous methanotroph culture.

- In pot trials, some of the strains were used as bio-inoculants in rice plants.

Methanotrophs

- **Methanotrophs** (sometimes called **methanophiles**) are prokaryotes that metabolize methane as their only source of carbon and energy.
- They can be either bacteria or archaea and can grow aerobically or anaerobically, and require single-carbon compounds to survive.
- Methanotrophs metabolise and convert methane into carbon-di-oxide and can effectively reduce the emission of methane.
- Methane is the second most important greenhouse gas (GHG) and 26 times more potent as compared to carbon-di-oxide.

Inoculation

- Inoculation is defined as **introducing microorganisms into a culture where they can grow and reproduce.**
- More generally, it can also be defined as introducing a certain substance into another substance.
- Bio-inoculants are living organisms containing strains of specific bacteria, fungi, or algae. These are also known as **microbial inoculants.**

Rice Fields and GreenHouse Gas Emission

- Rice fields are human-made wetlands and are waterlogged for a considerable period.
- Anaerobic degradation of organic matter results in the generation of methane.
- Rice fields contribute to nearly 10% of global methane emissions.
- Very few studies in the world have focused on methanotrophs from tropical wetlands or tropical rice fields.

Agharkar Research Institute (ARI)

ARI is located in Pune, Maharashtra, India and an autonomous, grant-in-aid research institute of the Department of Science and Technology (DST), Government of India.

Mac-binding

- The authorities have **removed the ban on social media** and **restored full internet access in Kashmir** with **mac-binding conditions.**
- Every device has a **Media Access Control (MAC)** address, a hardware identification number that is unique to it. While accessing Internet, every device is assigned an **Internet Protocol (IP) address.**
- **Mac-binding** essentially means **binding together the MAC and IP addresses**, so that all requests from that IP address are served only by the computer having that particular MAC address. In effect, it means that **if the IP address or the MAC address changes, the device can no longer access the Internet.**
- **Monitoring authorities can trace the specific system** from which a particular online activity was carried out.
- **Permitted Conditions:**
 - Internet speed in Jammu and Kashmir is still **restricted to 2G.**
 - Internet can be accessed on **all postpaid devices**, and those using **Local Area Networks (LAN).**
 - Apart from this, **special access terminals** provided by the government **will continue to run.**

Crime Multi Agency Centre and National Cybercrime Training Centre

- NCRB (National Crime Records Bureau) celebrated its 35th Inception Day on March 12, 2020. On this occasion the **Crime Multi Agency Centre** and **National Cybercrime Training Centre** were also launched.
- **Crime Multi Agency Centre** is launched with the aim of sharing information on heinous crime and other issues related to inter-state coordination.
- **National Cybercrime Training Centre (NCTC)** is launched for professional quality eLearning services on cyber crime investigation on a large scale to police officers, judges, prosecutors and other stakeholders.

Oculudentavis Khaungraae

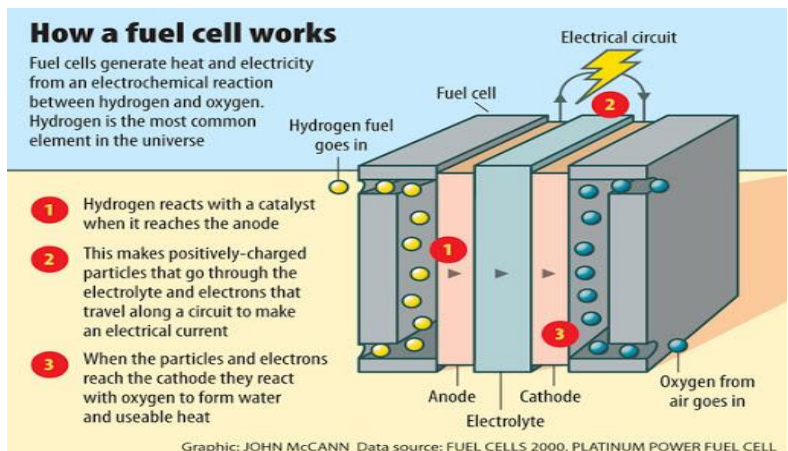
- The skull of Oculudentavis khaungraae was found in a globule of amber in Myanmar.
- The skull is just 7.1mm (less than one-third of an inch) long.
- It would have been smaller than the smallest bird alive today, the bee hummingbird.
- **Oculudentavis** is an extinct genus of tetrapod, originally identified as an **avian dinosaur** (bird, in the broad sense) with a single known species, *Oculus Dentavis khaungraae*.

Enzyme SIRT1

- Tata Institute of Fundamental Research, Mumbai (TIFR) study reveals role of glucose in regulating liver functions, ageing.
- An enzyme, **named SIRT1**, is known to be associated with regulation of metabolic activities and also ageing and hence has become a target of therapeutics.
- TIFR study shows that glucose controls the function of SIRT1 directly.
- A shortage or absence of this control can lead to a diabetic-like state, while excess feeding and sustained low levels of SIRT1 can lead to obesity and enhanced ageing.
- In normal healthy individuals, SIRT1 protein levels are known to increase during fasting and decrease during feed, which is essential to maintain a balance between glucose and fat metabolism.

Fuel Cell Technology For Disaster Management

- International Advanced Research for Powder Metallurgy & New Materials (ARCI) has developed in-house **Polymer Electrolyte Membrane Fuel Cells (PEMFC)** systems in the power range of 1 to 20 kiloWatt (kW) for **Disaster Management**.
- PEMFC **converts the chemical energy** stored in hydrogen fuel directly and efficiently **to electrical energy** with water as the only byproduct.



- These cells **work without grid power** as required by conventional battery backup systems.
- These cells **can operate at low- temperature**, are **energy efficient** and **emit less pollutants**.
- ARCI is planning to set up a PEMFC system at **Tamil Nadu State Emergency Operation Centre (TN SEOC)** as a disaster management measure.
- Tamil Nadu is **generally affected by five to six cyclones every year** and is followed by frequent power cuts.
- In general, **Emergency Operation Centres (EOC)** backed with 10 kW systems is being planned as a natural disaster management measure.

Additional Information

- An **Emergency Operations Center (EOC)** is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management.
- ARCI is an **autonomous R&D Centre** of the **Department of Science and Technology (DST)** located at Hyderabad.

ICONSAT

- The **International Conference on NanoScience and NanoTechnology (ICONSAT)** was recently held at Kolkata.
- ICONSAT is a series of biennial international conferences, under the aegis of **Nano mission, Department of Science and Technology**.
- **Aims**
 - i) To integrate nanotechnology with sustainable development and new technology.
 - ii) To provide a potential platform for young researchers and students from within the country and abroad to keep pace with the latest development in the emerging areas of Nano Science and Technology.
- The event emphasised on **5Ms – Mechanical, Material, Machines, Manufacturing and Manpower**, and integration of these 5 Ms with nano-science and technology.
- It also emphasized the need to create a network of experts in nano-science and to collaborate the knowledge across sectors like energy, agriculture, transport, health.

Nano Mission

- The Nano Mission is an “**umbrella capacity-building programme**”, launched in 2007 by the **Ministry of Science and Technology**.
- **Objectives:** Basic research promotion, Infrastructure development, Nano applications and technology development, Human Resource development, International collaboration
- The Nano Mission has established national dialogues **to promote R&D in the development of standards for nanotechnology**.
- As a result of efforts under the Nano Mission, India’s rank improved from 4th to the 3rd position in scientific publications in nanoscience and technology.

CRISPR (CaS9)

- **CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats)** has been used for the first time to treat blindness.

- However, doctors claimed that it will take a month to check if the vision of the patient has restored.
- CRISPR is a **gene editing technology**, which using a **special protein** called **Cas9**, replicates natural defence mechanisms in bacteria to fight virus attacks.
- The specific location of the genetic codes that need to be changed, or edited, is identified on the DNA strand, and then, using the Cas9 protein, which acts like a pair of scissors, that location is cut off from the strand.
- A DNA strand, when broken, has a natural tendency to repair itself. Scientists intervene during this auto-repair process, supplying the desired sequence of genetic codes that binds itself with the broken DNA strand.
- **Advantage:** CRISPR-Cas9 is a **simple, effective, and incredibly precise technology** with potential to **revolutionise human existence** in future.
- **Disadvantages:** It marks **irreversible changes in the bodies of future children**. It is believed by many activists to be unethical and against nature.

Flow Diverter Stents Technology

- An innovative intracranial **flow diverter** stent for the treatment of aneurysms of the **blood vessels of the brain** has been developed by researchers of Sree Chitra Thirunal Institute of Medical Science and Technology (SCTIMST).
- Intracranial aneurysm is a localised ballooning, bulging or dilation of arteries in the brain, caused by progressive weakening of the inner muscles of the wall of the blood vessels.
- Flow diverters stents when deployed in the artery in the brain bearing the aneurysms, divert blood flow away from the aneurysm, thus reducing the chances of its rupture from pressure of blood flow.
- Spontaneous rupture of aneurysm can result in bleeding into the space around the brain, resulting in a condition called subarachnoid hemorrhage (SAH), leading to paralysis, coma or death.
- Flow diverters have advantages of being flexible and adaptable to the shape and course of the vessel. It also promotes healing of the vessel wall by removing the constant stress of blood flow on it.
- The flow diverter is designed to have better grip on the walls of arteries so that the risk of migration of the device is minimised.
- It is ready for transfer and further testing in animals, followed by human trials.

- **Sree Chitra Tirunal Institute for Medical Sciences and Technology** (SCTIMST), formerly Sree Chitra Tirunal Medical Center, is an **autonomous medical school** and an **Institute of National Importance** in India established in 1976 at Thiruvananthapuram, Kerala.
- The institute is named after Chithira Thirunal Balarama Varma, the last Maharajah of Travancore, who gifted the building.
- The institute is under the Administrative Control of the Department of Science and Technology, Government of India.

Solar Charkha Mission

A total of **10 proposals**, based on the Expression of Interest (EOI), have been approved under Mission Solar Charkha.

About Solar Charkha Mission

- It is a **Ministry of Micro Small & Medium Enterprises (MSME)** initiative, launched in **2018**.

- The programme would be **implemented by Khadi and Village Industries Commission (KVIC).**
- **Background**
 - A pilot project on Solar Charkha was implemented at **Khanwa village, Nawada District of Bihar in 2016.**
 - Based on the success of the pilot project, the Government of India had accorded approval to set up **50 such clusters with a budget of Rs. 550 Crore** for 2018-19 and 2019-20.
 - The mission is **expected to create one lakh jobs** during the first two years.
 - The scheme also aims at **linking five crore women** across the country **to the initiative.**
- **Objectives**
 - Ensure **inclusive growth** by generation of employment, especially for **women and youth**, and **sustainable development** through solar charkha clusters in rural areas.
 - **Boost the rural economy** and help in **arresting migration** from rural to urban areas.
 - Leverage **low-cost, innovative technologies** and processes for sustenance.
- **Project Coverage**
 - The target is to cover 50 solar clusters across the country, whereby approx. 1,00,000 artisans/beneficiaries are to be covered under the various scheme components.
 - The scheme shall be implemented in all States of India.
 - It should be kept in view that at least **10% of clusters** are located in the **North Eastern Region (NER), J&K and hilly states.**
 - Special focus will be given to **117 aspirational districts** for soliciting project proposals.

Washing Hands In Fighting Against COVID-19

- In the wake of CoVID outbreak, guidelines by the World Health Organization specify that one of the ways to reduce the risk of infection is by regularly and thoroughly cleaning one's hands with an alcohol-based hand rub or washing them with soap and water.
- Regular washing becomes important as the virus tends to be viable from hours to more than a day on different surfaces that are regularly touched with hands.

How Does Washing With Soap Help Get Rid Of The Coronavirus

- The grime on our hands contains innumerable viruses and bacteria. Washing with water without using soap helps reduce the amount of microbes but does not remove most of the virus and bacteria completely. Using soap, therefore, becomes far more effective in removing microbes.
- Viruses such as coronavirus, influenza-causing viruses, Ebola, Zika have their genetic material encased in a layer of fat called the **lipid envelope**. Soap molecules are pin-shaped with a head that is water-loving (hydrophilic) and a tail that is oil-loving (oleophilic). Being oleophilic, the tail portion of the molecule tends to have an affinity for and 'competes' with the lipids in the virus envelope. Since the chemical bonds holding the virus together are not very strong, the long oleophilic tail gets inserted into the envelope and tends to have a '**crowbar**' effect that breaks the lipid envelope of the virus. The tail also competes with the bond that binds the RNA and the lipid envelope thus dissolving the virus into its components which are then removed by water.

Do All Viruses Have The Lipid Layer

- No, certain viruses do not have the lipid envelope and are called the non-enveloped viruses. Rotavirus which causes severe diarrhoea, poliovirus, adenovirus that cause pneumonia and even human papillomavirus (HPV) do not contain the lipid envelope.

- The oil-loving tail of the soap molecule also disrupts the bond that binds dirt and non-enveloped viruses to the hand. The dirt and viruses are surrounded by several tails making them remain as suspended particles. Rinsing with water washes away the suspended particles leading to clean hands.

Hence, till the vaccination and medication will be available against COVID-19, the best way is to take precautions like washing hands, wearing masks, healthy life-style and diet & maintaining social distance.

Scitech Airon

- An air purifying technology, named '**Scitech Airon**', to disinfect State hospitals in COVID-19 fight, has been developed by an incubatee company of the Pune-based Science and Technology Park (STP or Scitech Park).
- It could offer an effective solution to the country's fight against the coronavirus COVID-19 contagion by reducing the viral load of the infected areas.
- It is a negative ion generator that controls the virus, bacteria, and other fungal infections in a closed environment and could help purify air & disinfect areas around COVID-19 positive cases & suspects.
- The technology has been developed under the '**Nidhi Prayas**' programme.

Nidhi Programme

- NIDHI (National Initiative for Development and Harnessing Innovations), an umbrella program, is pioneered by Department of Science & Technology (DST), Government of India.
- It aims at nurturing ideas and innovations (knowledge-based and technology-driven) into successful startups.
- **Objectives**
 - To promote student startups and student innovations and take forward to the commercialization stage.
 - To accelerate the journey of ideas to prototype by providing initial funding assistance.

NIDHI-PRAYAS (PRomoting and Accelerating Young and Aspiring Innovators and Startups)

- PRAYAS was launched on 2nd September, 2016.
- The program would target to facilitate and enable minimum 100 innovators annually across the country in translating their ideas into prototypes through funding support to maximum 10 PRAYAS Centres (PC) in the country.
- It aims to support innovators to build prototypes of their ideas by providing a grant up to Rs.10 lakhs and an access to Fabrication Laboratory (Fab Lab).

Electoral Ink For Home Quarantine Stamps

- In a rare move, the Election Commission of India allowed use of indelible ink to stamp home quarantine tags on people following a surge in cases of Covid-19 in the country.
- The Commission took a "suo-moto" decision to allow health authorities the use of the ink.
- Electoral ink is also known as indelible ink, electoral stain or phosphoric ink.
- It is traditionally violet in colour, before the photosensitive element takes effect to leave a black or brown mark.

- It uses **silver nitrate**, and excessive exposure can cause argyria. Silver nitrate stains the skin on exposure to ultraviolet light, leaving a mark that is impossible to wash off and is only removed as external skin cells are replaced. Typically, it stays on skin for 72–96 hours, lasting 2 to 4 weeks on the fingernail and cuticle area.
- It was first used during the 1962 Indian general election, in Mysore State, now the modern-day state of Karnataka.
- **Council of Scientific and Industrial Research** developed the ink in 1960s and transferred it to **Mysore Paints and Varnish Limited**, which has been the sole supplier ever since.

Argyria

- Argyria or argyrosis is a condition caused by excessive exposure to chemical compounds of the element silver, or to silver dust.
- The most dramatic symptom of argyria is that the skin turns blue or blue-grey.

Hantavirus

- Cases of hantavirus have been found in Yunnan province of China.
- Hantaviruses are a family of viruses spread mainly by rodents.
- Hantavirus was originally discovered in Asia during the Korean War. It was discovered in a striped field mouse near the Hantan River in South Korea. Hence the prototype was christened the Hantaan virus.
- The actual virus was not isolated until 20 years later, in 1976.
- Hantaviruses can cause Hantavirus Pulmonary Syndrome, which is an infectious disease characterised by flu-like symptoms. Late Symptoms can be lungs filling with fluid and life-threatening shortness of breath.
- It can also cause hemorrhagic fever with renal syndrome.
- Being a zoonotic disease, each hantavirus serotype has a specific rodent host species.
- It can spread to people via the aerosolised virus that is shed in urine, feces, and saliva. It can spread less frequently by a bite from an infected host.
- There are dozens of types of hantaviruses, the majority of which do not cause disease in humans.
- It remains unclear whether human-to-human transmission of the virus is possible. There have been no reports of human-to-human transmission of hantavirus in the US.
- Chile and Argentina, however, have had rare cases, where close contacts of the patient, who was ill with a type of hantavirus called the Andes virus, were also infected.

Hantavirus in brief

How the virus spreads to humans

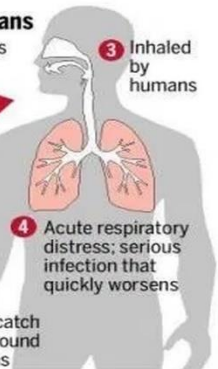


Symptoms

- | | |
|----------------|------------------------|
| Early | Later, 1-2 days |
| • Chills | • Dry cough |
| • Fever | • Headache |
| • Muscle aches | • Nausea, vomiting |
| | • Shortness of breath |

Characteristics

- Most prevalent in rural areas
- Campers and hikers more likely to catch the virus, because tents rest on the ground
- Cannot be spread between humans



Multidrug Resistant Tuberculosis (MDR-TB)

- A small trial (Nix-TB) was undertaken at three sites in South Africa to test the safety and efficacy of three oral drugs — bedaquiline, pretomanid and linezolid.

- Patients with extensively drug-resistant TB (XDR-TB) and multidrug-resistant TB (MDR-TB) showed encouraging results. The treatment success rate was 90%.
- **Multidrug Resistant Tuberculosis (MDR-TB)** is a form of tuberculosis (TB) infection caused by bacteria that are resistant to treatment with at least two of the most powerful first-line anti-TB medications (drugs), **isoniazid** and **rifampin**.
- Some forms of TB are also resistant to second-line medications, and are called **Extensively Drug-resistant TB (XDR-TB)**.

Tuberculosis

- Tuberculosis (TB) is an infectious disease usually caused by **Mycobacterium tuberculosis (MTB)** bacteria.
- It generally affects the lungs, but can also affect other parts of the body.
- The classic symptoms of active TB are a chronic cough with blood-containing mucus, fever, night sweats, and weight loss.
- It was historically called "consumption" due to the weight loss.
- Tuberculosis is spread through the air when people who have active TB in their lungs cough, spit, speak, or sneeze.
- Prevention of TB involves screening those at high risk, early detection and treatment of cases, and vaccination with the bacillus Calmette-Guérin (BCG) vaccine.

World Tuberculosis Day

- It is observed every year on 24th March, to commemorate the anniversary of **Dr. Robert Koch's** discovery of the Tuberculosis (TB) bacteria in 1882.
- 2020 theme: "It's Time"

Iron Raining

- Astronomers from University of Geneva found that the newly discovered bizarre **exoplanet** gets rainy in the evening, but instead of water, it rains iron.
- They call this exoplanet the **Wasp-76 b**.
- The exoplanet's weather conditions include a steady showering of molten iron rain, 2,400 degrees Celsius temperature, and winds above 10,000mph.

Wasp-76 b

- It is slightly smaller than Jupiter and is somewhere in the constellation **Pisces** that is about 640 light-years away from our planet.
- This exoplanet is one of those gas giant worlds classified as **hot Jupiters** that orbit uncomfortably close to their sun- or nearly 10 times closer than Mercury to our sun, that causes it to be hot enough to vaporize metal.
- Because of its proximity to its home star, it leaves Wasp-76 b to be "tidally locked" to it.
- The star's gravity stretches the planet into a prolate spheroid shape that resembles a football.
- The daytime hemisphere of Wasp-76 b causes the iron in its atmosphere because it gets a great amount of radiation from its star.

- The wind then carries it to the planet's night side which has an extremely cooler temperature and there it lets iron condense into drops and fall as a bizarre rain.

Exoplanet

- An exoplanet or extrasolar planet is a planet outside the Solar System.
- The first possible evidence of an exoplanet was noted in 1917, but was not recognized as such. The first confirmation of detection occurred in 1992.
- This was followed by the confirmation of a different planet, originally detected in 1988.
- As of 2 April 2020, there are 4,241 confirmed exoplanets in 3,139 systems, with 691 systems having more than one planet.
- There are many methods of detecting exoplanets - Transit photometry and Doppler spectroscopy have been found to be the most famous.

Superhydrophobic Coating To Save Metallic Surfaces

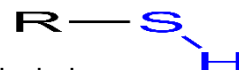
- The team from the Indian Institute of Technology (Indian School of Mines), Dhanbad, and Ohio State University used **polyurethane** and **silicon dioxide nanoparticles** to create the coating which can be easily spin-coated on steel.
- Team was fascinated by the beauty of water rolling off a lotus leaf, and has now created a similar **superhydrophobic coating** that can be used to save steel from rusting.
- Superhydrophobic coating is a nanoscopic surface layer that repels water.
- The coating can be done on other metallic surfaces, such as aluminum, copper, brass as well as for glass, cloth, paper and wood.
- Coating is more advantageous and cost-effective compared to immersion coating and spray coating.

Polyurethane (PUR and PU)

- It is a polymer composed of organic units joined by carbamate (urethane) links.
- While most polyurethanes are thermosetting polymers that do not melt when heated, thermoplastic polyurethanes are also available.
- Polyurethanes are in the class of compounds called reaction polymers, which include epoxies, unsaturated polyesters, and phenolics.

Thiols

- Thiols, sometimes referred to as **mercaptans**, are used as **odorants** to assist in the detection of **natural gas** (which in pure form is odorless), and the "smell of natural gas" is due to the smell of the thiol used as the odorant.
- A facile, efficient, convenient and environmentally friendly method for the oxidation of various **thiols** to their corresponding disulfides, catalyzed by KF-Al₂O₃ (Potassium Fluoride-Aluminium oxide), in very short reaction times in acetonitrile and at room temperature has been reported.
- A **thiol or thiol derivative** is any organosulfur compound of the form R-SH, where R represents an alkyl or other organic substituent, i.e. an organic compound containing the group —SH, i.e. a sulphur-containing analogue of an alcohol. The —SH functional group itself is referred to as either a thiol group or a sulfanyl group.



- Many thiols have **strong odors** resembling that of garlic or rotten eggs.

Humidity and Coronavirus

- A study by researchers at the **Massachusetts Institute of Technology** (MIT) said that regions experiencing a monsoon might see a slowing, but not a stop, to the transmission of virus. Therefore, this could help mitigation strategies in tropical countries such as India.
- Coronaviruses are sensitive to humidity and are less likely to thrive at moderate levels of humidity. The maximum number of cases were reported in regions with an average humidity range of 3-9 g/cubic metre, which comprised the United States and several European countries that are inundated by COVID-19 infections.
- Warmer and humid countries such as Singapore, Australia, Taiwan and Qatar had comparatively fewer infections, it was possible that warmer temperatures retarded the spread of the virus.
- However, it is important to note that these studies didn't study actual coronaviruses but a **bacteriophage Phi6**, which is considered a safer surrogate.

Bacteriophage

- A bacteriophage, also known informally as a phage, is a virus that infects and replicates within bacteria and archaea.
- Bacteriophages are composed of proteins that encapsulate a DNA or RNA genome, and may have structures that are either simple or elaborate.

Phi6

- Φ6 (Phi 6) is the best-studied bacteriophage of the virus family Cystoviridae.
- It infects Pseudomonas bacteria (typically plant-pathogenic P. syringae).
- It has a three-part, segmented, double-stranded RNA genome, totalling ~13.5 kb in length. Φ6 and its relatives have a lipid membrane around their nucleocapsid, a rare trait among bacteriophages.

Innovations For Defence Excellence (iDEX)

- Innovations For Defence Excellence was launched by Government of India in April 2018.
- It primarily aims at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, start-ups, individual innovators, R&D institutes & academia etc.
- It provides them grants/funding and other support to carry out R&D which has good potential for future adoption for Indian defence and aerospace needs.
- iDEX is funded and managed by a 'Defence Innovation Organization (DIO)'.

Defence Innovation Organization (DIO)

- It has been formed as a 'not for profit' company as per Section 8 of Companies Act 2013.
- It has two founder members i.e. Defence Public Sector Undertakings (DPSUs) - HAL & BEL.
- iDEX will function as the executive arm of DIO, carrying out all the required activities while DIO will provide high level policy guidance to iDEX.

Starch-based Materials To Stop Blood Loss During Accidents

- Scientists from the Institute of Nano Science and Technology (INST) have developed a starch-based '**hemostat**' material that concentrates the natural clotting factors in blood by physically absorbing excess fluid.
- The natural starch is **modified chemically to form microparticles**, which has combined the advantages of biocompatibility and biodegradability with a five- to ten-fold increase in fluid absorption and much-improved adhesion.
- The microparticles of the product, known as '**calcium-modified carboxymethyl-starch**,' swelled up to form a cohesive and adherent gel.
- The microparticles are prepared by modifying some of the chemical **hydroxyl groups on starch to carboxymethyl groups** while also incorporating the beneficial **calcium ions**, which encourages the aggregation of red blood cells and platelets and their activation to generate the fibrin protein network that forms a stable blood clot.
- This modification **increases the ability of the molecules to interact with water**.
- This is the basis of its impressive ability to absorb fluid from the blood and hence concentrate the clotting factors.
- The biodegradable microparticles that combine to form a gel on a wound offer significant improvements over existing alternatives.
- The product has increased absorption capacity, improved absorption, inexpensive, biocompatible as well as biodegradable.

Institute of Nano Science and Technology (INST)

- INST is an **autonomous institute** under the Department of Science & Technology (DST).
- It has been established under the umbrella of **NANO MISSION**, initiated by DST to boost **research and development in the field of Nanoscience and Nanotechnology** in India.

Laser Surface Micro-Texturing

- International Advanced Centre for Powder Metallurgy & New Materials (ARCI) has developed ultrafast **laser surface texturing technology** to improve the fuel efficiency of internal combustion engines.
- In this technology, a pulsating laser beam creates micro-dimples or grooves on the surface of materials in a very controlled manner.
- Such textures can trap wear debris when operating under dry sliding conditions and sometimes provide effects like enhancing oil supply (lubricant reservoir) which can lower friction coefficients and may enable reduced wear rate.
- There was a 16% reduction in the lube oil consumption with the use of texture on the piston rings.
- Fabrication of a pattern of micro dimples or grooves on the surface of materials **results in a change in surface topography** which generates additional hydrodynamic pressure, thereby increasing the load-carrying capacity of the surfaces.
- Hence these become useful for trapping wear debris when operating under dry sliding conditions and sometimes provide effects like enhancing oil supply (lubricant reservoir) which can lower friction coefficients and may enable reduced wear rate.
- Laser surface micro-texturing offers precise control of the size, shape and density of micro-surface texture features.

- It has gained momentum as a way to control friction and wear.

International Advanced Centre for Powder Metallurgy & New Materials (ARCI)

- International Advanced Centre for Powder Metallurgy & New Materials (ARCI), is an **Autonomous Research and Development Centre** of **Department of Science and Technology (DST)**, Government of India.
- It was **established in 1997** with the main campus at Hyderabad and with operations in Chennai and Gurgaon.
- ARCI's mandate is
 - Development of High Performance Materials and Processes for Niche Markets
 - Demonstration of Technologies at Prototype / pilot scale
 - Transfer of Technology to Indian Industry

Jasmonic acid

- Scientists in the US have discovered a network through which plants communicate in times of pest attack. This may help develop crops that can withstand insect attacks.
- **Jasmonic acid** was found to be particularly important for a **plant's defense response against fungi and insects**.
- In the study, the scientists used the plant **Arabidopsis thaliana**, a widely studied small flowering plant in the mustard family, whose genome has been well characterised.
- The study team could identify genes important for the **plant's response to jasmonic acid**, and for the **cellular cross-communication with other plant** hormone pathways.
- According to the scientists, the **genes MYC2 and MYC3** rose to the top in regulating the activity of thousand other genes.
- By assessing these gene networks and subnetworks, researchers could **understand the architecture of the whole plant hormone system**.
- It also helped them to understand which genes are turned on and off during a plant's defense response.
- Ultimately, the process helps in identifying breeding crops that are able to better withstand attacks from pests.

Hydroxychloroquine As Schedule H1 Drug

- The ICMR had recommended the use of hydroxychloroquine for the following:
 - High risk COVID-17 patients
 - Healthcare worker who is treating a COVID patient
- The Ministry of Health, through a special amendment, has categorised hydroxychloroquine (HCQS) drug as a schedule H1 drug- which means it cannot be sold over the counter. This has been done under **Section 26B of the Drugs and Cosmetics Act, 1940**.
- **Schedule H1 drugs** are required to be sold in the country with the following conditions:
 - The supply of a drug specified in Schedule H1 shall be recorded in a separate register at the time of the supply giving the name and address of the prescriber, the name of the patient, the name of

the drug and the quantity supplied and such records shall be maintained for three years and be open for inspection.

- The drug specified in Schedule H1 shall be labelled with the symbol Rx which shall be in red and conspicuously displayed on the left top corner of the label, and shall also be labelled with the following words in a box with a red border.

Schedule H1 Drug-Warning

- It is dangerous to take this preparation except in accordance with the medical advice.
- Not to be sold by retail without the prescription of a Registered Medical Practitioner.”

Solidarity Trial

- India is all set to join World Health Organisation’s “Solidarity trial” aimed at rapid global search for drugs to treat COVID-19. The government has decided to participate in the solidarity trial because of the rising number of cases and challenges faced by India,
- Many countries, including Argentina, Bahrain, Canada, France, Iran, Norway, South Africa, Spain, Switzerland, and Thailand have already confirmed joining the solidarity trial.
- The Solidarity Trial will test four different drugs or combinations - remdesivir, a combination of two drugs lopinavir and ritonavir, the two drugs plus interferon beta, and chloroquine.
- It will also compare their effectiveness to the standard of care, the regular support hospitals treating COVID-19 patients use now.
- WHO has also created a Covid-19 Solidarity Response Fund, to help provide protective equipment for front-line health workers, establish and maintain intensive care units, accelerate research and development of vaccines and therapeutics, and take other critical steps to scale up the public health response to the Covid-19 pandemic.

Exercise Red Flag

- The U.S. has cancelled Phase-I of its flagship multilateral air exercise, Red Flag, due to COVID-19. It was scheduled in Alaska from April 30.
- Red Flag-Alaska is a Pacific Air Forces-sponsored exercise meant to provide realistic training in a simulated combat environment over the Joint Pacific Alaska range complex.
- Indian Air Force (IAF) was to take part in the exercise with its Sukhoi Su-30 fighter jets.

Community Transmission

- The Department of Health Research and the Indian Council of Medical Research (DHR-ICMR) will start testing influenza patients without any travel history or contact with novel coronavirus disease (COVID-19) for signs of community transmission.
- **Stages of a Pandemic**
 1. In the first stage of a disease epidemic that eventually takes the form of a pandemic sweeping the globe, **cases are imported into a country in which the infection did not originate.**
 2. The second stage is of **local transmission.** It means that the **source of the infection is from within a particular area** and the trajectory the virus has taken from one person to the next is clearly established.

3. The third stage is that of **community transmission**. Community transmission is when people begin to catch a disease from those who do not know they have the infection. In layman terms, it means that the virus is now circulating in the community, and can infect people with no history either of travel to affected areas or of contact with an infected person. If and when community transmission happens, there might arise the need for a full lockdown because in that situation it is theoretically possible for every person, regardless of where they are from and who they have been in contact with, to spread the disease.
4. The fourth stage is **when the disease becomes endemic** in some countries. Among diseases that are currently endemic in India, that is they occur round the year across the country, are malaria and dengue.
 - The stages of a pandemic are uniform the world over because in today's interconnected world, it is important to have a standardised phraseology that conveys the same thing to every person around the world, and helps countries prepare better.
 - The categorisation helps countries take specific actions that are necessary to target just that particular scenario.

Three Flagship Marshland Species Found In Odisha's Chilika Lake

- **Fishing Cat, Smooth-coated Otter and Eurasian Otter** populations detected in Chilika Lake
- The **Fishing Cat is the only wetland cat in India**. Wild cat species primarily hunt on ground. But the fishing cat hunts majorly in water. It has specialised features like partially webbed feet and a water-resistant fur that helps it thrive in wetlands.
- **Eurasian Otter, a semi-aquatic mammal native to Eurasia**, has been sighted for the first time in the brackish water lagoon and little is known about its distribution and abundance in India and especially along the country's eastern coast.
- **The Smooth-coated Otter**, found in most of the Indian subcontinent and Southeast Asia whose presence in the wetland had been previously confirmed.
- All three are **facing threats of habitat loss and especially the loss of wetland vegetation** throughout the world, that gives them refuge and a space to breed in.

Protection Status

- The **fishing cat and smooth-coated otter are 'Vulnerable'** according to the International Union for Conservation of Nature Red List of Threatened Species. **The Eurasian otter is 'Near Threatened'**.
- These three wetland carnivores are also protected under the **Wild Life (Protection) Act, 1972**.
- Both the otters belong to **Schedule II of the Act**, the **fishing cat belongs to Schedule I like the tiger and elephant** and deserves protection measures of the highest accord

Relation Between Detection Of Species & Conservation Of Chilika Lake

- At present, the **Irrawady dolphin and migratory birds** are the focus of research and management interventions in Chilika.
- On the other hand, the wetlands of Chilika provide rich foraging grounds for winter migrants.
- However, **no special attention was given to the marsh habitat** after the migrants left. As a result, **illegal, intensive pisciculture farms had increased tenfold** in the last decade in the area.
- It is here that the presence of three wetland specialists — all mammals and carnivores — matters. **Once the presence of these species are highlighted**, there will be more attention to come to this India's largest contiguous marshland.

- This year, Chilika Development Authority took a significant step to **halt illegal aquaculture farms** that had begun spreading rapidly in the marshland, endangering the rich wetland biota and the livelihood of the **Behera (indigenous fisherfolk) community**

Extra Mile**Chilika Lake**

- It is a brackish water lagoon, spread over the Puri, Khurda and Ganjam districts of Odisha state on the east coast of India, at the **mouth of the Daya River**, flowing into the Bay of Bengal, covering an area of over 1,100 km².
- It is the **largest coastal lagoon in India** and the second largest lagoon in the world
- Chilika Lake was designated as the **first Indian wetland of international importance under the Ramsar Convention In 1981.**

Black Carbon Levels Spike At Himalayan Glaciers

- **Black carbon concentrations** near the Gangotri glacier **rose 400 times in summer** due to forest fires and stubble burning from agricultural waste, and triggered glacial melt.
- The concentration varied from a minimum of 0.01µg/cubic metre in winter to 4.62µg/cubic metre during summer.
- Being a pristine zone far from sources of pollution, **the measurements are critical to establishing a baseline for pollution loads** and estimating the contribution of various sources to pollution.

About Black Carbon

- Black carbon results from the **incomplete combustion of fossil fuels and biomass.**
- **The fine particles absorb light** and about a million times more energy than carbon dioxide.
- Unlike CO₂, which can stay in the atmosphere for years together, **black carbon is short-lived** and remains in the atmosphere only for days to weeks before it descends as rain or snow.

Issues Associated Black Carbon

- It is said to be the **second largest contributor to climate change after CO₂**. It has multiple climate effects, **changing clouds and monsoon circulation** as well as accelerating ice melt.
- Black carbon **absorbs solar energy and warms the atmosphere**. When it falls to earth with precipitation, it **darkens the surface of snow and ice, reducing their albedo** (the reflecting power of a surface), warming the snow, and **hastening melting**.
- Glaciers are melting at an increasing rate, which leads to the release of atmosphere-derived toxic elements in the environment through glacial streams
- **India is the second largest emitter of black carbon** in the world, with emissions expected to increase dramatically in the coming decades.

Cheetah re-introduction Into India

Days after the Supreme Court green-lighted introduction of cheetahs into India, the top scientist at the laboratory for saving extinct species says it will be a challenge. In 1952, the **cheetah was officially declared extinct from India.**

Background

- The Supreme Court recently **allowed the Centre to introduce the African cheetah from Namibia to a suitable habitat** in India. Before Namibia, India had **approached Iran** for Asiatic cheetahs, but Iran refused to part with any of its few surviving Asiatic cheetahs, then the focus turned to the African variety.
- The decision of the apex court was based on the application filed by the **National Tiger Conservation Authority (NTCA)**, in which it had sought the court's permission for the introduction of the wild creature. NTCA will be guided by the panel of experts, who will conduct a survey to determine the best location to introduce the African Cheetahs.
- The NTCA had earlier also filed an application before the apex court, seeking permission to introduce the mighty cat, but the **application was rejected by the SC in 2013**, stating that the **move could not be allowed since no detailed study had been conducted** in India on how to introduce a foreign species in the Indian habitat.
- However, when the NTCA again filed a plea, **highlighting the extinction of cheetah** in the wilderness, in 2018 and the apex court decided to hear the plea.

Need For Reintroduction

- Reintroduction of a species means **releasing it in an area where it is capable of surviving**.
- Reintroduction of large carnivores have increasingly been recognized as a **strategy to conserve threatened species** and restore ecosystem functions.
- The cheetah is the only large carnivore that has been extirpated, mainly by over-hunting in India in historical times. **India now has the economic ability** to consider restoring its lost natural heritage for ethical as well as ecological reasons

African Cheetah And Asiatic Cheetah

- The **Asiatic cheetah is classified as a "critically endangered"** species by the IUCN Red List, and is **believed to survive only in Iran**.
- From 400 in the 1990s, their numbers are estimated to have plummeted to **50-70 today**, because of poaching, hunting of their main prey (gazelles) and encroachment on their habitat.
- Wildlife geneticists & conservationists opined that physically, there are **barely any differences between the Asiatic and African sub-species** of cheetahs.

Challenges/Concerns With Cheetah Reintroduction:

- **A cheetah requires a large area to support itself** and India has very few natural grasslands left. Also humans take over grasslands and use them for agriculture, bringing the Cheetah into such a landscape could cause **serious human-animal conflict**
- **India needs a conservation policy that retains short grass**, prevents excessive tree cover and **ensures controlled fires in the winter**.
- The background extinction rates are over 100 to 1000 times due to various reasons like **hunting, destruction of habitat and human intervention**. This issue also need to be addressed.
- India will **need a protocol to introduce wild animals** in the country. "The International Union for Conservation of Nature (IUCN) has a protocol & template guidelines but we need to **adapt them to our needs and develop for our own species**
- There is a need to **create provisions under the Wildlife Act for a policy on introduction of wild animals**.

Additional Information**NTCA**

- The National Tiger Conservation Authority is a **statutory body** under the **Ministry of Environment, Forests and Climate Change** constituted under enabling provisions of the Wildlife (Protection) Act, 1972, as amended in 2006, for strengthening tiger conservation, as per powers and functions assigned to it under the said Act.
- **Environment Minister is the Chairman** of the NTCA.

Objective of the NTCA

- **Providing statutory authority to Project Tiger** so that compliance of its directives become legal.
- Fostering accountability of Center-State in management of Tiger Reserves, by providing a basis for MoU with States within our federal structure.
- Providing for an oversight by Parliament.
- Addressing livelihood interests of local people in areas surrounding Tiger Reserves.

Power and Functions of the NTCA

- **To approve the tiger conservation plan** prepared by the State Government
- Evaluate and assess various aspects of sustainable ecology and disallow any ecologically unsustainable land use such as, mining, industry and other projects within the tiger reserves;
- Lay down normative standards for tourism activities and guidelines for project tiger
- Provide for management focus and measures for addressing conflicts of men and wild animal.

National Clean Air Programme (NCAP)

Union Environment Ministry has asked for city-level plans for National Clean Air Programme (NCAP) as these problems need to be dealt with at the local level.

About NCAP

- The government had launched National Clean Air Programme in Jan' 2019, a time-bound national level strategy to tackle increasing air pollution. The NCAP will be a **mid-term, five-year action plan with 2019 as the first year**.
- **Aim:** 20-30% reduction of PM2.5 and PM10 concentration by 2024. The programme would take 2017 as the base year for the comparison of concentration.
- **Objectives:** Comprehensive mitigation actions for **prevention, control and abatement of air pollution** besides augmenting the air quality monitoring network across the country and strengthening the awareness and capacity building activities
- The national plan has proposed setting up an **Apex Committee** under Environment Minister, a **Steering Committee** under Secretary (Ministry of Environment) and a **Monitoring Committee** under a Joint Secretary (Ministry of Environment).
- Following reports by the WHO and obtained air quality data, **102 cities from 23 States and UTs have been chosen as non-attainment cities**. With the exception of Delhi, Mumbai, Kolkata and Bengaluru, most of those chosen are tier two cities. **City specific action plans are being formulated** for these 102 non-attainment cities.

Initiatives Under NCAP

- **Augmenting Air Quality Monitoring Network:** National air quality monitoring network to be revisited, past data to be analyzed for rationalization of monitored parameters.
- **Air Quality Management Plan for 100 Non-Attainment Cities:** The city action plans need to be guided by a comprehensive science based approach involving (i) identification of emission sources; (ii) assessment of extent of contribution of these sources; (iii) prioritizing the sources that need to be tackled; (iv) evaluation of various options for controlling the sources with regard to feasibility and economic viability; and (v) formulation of action plans.
- **Indoor Air Pollution Monitoring & Management:** It refers to the physical, chemical, and biological characteristics of air in the indoor environment within a home, building, or an institution or commercial facility.
- **National Emission Inventory:** An emission inventory is an **accounting of the amount of pollutants discharged into the atmosphere**. An emission inventory usually contains the total emissions for one or more specific air pollutants, originating from all source categories in a certain geographical area and within a specified time span, usually a specific year.
- **Network of Technical Institutions:** Knowledge Partners Network of highly qualified and experienced academicians, academic administrators and technical institutions in the area of air pollution will be created.
- **Technology Assessment Cell:** Technology Assessment Cell is being envisaged to evaluate the technologies having significance in reference to prevention, control and abatement of pollution.

Other Significant Steps By Government To Tackle Air Pollution

- Notification of **National Ambient Air Quality Standards** and sector specific emission and effluent standards for industries;
- **Launching of National Air Quality Index (AQI)**
- Introduction of cleaner gas fuels like **CNG, LPG etc and ethanol blending**;
- **Leapfrogging from BS-IV to BS-VI standards** for vehicles by 1st April, 2020;
- Banning of burning of biomass;
- Notification of **Graded Response Action Plan for Delhi and NCR** identifying source wise actions for various levels of air pollution, etc.
- Pollution Under Control Certificate;
- Ban on bursting of sound emitting crackers between 10 PM to 6 AM;

Global Coalition for Biodiversity

- **The European Commission (EC)** launched a coalition '**United for Biodiversity**' on **World Wildlife Day**(3rd March).
- The coalition is **made up of zoos, aquariums, botanical gardens, national parks, and natural history and science museums** from around the world
- It offered the opportunity for all such institutions to "**join forces and boost public awareness about the nature crisis**, ahead of the crucial COP-15 of the Convention on Biological Diversity in Kunming, China in October 2020," when nations will adopt a new global framework to protect and restore nature.

- The coalition adopted a common pledge, citing the **Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)** Global Assessment finding that **one million species were already at risk of extinction, and appeals to visitors to each of their institutions to “raise their voice for nature.”**

About Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

- It is an independent intergovernmental body established by States to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.
- **It is not a United Nations body.** It was established in Panama City, on 2012 by 94 Governments.
- However, at the request of the IPBES, the **United Nations Environment Programme (UNEP)** provides secretariat services to IPBES.

UN World Wildlife Day

- In 2013, the **United Nations General Assembly (UNGA)** proclaimed **3 March – the day of signature of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)** in 1973 – as UN World Wildlife Day to celebrate and raise awareness of the world’s wild animals and plants.
- The UNGA resolution also designated the **CITES Secretariat as the facilitator** for the global observance of this special day for wildlife on the UN calendar.
- World Wildlife Day will be celebrated in 2020 under the theme "**Sustaining All Life On Earth**", encompassing all wild animal and plant species as key components of the world's biodiversity.
- This aligns with **UN Sustainable Development Goals 1, 12, 14 and 15**, and their wide-ranging commitments on alleviating poverty, ensuring sustainable use of resources, and on conserving life both on land and below water to halt biodiversity loss.

Community Forest Rights (CFR)

- A study by **The Energy and Resource Institute (TERI)** noted that State-level guidelines must be created for sustainable resource usage in areas where **Community Forest Resource (CFR) rights** are given under the **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA)**.
- The study was commissioned by the **Ministry of Tribal Affairs (MoTA)** in February 2019.

Highlights Of The Study

- MoTA must issue broad guidelines and **principles for implementation of CFRs**, mentioning specific role of the state forest department, state tribal/social welfare department, revenue department and gram sabhas.
- State governments should prepare **state-specific guidelines** on the basis of MoTA’s guidelines.
- MoTa should focus on **capacity-building of gram sabha members, assessment of the biomass stock and biodiversity conservation.**
- The **micro-plans prepared by gram sabha** for their respective CFR should be a part of the working plans of forest division concerned, so that forest staff could facilitate the implementation of sustainable forest management

About Community Forest Rights (CFR)

- Community forest rights recognized under the **Forest Rights Act** are important for **securing livelihoods of the forest communities** and for strengthening **local self-governance** of forests and natural resources. Under FRA, a village can get its **traditionally held forest land, legally recognised as CFR**.
- The FRA gives gram sabhas “**right to protect, regenerate or conserve or manage any community forest resource** which they have been traditionally protecting and conserving for sustainable use
- **Around 1 lakh hectares has already been recognised** from over 3.4 crore ha. But there are **no guidelines for gram sabhas** to conserve and manage these areas so far.

Rights Under FRA

The FRA recognizes a number of pre-existing rights of forest dependent communities which have been unrecorded in the past. These rights include:

- **Community rights such as nistar**, by whatever name called, including those used in erstwhile Princely States, zamindari or such intermediary regimes;
- **Right of ownership, access to collect, use, and dispose of minor forest produce** which has been traditionally collected within or outside village boundaries;
- Other community rights of uses such as **fish and other products of water bodies, grazing** and traditional seasonal resource access of nomadic or pastoralist communities;
- **Community tenures of habitat** and habitation for primitive tribal groups and pre-agricultural communities;
- **Rights of settlement** and conversion of all forest villages, old habitation, unsurveyed villages and other villages in forests, whether recorded, notified or not into revenue villages;
- **Right to protect, regenerate or conserve or manage any community forest resource (CFR)** which they have been traditionally protecting and conserving for sustainable use;
- **Rights which are recognised under any State law** or laws of any Autonomous District Council or Autonomous Regional Council or which are accepted as rights of tribals under any traditional or customary law of the concerned tribes of any State;
- **Right of access to biodiversity** and community right to intellectual property and traditional knowledge related to biodiversity and cultural diversity; and
- Any other traditional right customarily enjoyed by the forest dwelling Scheduled Tribes or other traditional forest dwellers, excluding the traditional right of hunting or trapping

Coral Bleaching At The Great Barrier Reef

- Scientists have warned that the **Great Barrier Reef** will face a critical period of heat stress over the coming weeks, following **the most widespread coral bleaching** the natural world has ever endured.
- **Warming ocean temperatures**, a sign of climate change, is associated with the deteriorating health of the Reef

Coral Polyps, Colonies, And Reefs

- Coral polyps are tiny, soft-bodied organisms related to sea anemones and jellyfish.
- Coral reefs are large underwater structures composed of the skeletons of colonial marine invertebrates called coral. The coral species that build reefs are known as hermatypic, or "hard," corals because they **extract calcium carbonate from seawater** to create a hard, durable

exoskeleton that protects their soft, sac-like bodies. This protective limestone skeleton at the base of corals called a **calicle**, which forms the structure of coral reefs.

- Reefs begin when a polyp attaches itself to a rock on the sea floor, then divides, or buds, into thousands of clones. The polyp calicles connect to one another, creating a colony that acts as a single organism. As colonies grow over hundreds and thousands of years, they join with other colonies and become reefs.

Coral Bleaching

- Corals are bright and colorful because of microscopic algae called **zooxanthellae**. The zooxanthellae live within the coral in a mutually **beneficial relationship**, each helping the other survive.
- When corals are stressed by changes in conditions such as temperature, light, or nutrients, **they expel the symbiotic algae living in their tissues, causing them to turn completely white**, hence bleached.
- Coral bleaching does not mean the corals are dead, but **make them vulnerable**, hence increasing their mortality.

Causes of Coral Bleaching

- The leading cause of coral bleaching is **climate change**. A warming planet means a warming ocean, and a **change in water temperature**—as little as 2 degrees Fahrenheit—can cause coral to drive out algae. For instance, in 2005, the US lost half of its coral reefs in the Caribbean in one year due to a massive bleaching event.
- Even so, not all bleaching events are due to warmer temperatures. In January 2010, **cold water temperatures in the Florida Keys caused a coral bleaching** that resulted in some coral deaths.
- Coral may bleach for other reasons, such as **extremely low tides, pollution, or too much sunlight**.
- Apart from climate change, other threats included **coastal development, land-based run-off and direct human use, such as activities like illegal fishing**.

Impacts Of Coral Bleaching

A. On Wildlife

- Once these corals die, reefs rarely come back. With few corals surviving, they struggle to reproduce, and entire reef ecosystems, on which people and wildlife depend, deteriorate.
- Coral reefs support some of the **most biodiverse ecosystems on the planet**. Coral reefs provide shelter, spawning grounds, and protection from predators. They also support organisms at the base of ocean food chains. As **reef ecosystems collapse, already at-risk species may face extinction**

B. On Humans

- Coral reefs are **natural barriers that absorb the force of waves and storm surges**, keeping coastal communities safe. Without them, we must rely on manmade seawalls that are expensive, less effective, and environmentally damaging to construct.
- **Reef tourism** brings in billions of dollars each year and supports thousands of jobs. Bleached coral reefs, devoid of magnificent marine species, jeopardize it all. E.g. The Great Barrier Reef, makes up roughly 10 per cent of the world's coral reef ecosystems. Today, the reef is a Marine Park and World

Great Barrier Reef

- Great Barrier Reef, located in the **Coral Sea, off the coast of Queensland, Australia** is the **longest and largest reef complex in the world**
- In 1981, Great Barrier Reef was added to **UNESCO's World Heritage List**.
- The Great Barrier Reef Marine Park, which spreads across 2,300 km, is home to about **3,000 coral reefs**, 600 continental islands, 1,625 type of fish, 133 varieties of shark and rays and 600 types of soft and hard corals.

Heritage Area and supports a range of activities and contributes over AUD \$5.6 billion each year to the Australian economy and is also responsible for creating over 70,000 jobs.

- Bleached coral also compounds the **overfishing crisis** by removing links in the food web and depriving some fish and crustacean species of a place to spawn and develop. Anyone relying on these animals as a primary source of income or protein will be in trouble.

Way Forward

- **Coral restoration** through farming or transplanting has often been mentioned as a possible solution for reefs in crisis, but it is not likely to be a serious remedy until the original stressors that led to the demise of corals is removed.
- **Destructive harvesting and extraction**, as seen recently in the South China Sea, must stop. Ending the practice of releasing waste and sewage into coastal waters, which result in algal blooms, would be needed.
- **Halting unplanned coastal development**, which reduces the productivity of corals due to increased sedimentation, would play a significant role in reversing the decline of reefs in some locations.

Red-Crowned Roof Turtle (Batagur Kachuga)

- A family adopted a Red-crowned roof turtle.
- The red crowned roofed turtle is one of **the most endangered of India's 24 freshwater turtle species**, with only around an estimated 400 breeding females at the last overall survey in 2011
- It is characterized by the bright colours of courtship — **red, yellow, white and blue** — on the faces and necks of the males.
- **Conservation Status**
 - It is listed as **Critically Endangered** on the IUCN Red List of Threatened Species
 - Listed as **schedule 1 of the Indian Wildlife Protection Act 1972**
 - Listed on **Appendix II of the Convention on International Trade in Endangered Species (CITES)**, making it an offence to trade this species internationally without a permit.
- **Distribution: Endemic to South Asia**, the last known **stronghold for this river turtle is in the Chambal River** in central India. However, small isolated populations may still exist in **the Ganges and Brahmaputra river basins**.
- **Major Threats**
 - **High levels of hunting and habitat degradation**, including pollution and large-scale water extraction projects for agriculture and human consumption,
 - The Ganges River is considered one of the most polluted rivers in the world and the sandbars along the river, used by the turtles for nesting, have been heavily impacted by **sand mining and for growing seasonal crops**.
 - **Drowning in illegal fishing nets and irregular flow from upstream dams** are also a threat to this species.
- A joint conservation programme, established in 2005 in the National Chambal (River) Sanctuary, has been very successful in producing over 4,000 individuals for reintroduction.

Red Snow Or Watermelon Snow

- Over the past few weeks, snow around Ukraine's Vernadsky Research Base, located off the coast of Antarctica's northernmost peninsula, has started to take on **a red tinge**.

- It is due to the **chlamydomonas nivalis algae** that thrives in freezing weather. Because of the red tinge, the snow is often dubbed “**watermelon snow**”.

Why Is The Snow Turning Red

- Algae as found around the Ukrainian research base **grow well in freezing temperatures and liquid water**.
- Chlamydomonas nivalis algae's cells have a **red carotene layer which protects it from ultraviolet radiation**.
- During the summer, when these typically green algae get a lot of sun, they start **producing a natural sunscreen** that paints the snow in shades of pink and red. In the winter months, they lie dormant.
- The algae produce the tinted sunscreen **to keep themselves warm**.



Concerns:

- Red snow raises concerns about the **rate at which the glaciers will melt** away and eventually **affect sea-level rise**.
- Once snow becomes darker from the tinge, it **absorbs more heat**, as a result of which it melts faster.
- Further, these algae, that are not uncommon in other polar settings around the world, **change the snow's albedo**, which refers to the amount of light or radiation the snow surface is able to reflect back. The melting snow is good for the algae who thrive on it, but bad for the glaciers that are already melting.

GreenCo Rating

- GreenCo Rating has been acknowledged in India's **Intended Nationally Determined Contribution (INDC) document**, submitted to United Nations Framework Convention on Climate Change (UNFCCC) in 2015, as a proactive voluntary action of **Indian industry / private sector** towards combating climate change.
- **GreenCo rating assesses the units on their environmental performance** and thus aligns them to national priorities towards environment such as energy efficiency, water conservation, renewable energy, waste management, etc.

About GreenCo Rating

- It is developed by **Confederation of Indian Industry (CII)**. It is the "first of its kind in the World" holistic framework that **evaluates companies on the environmental friendliness of their activities** using life cycle approach.
- **Applicability:** GreenCo rating is applicable to both manufacturing facilities and service sector units. The unit or facility has to be in operation for a minimum period of 3 years.
- Implementation of GreenCo rating provides leadership and guidance to companies on how to make products, services and operations greener.
- **GreenCo rating Parameters:** It has **10 parameters** such as Energy Efficiency, Water Conservation, Renewable Energy, GHG Mitigation etc.
- **Period of validity:** 3 years from award of Rating.

Confederation of Indian Industry (CII)

- CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India's development process.
- Founded in 1895 and celebrating 125 years in 2020, The CII works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes

Olive Ridley

- Around 250,000 Olive Ridley sea turtles have come ashore for **mass nesting at Rushikulya beach of Odisha**. The animals had skipped Rushikulya last year and their absence was previously noted in 2002, 2007 and 2016 too.
- Around 300,000 turtles laid eggs in another rookery at **Gahiramatha marine sanctuary** in Kendrapara district recently.

About Olive Ridley

- The Olive ridley turtles are the **smallest and most abundant of all sea turtles** found in the world, **inhabiting warm waters** of the Pacific, Atlantic and Indian oceans.
- These turtles, along with their cousin the Kemps ridley turtle, are best known for their **unique mass nesting called Arribada**, where thousands of females come together on the same beach to lay eggs.
- **They are carnivores**, and feed mainly on jellyfish, shrimp, snails, crabs and a variety of fish and their eggs
- The coast of Orissa in India is the largest mass nesting site for the Olive-ridley, followed by the coasts of Mexico and Costa Rica.
- **Conservation Status**
 - **Vulnerable** by the IUCN Red list.
 - **Schedule - 1 animal** under Wildlife Protection Act, 1972.
 - International trade in these turtles and their products is banned under **CITES Appendix I**
- **Major Threats:**
 - Unfriendly fishing practices, development and exploitation of nesting beaches for ports, and tourist centres.
 - They are still extensively **poached for their meat, shell and leather, and their eggs**, though illegal to harvest, have a significantly large market around the coastal regions.
 - Most severe threat is the **accidental killing of adult turtles through entanglement in trawl nets and gill nets** due to uncontrolled fishing during their mating season around nesting beaches.



Uranium Contamination

- A report brought out by Duke University, USA, in association with Central Ground Water Board and State Ground Water departments, found the **prevalence of Uranium concentration above 30 micro-gram per litre** in some of the localized pockets of few States/UTs in the country.

- **Risk factor:** Several studies have linked exposure to uranium in drinking water to kidney diseases

Acceptable Limit of Uranium

- **The Indian Standard IS 10500: 2012** for Drinking Water specification has specified the maximum acceptable limits for radioactive residues as alpha and beta emitters, values in excess of which render the water not suitable. These requirements take into account all radioactive elements **including uranium**.
- The **WHO has set a provisional safe drinking water standard of 30 micrograms** of uranium per litre for India, a level that is consistent with US Environmental Protection Agency standards.
- Despite this, **uranium is not yet included in the list of contaminants** monitored under the **Bureau of Indian Standards' Drinking Water Specifications**. As per information provided by BIS, they are working to incorporate maximum permissible limit of Uranium as **0.03 mg/l** (as per WHO provisional guidelines) in all drinking water standards after following due process.

Factors Contributing To The Contamination

- The factors include the **amount of uranium in an aquifer's rocks** and various chemical interactions between rock and water.
- Human activities, especially **over-exploitation of groundwater** for irrigation, may have exacerbated the problem
- Many of India's aquifers are composed of clay, silt and gravel carried down from the Himalayas by streams or uranium-rich granitic rocks. When overpumping of these aquifers' groundwater occurs and their water levels decline, it induces conditions that **enhance uranium enrichment in the shallow groundwater** that remains

Way Forward

- Need to **revise current water-quality monitoring programmes** in India and re-evaluate human health risks in areas of high uranium prevalence
- Need to include a **uranium standard in the Bureau of Indian Standards' Drinking Water Specification** based on uranium's kidney-harming effects.
- Establish a **monitoring systems to identify at-risk areas** and exploring new ways to prevent or **treat uranium contamination**.

Himalayan Ibex

- A recent study by Zoological Survey of India (ZSI) has proved that **Himalayan Ibex is a distinct species from the Siberian Ibex**.
- To unravel the complexity in species recognition of Indian Ibex, the researchers undertook field surveys under a project funded through the **National Mission on Himalayan Studies** implemented by **Ministry of Environment, Forest and Climate Change (MoEFCC)**.
- Himalayan Ibex is distributed in the trans-Himalayan ranges of **Jammu and Kashmir, Ladakh and Himachal Pradesh**.

Siberian Ibex

- Siberian Ibex is a **species of wild goat** and is distributed in diverse habitats, ranging from **cold deserts, rocky outcrops, steep terrain**, high-land flats and mountain ridges to low mountains and foothills.
- **Distribution:**

- From Mongolia, its distribution extends towards **Altai, Hangai, Gobi-Altai, the Huruks mountain ranges as well as Sayan Mountains near Russia** and scattered populations in the small mountains of Trans-Altai Gobi.
- In Asia, Ibex is distributed in the Montane habitats in countries like India, Kazakhstan, Tajikistan, Mongolia, Pakistan, Southern Siberia and China.
- The study reveals that Siberian ibex is a **polytypic species, plausibly formed by lumping of at least 2 species and or 3 to 4 sub-species**
- **It is listed as “Least Concern”** in the IUCN Red List of Threatened Species.

National Mission on Himalayan Studies (NMHS)

- It is a **Central Sector Grant-in-aid Scheme** to address the key issues relating to **conservation and sustainable management** of natural resources in Indian Himalayan Region (IHR).
- It will be **implemented by** MoEF&CC, and it will have its nodal and serving hub with G.B. Pant Institute of Himalayan Environment & Development (GBPIHED)
- As the Mission specifically targets the Indian Himalayan Region (IHR), the **jurisdiction of NMHS includes 10 Himalayan states fully** (i.e., Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura and Uttarakhand) **and two states partially** (i.e., hill districts of Assam and West Bengal).
- The NMHS has identified a list of 7 Broad Thematic Areas:
 - i) Water Resource Management
 - ii) Livelihood Options and Employment Generation
 - iii) Biodiversity Conservation and Management
 - iv) Skill Development and Capacity Building
 - v) Infrastructure Development
 - vi) Physical Connectivity
 - vii) Handling of Hazardous Substances

Earth Hour

- The Earth hour 2020 took place on **28 March at 8:30pm** in India.
- Earth Hour, **organized by WWF**, is a global grassroots movement uniting people to take action on environmental issues and protect the planet.
- It was **started as a lights out event in Sydney, Australia in 2007**. Gaining significant appreciation throughout the globe, the event is now observed worldwide, in which citizens of **187 countries switch off the lights, for an hour**.

Why Earth Hour Event Is Held In Late March

The second-to-last and last weekend of March is around the time of the **Spring and Autumn equinoxes in the northern and southern hemispheres respectively**, which allows for near coincidental sunset times in both hemispheres, thereby ensuring the greatest visual impact for a global ‘lights out’ event.

World Wide Fund for Nature (WWF)

- It is an **international non-governmental organization** founded in 1961, working in the field of the wilderness preservation, and the reduction of humanity's footprint on the environment.

- It is world's largest conservation organization with over five million supporters worldwide, working in more than 100 countries, supporting around 1,300 conservation and environmental projects.

Carissa Kopilii

- A study about Carissa kopilii published in the latest issue of the Journal of Asia-Pacific Biodiversity.
- Carissa kopilii is a wilder cousin of Carissa carandas, a multi-utility wild berry. It is **threatened by the very river it is named after — Kopili in central Assam.**
- **Reasons:** A hydroelectric project on the river and **water turned acidic because of coal mining in Meghalaya upstream.**
- The “**sun-loving**” plant was distributed sparsely, rooted in rocky crevices along the Kopili riverbed at altitudes ranging from 85-600 metres above sea level.
- Carissa kopilii have all the **medicinal and utilitarian properties.**

Environment Impact Assessment Notification, 2006 Amended

The Ministry of Environment, Forests and Climate Change amended the Environment Impact Assessment Notification, 2006. Amendments made to the notification are:

- **Transfer Of Environment Clearance**
 - Certain amendments have been done to align the relevant provisions of the notification with **the Mineral Laws (Amendment) Act, 2020.**
 - The Mineral Laws (Amendment) Act, 2020 provides for the transfer of statutory environment clearances (vested with the previous lessee). This transfer can be done to the successful bidder of mining leases, expiring under the Mines and Minerals (Development and Regulation) Act, 1957 and selected through auction. This will be valid for a period of two years.
- **Exemption From Requirement Of Environmental Clearance:** Keeping in mind several depositions from the traditional community, exemption from the requirement of environmental clearance has been provided in certain cases. These include:
 - extraction, sourcing, or borrowing for projects such as roads and pipelines,
 - customary extraction of sand and ordinary earth from sources situated in Gram Panchayat for personal use or community work in village, and
 - digging of wells for irrigation or drinking water purpose.
- **Public hearing:** The time period under the earlier notification for the conducting of the hearing was 45 days. Under the new draft notification, this **time period has been reduced to that of 40 days**

About Environment Impact Assessment

- The concept of EIA came to India in 1978-79 but became mandatory only in 1994 – after the government notified it as a requirement under the **Environment Protection Act, 1986**
- EIA is supposed to consider the environmental impact of projects and find ways to reduce their adverse impact upon the environment.
- **Procedure**
 - An organisation has to submit a detailed plan, as part of the EIA process, that details the nature, need, potential impact and remedial measures, **if their proposed infrastructure project threatens to significantly impact a region.**

- As part of the process, representatives of the company, State and district administration representatives must discuss the environment impact management plan, **record objections from residents of the region** and submit these to a committee of experts, constituted by the Union Environment Ministry, who will then take a holistic view of the comments and the management plan and decide on whether to accord clearance to the project.
- While expert committees constituted by the MoEF appraise projects, those below a certain size are appraised by State-level authorities called the **State Environment Impact Assessment Authority (SEIAA)**.

Lalit Kala Akademi Awards

- The President of India, recently conferred the 61st annual Lalit Kala Akademi Awards on 15 meritorious artists at a function held at Rashtrapati Bhavan.
- The Lalit Kala Akademi or National Academy of Art is India's national academy of fine arts. It was inaugurated in 1954 to promote and propagate understanding of Indian art, in and outside the country. It was later given statutory authority in 1957, under the Societies Registration Act 1860.
- After achieving independence in 1947, leaders of nationalist movement realised the value of culture as a vehicle of interaction and its importance in shaping not only Indian identity on its own, but also carving out an sphere of interaction where other art forms would further the cause of national unity.
- It was seen necessary that a cultural reorganisation of the nation should come through the institutional infrastructure of the state.
- The state patronage was not for the art, but for the artists, who using the physical environment and infrastructural facilities provided to them could carry on with their art.
- Unlike private institutions which could change their program of support depending on market conditions, the Lalit Kala Akademi sought to support all forms of art — studio, experimental, developmental, 'folk', 'tribal', etc.

Tablighi Jamaat

- Several COVID-19 cases in the country have been traced to a religious gathering, called the Tablighi Jamaat that took place in New Delhi's Nizamuddin in mid-March. Post which the Nizamuddin area has been identified as one of the "hotspots" where "unusual" transmission of coronavirus has been detected.
- The roots of the Tablighi Jamaat lie in the Deobandi version of the Hanafi school of jurisprudence. It was launched by Deoband cleric and prominent Islamic scholar Maulana Muhammad Ilyas Khandhalaw in 1927 in Mewat. Its emergence also coincided with Hindu proselytising movements.
- According to the Pew Research Centre (PRC), the Tablighi Jamaat, which translates to "society for spreading faith", is a global educational and missionary movement whose primary purpose is to encourage Muslims the world over to be religiously more observant.
- It is currently operating in over 150 countries and also has a significant base in the United States and Britain, which has a large Indian subcontinent diaspora.
- It is estimated that the organisation has somewhere between 70-80 million followers across the world, which makes it the biggest Muslim movement in the world. In fact, outside of the Hajj, it is believed that its annual meetings in countries, including Pakistan, Bangladesh and India, bring together the largest congregations of Muslims.

Principles of Tablighi Jamaat

- The Tablighi Jamaat is based on six principles. The first is the kalimah, an article of faith in which the Tabligh accepts that there is no God but Allah and that Prophet Muhammad is his messenger. The second is salaah, or prayer five times daily.
- The third is ilm and dhikr, the knowledge and remembrance of Allah conducted in sessions in which the congregation listens to preaching by the imam, performs prayers, recites the Quran and reads the Hadith; the congregation also uses these sessions to dine together, thus fostering a sense of community and identity.
- The fourth principle is ikram-i-Muslim, the treatment of fellow Muslims with honour. The fifth is ikhlas-i-niyat, or sincerity of intention. And the sixth is dawat-o-tabligh, or proselytisation.

Structure

- There is no defined structure, but there exists a hierarchic network of elders and mosques. Originally, it used to be headed by the Ameer, who would preside over the shura (council), the core of the organisation, & deal with important matters including international congregations known as Aalmi Ijtama.
- After death of Maulana Inamul Hasan Kandhlawi, the third Ameer (1965-95), the post of Ameer was abolished, and Aalmi Shura (international advisory council) was appointed. After the death of Maulana Kandhlawi's son Zubair ul Hasan Kandhlawi in 2015, the movement has been marked by factionalism.

Navroz

- Navroz, was recently celebrated on 20th March. It is the Iranian New Year celebrated by ethnic Iranian people.
- It is the day of the vernal equinox and marks the beginning of spring in the Northern Hemisphere.
- It dates back as far as the 6th Century BC, back when the Iranian community were homogeneously Zoroastrians. Once the community divided over the course of history, people of Iranian origin worldwide continued following Zoroastrian traditions and with that the Iranian New Year as well.
- Therefore several ethno-linguistic communities around the world irrespective of their religious background observe it as the start of the New Year. In India, the Parsi community, who follow Zoroastrianism, celebrate Navroz by paying a visit to the Fire Temple.
- It marks the first day of the first month Farvardin of the Iranian calendar. It is also marked as the day King Jamshid was crowned as the King of Persia. King Jamshid holds a great significance in Zoroastrianism and the day of his coronation is generally considered to be the beginning of the New Year among Iranian people.

Few Important Dates

- 1 March –Zero Discrimination Day (Theme - **Zero Discrimination against Women and Girls**)
- 3 March – World Wildlife Day (Theme - **Sustaining all life on Earth**)
- 8 March – International Women's Day (Theme – **I am Generation Equality: Realizing Women's Rights**)
- 21 March – International Day Of Forest (Theme - **Forests and Biodiversity**)
- 22 March – World Water Day (Theme - **Water and Climate Change**)