VAJIRAM & RAVI

(Institute for Civil Services Examination)

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the RECITALS

Explore Current Affairs Through Q&A

ELECTORAL BONDS

Featured Articles • **Mains Q & A** • **Prelims Q & A** • **Bridging Gaps**

Itndia-US Relation | *India-Bangladesh*

VAJIRAM & RAVI

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

India – Bangladesh

Bangladesh is celebrating the **50th anniversary of its Liberation War**. Both India and Bangladesh are **commemorating 50 years of the establishment of diplomatic** ties this year. India was one of the first countries to recognise Bangladesh in 1971 (on 6th of December 1971). This is also the year of **commemoration of the 100th birth anniversary** of **Sheikh Mujibur Rahman**, the father of the Bangladesh nation, which is being celebrated throughout Bangladesh as **Mujib Barsho**. Against this backdrop, Prime Minister Modi paid an official State visit to Bangladesh in March 2021.

Key Highlights

- All the three important milestones (50 years of liberation war, 50 yrs. Of the establishment of diplomatic ties and 110th birth anniversary of Mujibur Rahman) together have been **referred as Triveni** by the Indian PM.

- During the visit, PM attended the **National Day celebration of Bangladesh** as the **guest of honou**r. This was a profound recognition of India's role in the Liberation War.

- In order to increase cooperation on youth related affairs, India announced a **grant of 1000 Subarno Jayanti Scholarships** for youth of Bangladesh to study in India.

- It also **invited 50 young entrepreneurs from Bangladesh**, to visit India and present their ideas to venture capitalists.

- **Gandhi Peace Prize** was conferred posthumously on **Sheikh Mujibur Rahman** by the Government of India.

- The renowned Hindustani classical vocalist Pandit Ajay Chakraborty, at the national day event **created a special raag dedicated to Bangabandhu, Raag maitri**.

- Later both the Prime Ministers inaugurated the **Bangladesh leg of the Bangabandhu-Bapu Digital Exhibition**. Apart from displaying uniquely research historic photographs and commonalities in life of these great leaders, this exhibition also showcases perhaps the only photo that has both Bangabandhu and Bapu in one frame.

- During his visit to Jeshoreshwari Kali Temple at Satkhira, PM announced a **grant for the construction of a cyclone shelter cum community centre** in Satkhira.

- The Indian PM also visited the Bangabandhu Mausoleum complex at Tungipara. PM Modi was the **first head of government** to pay his respects to Bangabandhu, at his Mausoleum in Tungipara.

- India announced plans to **support upgradation of a middle school for girls** and the **construction of a primary school in the Orakandi area**, in cooperation with the local government authorities.

Significant Decisions Taken During a Special Year

- Release of **India–Bangladesh Friendship Stamps** to commemorate the 50th anniversary of establishment of bilateral diplomatic ties

- The establishment of the **Bangabandhu chair in Delhi University**,

- Announcement of linking the **historic road between Mujibnagar and Nadia** and naming it as **Shadhinota Shorok** ", the road on which the senior leadership of Bangladesh travelled to take the oath at Mujib Nagar during the liberation struggle in 1971.

- Proposal to organize a **business exhibition** which is referred to as the '**Best of India Best of Bangladesh**'

- Decision to **celebrate the 6th of December**, the day on which India formally recognised Bangladesh as **Maitri Divas**.

- Decision to erect a **war memorial in Bangladesh at Ashuganj**, in recognition of the contribution of Indian soldiers who were martyred during the Liberation War of Bangladesh.

- Both sides have agreed to **jointly commemorate these epochal events in 19 select countries**.

- The filming of the **biopic on Bangabandhu Sheikh Mujibur Rahman**, under the direction of Indian film director Shyam Benegal, has commenced

Army to Army Cooperation to Commemorate the Event

- In an another first, a **122-member Tri-service contingent** of the Bangladesh armed forces had **participated in Indian Republic Day parade** in January.

- Two Indian naval ships INS Kulish and INS Sumedha visited Mongla port in March this year marking the first naval visit that India has undertaken to the port of Mongla in almost 50 years.

- Bangladesh Navy Ship is also scheduled to make port call at Vishakhapatnam as part of the joint celebrations.

- India also **gifted 18 new 120 mm motors** to the Bangladesh army in December 2020. This is Army to Army cooperation.

Other Steps Taken To Strengthen Bilateral Relation

Water Cooperation

- Bangladesh reiterated its long-pending request for concluding the interim agreement on the sharing of the waters of the Teesta river.

- The MoU on **withdrawal of 1.82 cusec of water from Feni River** was signed during the visit of Prime Minister Sheikh Hasina in October 2019. The Indian side urged the Bangladesh side for early implementation of the MoU.

- The two leaders directed their respective Ministries to work towards an early conclusion of the **Framework of Interim Agreement on sharing of waters** of six common rivers, namely, Manu, Muhuri, Khowai, Gumti, Dharla and Dudhkumar.

- Bangladesh side reiterated the urgency for India to allow excavation of the remaining portion of **Rahimpur Khal for utilization of Kushiyara River waters** for irrigation of the Upper Surma Kushiyara project.

- The two leaders directed the Joint Technical Committee, formed for the purpose, to expeditiously commence the feasibility study of the **Ganges-Padma barrage** and other alternative options in

Bangladesh for optimum utilization of the Ganges waters received by Bangladesh as per the Ganges Water Sharing Treaty, 1996.

Development Partnership and Cooperation in Power and Energy

- It was agreed to strengthen sub- regional cooperation, including with Nepal and Bhutan and in this regard cooperation in energy was underscored. It would enable **cross border trade in electricity**.

- India requested early finalization of modalities for **implementation of the Katihar – Parbotipur – Bornagar cross border electricity interconnection**.

- Both sides took stock of progress in the implementation of the **India Bangladesh Friendship Pipeline** and **unit-1 of the Maitree Super Thermal Power Project**.

- Both the leaders laid the foundation stone for **five packages** (Amin Bazar – Kaliakoir, Rooppur – Dhaka, Rooppur – Gopalganj, Rooppur – Dhamrai, Rooppur – Bogra) **of the Rooppur power evacuation project**, which is an important component of the third line of credit that India has extended to Bangladesh.

- The Framework of Understanding on **Cooperation in the Hydrocarbon Sector** had been signed in December 2020.

Trade for Growth

- The Indian side reiterated its request for **at least one major land port** without port restrictions or with negative list of restrictions, on the border with North Eastern Region of India, for easier market access, **starting with ICP Agartala-Akhaura**.

- Both sides emphasized on expeditious conclusion of the ongoing joint study on the prospects of entering into a Comprehensive Economic Partnership Agreement (CEPA).

- The Bangladesh side **invited Indian investment in the jute mills** of Bangladesh. It requested India to **withdraw the duties imposed on export of jute products** from Bangladesh since 2017.

- They also inaugurated **three border haats** [Nalikata (India) – Saydabad (Bangladesh); Ryngku (India) - Bagan Bari (Bangladesh) and Bholagunj (India) – Bholagunj (Bangladesh)] on the borders between the two countries.

Connectivity for Prosperity

- Bangladesh reiterated its eagerness to partner in the ongoing initiative of the India – Myanmar - Thailand trilateral highway project.

- The two sides have also agreed to start a **new passenger train service** which is called **Mitali Express** between New Jalpaiguri and Dhaka, starting from Dhaka cantonment on the recently restored **Chilahati-Haldibari rail links**.

- Before this visit, both Prime Ministers jointly inaugurated the **Maitri Setu**, the road bridge connecting Tripura with Bangladesh on the Feni river.

- Bangladesh offered the **use of Chattogram and Sylhet International Airport**, by the people of North East India, especially of Tripura. Bangladesh also informed that Saidpur Airport is being developed as a regional airport for the use of the people of this region.

Border Management and Security Cooperation

- Both sides directed the concerned border guarding forces to enhance people-oriented measures for ensuring border security and bring down border death of civilians to zero.

- Bangladesh side reiterated the **request for 1.3 km Innocent Passage through river route along with River Padma near Rajshahi District**, on humanitarian grounds.

- Indian side requested for completion of border fencing at all pending sectors at the international border at the earliest, beginning from the **Tripura (India) - Bangladesh sector**.

Cooperation During COVID – 19

- India announced the gifting of 109 life support ambulances to support Bangladesh's plans to strengthen its medical emergency response systems.

- India provided 102 million doses or one crore two lakh doses of vaccines of which 32 lakhs had been delivered as gifts under grant in aid and the rest was commercial. **Bangladesh is the largest recipient of made in India vaccines**.

- During early phase of pandemic, India had provided PPE kits, medical equipments, HCQ tablets and training to the healthcare professionals of Bangladesh.

New Areas of Cooperation

- Bangladesh launched its first satellite, Bangabandhu Satellite (BS-1) in 2017 and is planning to lanuch a second satellite soon. In this regard, both sides agreed for further collaboration and technology transfer in space and satellite research.

- Both sides directed authorities to focus on and augment cooperation in cutting edge areas of science, artificial intelligence, peaceful uses of nuclear technology, big data and technology enabled services in health and education.

Signing of Bilateral Documents and Inauguration of Projects (In Nutshell)

The following bilateral documents were signed and exchanged during the visit:

i. MoU on Cooperation in the Field of Disaster Management, Resilience and Mitigation;

ii. MoU between Bangladesh National Cadet Corps (BNCC) and National Cadet Corps of India (INCC);

iii. MoU on Establishment of a Framework of Cooperation in the Area of Trade Remedial Measures between Bangladesh and India;

iv. Tripartite MoU on Supply of ICT Equipment, Courseware & Reference Books and Training for Bangladesh-Bharot Digital Service and Employment Training (BDSET) Centre;

v. Tripartite MoU for Establishment of Sports Facilities at Rajshahi College Field and Surrounding Areas.

Conclusion

The two countries have made remarkable progress in all areas, fully justifying this era, being referred to as a **Shonali Adhyay or a golden era in our relationship**.

India US Relations

In the past, Indo-US relations were overshadowed by Cold War politics. The Indo-Soviet friendship and the US-Pak alliance were the two major irritants. Though aid relations prevailed during 1950s and 1960s, New Delhi and Washington saw each other on opposite sides of the fence during this period.

However, the relationship has improved significantly over the past two decades. India-US bilateral relations today, not only encompass the major pillars of our strategic partnership - including security, energy and technology - but have deepened with greater bilateral economic engagement and ever increasing people-to-people contacts. In the last few years, the bilateral relationship also expanded into a global partnership with greater convergence of views on a number of issues such as international terrorism and shared approach to rules-based order in the Indo-Pacific region

High Level Dialogue Mechanism

- India and the U.S. have more than 50 bilateral inter-governmental dialogue mechanisms for exchange of views on issues of mutual interest.

- Some of the notable mechanisms include India-U.S. 2+2 Ministerial Dialogue, India-U.S. Commercial Dialogue, India – U.S. Economic and Financial Partnership, India-U.S. Trade Policy Forum, India-U.S. Strategic Energy Partnership etc.

Defence Cooperation

- India-US defence cooperation is based on **New Framework for India-US Defence Cooperation**, which was renewed for a period of ten years in 2015.

- In order to increase the pace and quality of defence cooperation, the **Defence Technology and Trade Initiative (DTTI)** was also launched in 2012. India was designated as a '**Major Defence Partner**' by the United States in 2016.

- Bilateral dialogue mechanisms in the field of defence include Defence Policy Group (DPG), Defence Joint Working Group (DJWG), Defence Procurement and Production Group (DPPG) and Military Cooperation Group (MCG) among others.

- The two sides have also signed the three defence pacts - LEMOA, COMCASA & BECA agreements. These three pacts together form the foundation of defence cooperation between India and the US.

- The LEMOA (Logistics Exchange Memorandum of Agreement), signed in 2016, allows the militaries of both nations to use each other's bases for repair and replenishment (restoration) of supplies.

- The COMCASA (Communications Compatibility and Security Agreement), signed in 2018 allows 'interoperability' between the two militaries through the transfer of communication security equipment from the US to India.

- The BECA (Basic Exchange and Cooperation Agreement), signed in 2020, is related to geo-spatial cooperation, which includes sharing classified information on maps and satellites for defence purposes.

Defence Trade

- Defence procurements from the US has been an area of significant growth in the last decade. India has procured around $ 18 billion worth of defence items from the US since 2008.

- India already has several US military platforms and equipments, and many such proposals for new acquisitions are under processing.

- The defence procurement activities are monitored through the Defence Production and Procurement Group (DPPG).

Military Cooperation

- The two countries now conduct more bilateral exercises with each other than they do with any other country.

- Bilateral exercises held annually include Malabar (between the two Navies and also include Japan), Cope-India (Air Force), Yudh Abhyas (Army) and Vajra Prahar (Special Forces).

- India also participates in annual RIMPAC exercises as well as in Red Flag exercises which are US led multinational exercises.

Counter Terrorism And Internal Security

- India-U.S. counter-terrorism cooperation is carried out through the **India-U.S. Joint Working Group on Counter-Terrorism**.

- Cooperation in counter-terrorism has seen considerable progress with intelligence sharing, information exchange, operational cooperation and sharing of counter-terrorism technology and equipment.

- Both sides have also been working together in law- enforcement and security cooperation through the six subgroups under the Homeland Security Dialogue.

- The two sides have also initiated a Designations Dialogue to discuss designations of terrorists and entities. Moreover, both sides also cooperate with each other on counter-terrorism and security issues in various multilateral bodies.

- Cyber security cooperation between India and the U.S. is carried out under the India-U.S. Cyber Framework signed in 2016. The two important dialogue mechanisms in this domain are – India-U.S. Cyber Security Dialogue and the India-U.S. Joint Working Group on ICT.

Regional and International Cooperation

- Both countries are collaborating and coordinating on a number of regional and global issues in both security as well as development spheres. They are also engaged in areas such as maritime and cyber security, humanitarian assistance and disaster relief efforts.

- India and the U.S. remain engaged to promote peace; prosperity; and security, in the Indo-Pacific as well as globally.

- US has expressed support for India's permanent membership on a reformed U.N. Security Council and for India's early membership in the Nuclear Suppliers Group.

Trilateral Dialogue and QUAD

- Cooperation on Indo-Pacific issues is carried out in the **trilateral format** between India, USA and Japan and in the **QUAD**, where Australia is also a member.

- Sharing views on security threats from maritime challenges to counter terrorism and non-proliferation are part of these dialogues.

- Yet another focus area is building consensus on basic principles for the Indo-Pacific and working jointly in ensuring greater acceptance of these by the countries in the region.

- More recently, a new area of cooperation on infrastructure and connectivity has been added to the trilateral mechanism.

Bilateral Trade Relations

- Rapidly expanding trade and commercial linkages between India and U.S. form an important component of the partnership between the two countries.

- US is India's largest trading partner in goods and services. The overall India-US bilateral trade in goods and services has increased from US$126 billion in 2017 to US $146.1 billion in 2019.

- The **top exports of goods from India** in 2019 were, precious metal and stone (diamonds) pharmaceuticals, machinery, mineral fuels and organic chemicals.

India – US Total Bilateral Trade (Billion US Dollars)

Source: US Department of Commerce, Bureau of Census
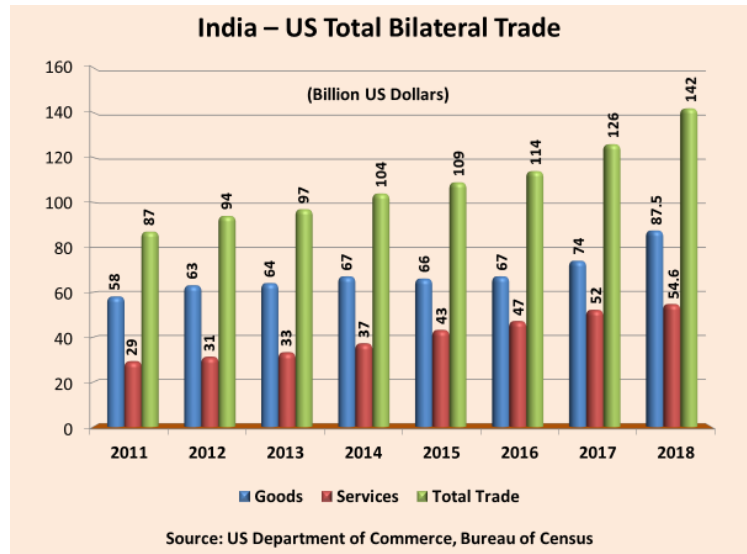
- **Top services exports from India** to the U.S. were in the telecommunications, computer, and information services, professional and management services, and research and development sectors.

- Total FDI from US to India till the year 2019 amounted to $45.9 billion. USA is one of the top 5 investment destinations for FDI from India. A survey done by CII in 2017 found that 100 Indian companies have invested $ 17.9 billion in the United States creating 113,000 jobs in the US.

Energy Cooperation

- The U.S. has emerged as a key partner for India in the field of energy. The bilateral Strategic Energy Partnership launched in 2018 between the two countries is robust and witnessing increasing diversification across both conventional and renewable energy sources.

- An India-U.S. Natural Gas Task Force was also created in 2018. India has started importing crude and LNG from the U.S. from 2017 and 2018 respectively. The total value of crude and LNG imports from the U.S. is currently estimated at US$ 6.7 billion.

Cooperation in S&T/Space

- The multi-faceted cooperation between India and the U.S. in the field of Science and Technology has been growing steadily under the framework of the India-U.S. Science and Technology Cooperation Agreement signed in 2005, which was renewed for a period of ten years in 2019.

- The Indo-U.S. Science & Technology Forum (IUSSTF) which was established by India and the U.S. as an autonomous, bi-national organization in the year 2000 to promote cooperation in Science, Technology and Innovation is playing an important role in strengthening cooperation in this field.

- Both countries also have a long history of cooperation in civil space arena that includes cooperation in earth observation, satellite navigation, and space science and exploration.

- The India-U.S. Joint Working Group on Civil Space Cooperation regularly reviews the status of cooperation and identifies new areas for furthering space cooperation.

- ISRO and NASA are also working towards intensifying cooperation in Mars exploration, heliophysics, and human spaceflight through relevant working groups between both sides.

People-to-People Contact

- The number of Indians and Indian Americans in the U.S. is estimated at around 4 million, which accounts for almost 1% of the total U.S. population. It is the 3rd largest Asian ethnic group in the US after the Chinese and the Filipinos.

- India and the U.S. have very strong linkages and collaboration in the field of higher education. U.S. is one of the most favoured destinations by Indian students for higher education. More than 200,000 Indian students are currently pursuing various courses in the U.S.

- Almost 40% of all Indians in the United States have a master's, doctorate or other professional degree, which is about five times the national average.

- The Indian American community with its large number of professionals, business entrepreneurs and educationalists, has a significant influence on the American society and polity.

Going forward, the oldest democracy and the largest democracy of the world will look towards developing a broad-based and enduring future not only for an engaging bilateral equation but also to promote a more just and equitable international order.

1. **Recently Supreme Court has asked the Centre to respond to a plea challenging the Places of Worship (Special Provisions) Act, 1991. In this light Discuss what is Places of Worship (Special Provisions) Act, 1991 and issues associated it?**

Answer

The aim of the **Places of Worship (Special Provisions) Act, 1991** was to **freeze the status of any place of worship as it existed on August 15, 1947**. It was also to provide for the maintenance of the religious character of such a place of worship as on that day.

It was intended to **pre-empt new claims by any group about the past status of any place of worship** and attempts to reclaim the structures or the land on which they stood. It was hoped that the legislation would help the preservation of communal harmony in the long run.

Salient Features Of The Act

- The Act declares that the **religious character of a place of worship shall continue to be the same as it was on August 15, 1947.**

- It says **no person shall convert any place of worship** of any religious denomination into one of a different denomination or section.

- It declares that all suits, appeals or any other proceedings regarding converting the character of a place of worship, which are pending before any court or authority on August 15, 1947, will abate as soon as the law comes into force. No further legal proceedings can be instituted.

- **Exemptions**: However, there is an exception to the bar on instituting fresh proceedings with regard to suits that relate to conversion of status that happened after 15th Aug' 1947. The exemptions include-

  - Section 5 of the act says: Nothing contained in this Act shall apply to the place or place of worship commonly known as **Ram Janma Bhumi-Babri Masjid** situated in Ayodhya in the State of Uttar Pradesh and to any suit, appeal or other proceeding relating to the said place or place of worship.

  - Any place of worship that is an **ancient and historical monument** or an archaeological site, or is covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958;

  - A **suit that has been finally settled** or disposed of;

  - Any **dispute that has been settled** by the parties or conversion of any place that took place by acquiescence before the Act commenced.

- **Penal Provisions**: The Act provides for **imprisonment up to three years** and a fine for anyone contravening the prohibition. Those abetting or participating in a criminal conspiracy to commit this offence will also be punished to the same extent, even if the offence is not committed in consequence of such abetment or as part of the conspiracy.

Criticisms Against The Act

- It has been challenged in the court on the ground that it **violates secularism**.

- It is also argued that the **cut-off date of August 15, 1947 is "arbitrary, irrational and retrospective"** and prohibits Hindus, Jains, Buddhists, and Sikhs from approaching courts to "re-claim" their places of worship which were "**invaded" and "encroached"** upon by "**fundamentalist barbaric invaders**".

- It is also being argued that the **Centre has no power to legislate on "pilgrimages" or "burial grounds"** which is under the state list. However, the government had said it could make use of its **residuary power under Entry 97 of the Union List** to enact this law.

- Another criticism against the law is that the cut-off is the date of Independence, which means that **status quo determined by a colonial power is considered final.**

Conclusion

Some Hindu organizations have been laying claim to the Gyanvapi mosque in Varanasi and the Shahi Idgah in Mathura. Civil suits have been filed in a Mathura court seeking the shifting of the 17th-century mosque from the spot that some claim is the birthplace of Lord Krishna. Any order that strikes down or dilutes the 1991 law on the status of places of worship is likely to influence the outcome of such proceedings.

Extra Mile

Supreme Court's Observation

- In its final verdict on the **Ayodhya dispute**, the Supreme Court had observed that the Act "**imposes a non-derogable obligation** towards enforcing our **commitment to secularism**". Non-retrogression is a foundational feature of the fundamental constitutional principles, of which secularism is a core component.

- The court described the law as one that **preserved secularism** by not permitting the status of a place of worship to be altered after Independence.

- **Historical wrongs cannot be remedied by the people** taking the law in their own hands. In preserving the character of places of public worship, Parliament has mandated in no uncertain terms that history and its wrongs shall not be used as instruments to oppress the present and the future.

2. **The President of India gave assent to the Government of National Capital Territory of Delhi (Amendment) (GNCTD) Act, 2021, which enhances the powers of the Lieutenant Governor and limits the elected government's power in Delhi. In this light, critically discuss the salient features of the bill.**

Answer

The Government of National Capital Territory of Delhi (Amendment) Bill, 2021 was introduced in Lok Sabha on March 15, 2021. The Bill amends the Government of National Capital Territory of Delhi Act, 1991. The 1991 Act provides a framework for the functioning of the Legislative Assembly and the government of the National Capital Territory (NCT) of Delhi. The Bill amends certain powers and responsibilities of the Legislative Assembly and the Lieutenant Governor.

Salient Features Of The Bill

- In the context of legislation passed by the Delhi Assembly, ***all references to the 'government' would mean the "Lieutenant Governor"***.

- The Bill says before **taking *any executive action***, the opinion of the Lieutenant Governor shall be obtained on such matters as may be specified.

- **Inquiry by the Assembly into administrative decisions:** The Bill prohibits the Legislative Assembly from making any rule to enable itself or its Committees to:
    i) Consider the matters of day-to-day administration of the NCT of Delhi and

ii) Conduct any inquiry in relation to administrative decisions.

Further, the Bill provides that all such rules made before its enactment will be void.

- **Assent to Bills:** The Act requires the LG to reserve certain Bills passed by the Legislative Assembly for the consideration of the President. These Bills are those:

  i) which may diminish the powers of the High Court of Delhi,
  ii) which the President may direct to be reserved,
  iii) dealing with the salaries and allowances of the Speaker, Deputy Speaker, and members of the Assembly and the Ministers, or
  iv) relating to official languages of the Assembly or the NCT of Delhi.

The Bill requires the LG to also reserve those Bills for the President which incidentally cover any of the matters outside the purview of the powers of the Legislative Assembly.

Criticisms Against The Bill

- It is somewhat incongruous for a territory with an elected House to be declared the sole domain of the L-G. It is an attempt to rule Delhi through the LG by making his office a *'super Chief Minister'*.

- The clause that declares void any rule that empowers the Assembly or its Committees to discuss **any matter of day-to-day administration or conduct enquiries** amounts to a rollback of representative government.

- The Bill is exactly against the judgement in **Govt. of NCT of Delhi v. Union of India (2018),** where the SC has clarified that the *elected government* should not be undermined by the *unelected administrator*. It noted that-

  o there was no room either for anarchy or absolutism in a democracy, held that "**real authority to take decisions lies in the elected government**". The NCT's government, it also ruled, *needed only to inform the LG* of its "well-deliberated" decisions instead of obtaining his "concurrence" in *every issue of daily* governance.

  o the Lieutenant Governor has **not been entrusted with any independent decision-making power**. He has to either act on the '**aid and advice' of the Council of Ministers**, or he is bound to implement the decision taken by the President on a reference being made by him." The 'aid and advice' clause pertains only to matters on which the elected Assembly has powers under the State and Concurrent Lists, but *with the exception of public order, police and land*.

  o wherever there are differences between the L-G and the elected government, **the former should refer the question to the President**. However, the power to refer "any matter" to the President *did not mean that "every matter"* should be referred thus. It said the power to refer to the President was an exception; that the Lieutenant Governor need not in a mechanical manner refer every decision.

Conclusion

The fact that under the scheme of our Constitution, greater power is conferred upon the Centre vis-a-vis the States does not mean that States are mere appendages of the Centre. Within the sphere allotted to them, States are supreme. The Centre cannot tamper with their powers.

The Bill effectively reduces the elected government to a mere vestigial organ and elevates the centrally appointed LG, to the position of a Viceroy with plenipotentiary powers. The government, a product of the beautiful democratic process, is replaced by one individual, a nominee of the Central government, who will occupy office at its pleasure.

3. Recently the governments of Uttar Pradesh and Madhya Pradesh have signed an agreement to implement Ken-Betwa Link Project. In this light discuss what Ken Betwa Link Project is and critically analyze the issues associated with Interlinking of Rivers in India.

<u>**Answer**</u>

The Indian Rivers Inter-link is a proposed large-scale river interlinking project that aims to effectively manage water resources in India by linking Indian rivers by a network of reservoirs and canals to enhance irrigation and groundwater recharge, reduce persistent floods in some parts and water shortages in other parts of India.

Ken Betwa Link Project

- The Ken-Betwa Link Project is the first project under the National Perspective Plan for interlinking of rivers. Under this project, **water from the Ken river will be transferred to the Betwa river**. Both these rivers are **tributaries of river Yamuna.**

- According to the Union Jal Shakti Ministry, the project is expected to provide **annual irrigation of 10.62 lakh hectares**, **drinking water supply to about 62 lakh people** and also **generate 103 MW** of hydropower.

TWO STATES, TWO RIVERS AND A LINK

- According to the Comprehensive Detailed Project Report, the cost of Ken-Betwa Link Project is estimated at **Rs 35,111.24 crore** at 2017-18 prices.

- KBLP lies in Bundelkhand, a drought-prone region, which spreads across 13 districts of Uttar Pradesh and Madhya Pradesh. It will be of immense benefit to the water-starved region of Bundelkhand.
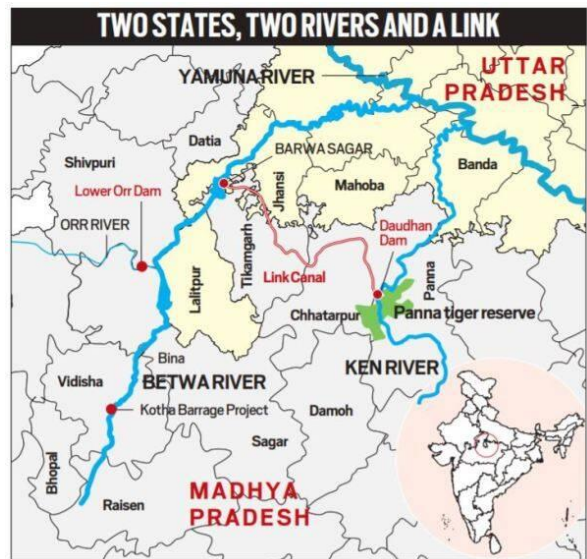
Advantages of River Interlinking

- Interlinking of rivers will help in **water availability throughout the year** considering that rainfall is concentrated in few months of the year.

- The river linking project on one hand will r**educe water shortages in western and southern India,** on other hand it will **mitigate the impacts of recurrent floods** in eastern India.

- This will also **reduce farmers dependence on monsoon** rains for purpose of irrigation.

- These projects can help India to meet its clean energy production (hydro project) as required under Paris climate agreement.

- These projects also have potential to **promote inland water transportation** as well as increasing income sources in rural areas through fishing.

- **Diversion of water from water surplus basins to water deficit basins**/regions and the use of the surplus water which is otherwise flowing into the sea unutilized.

Issues And Challenges

- **Political Challenges:** Water is the sign of wealth for a state as its basic need of every kind thus several states do not want to go with national river linking project in fear of losing surplus of water to the other states.

- **Economic Challenges:** National river linking project is a dream project for the Indian government has a vast impact on the national economy as the programming cost of this project is very high nearly $87 billion. It seems rather difficult to arrange this vast money from the market itself.

- **Environmental Challenges:** The project may have negative ecological effect as it may impact fisheries, flora/ fauna, wetlands and may lead to possible diversion of forest land.

- **International Challenges:** Himalayan rivers like the Ganga and the Brahmaputra are transboundary rivers. India's neighbours especially Bangladesh will resist this project because the flow of Ganga in Bangladesh will be reduced which will create a problem in implementing NRLP.

- **Social unrest/Psychological damage:** Building of dams and reservoirs under the project will lead to displacement of people. For ex- Tehri dam led to submersion of 72 villages.

Conclusion

The river linking project is a great challenge as well as an opportunity to address the water issues arising out of climate change. The long-term solution to water scarcity lies in investing in water conservation, efficient irrigation practices etc. Moreover, interlinking of river should take place after a detailed study and feasibility.

Extra Mile

Interlinking Of Rivers In India

- In the 1970s, the idea of transferring surplus water from a river to water-deficit area was initiated by the then Union Irrigation Ministry.

- It also suggested construction of a **National Water Grid** for transferring water from water-rich areas to water-deficit areas. Similarly, a Garland Canal was proposed to redistribute water from one area to another.

- However, the government did not pursue these two ideas. Later, in 1980 that the Ministry of Irrigation prepared a National Perspective Plan (NNP) for water resources development for inter basin water transfer in the country.

- The NPP comprised two components: Himalayan Rivers Development and Peninsular Rivers Development.

- Based on the NPP, the National Water Development Agency (NWDA) identified 30 river links—16 under Peninsular component and 14 under Himalayan Component.   KBLP is a part of the Peninsular component.

- The following clearances are required for the interlinking of river projects:
    o Techno-economic (given by the Central Water Commission);
    o Forest Clearance and Environmental clearance (Ministry of Environment & Forests);
    o Resettlement and Rehabilitation (R&R) Plan of Tribal Population (Ministry of Tribal Affairs);
    o Wildlife clearance (Central Empowered Committee).

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4. **The Supreme Court has recently flagged its concern that political parties could misuse crores of rupees received as donations through electoral bonds to bankroll violent protests or even terror. In this light discuss whether the Electoral bonds are boon or bane for India's political funding?**

Answer

Announced in the 2017 Union Budget, electoral bonds are **interest-free bearer instruments** used to donate money **anonymously to political parties**. A bearer instrument does not carry any information about the buyer or payee and the holder of the instrument (which is the political party) is presumed to be its owner.

- The bonds are sold in multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore, and the State Bank of India (SBI) is the only bank authorised to sell them.

- Only those parties, which have got 1% of all votes polled in the last Lok Sabha or state assembly polls, are eligible for funding through these bonds.

- Donors can purchase and subsequently donate the bonds to their party of choice, which the party can then encash through its verified account within 15 days. There is no limit on the number of bonds an individual or company can purchase. SBI deposits bonds that a political party hasn't enchased within 15 days into the Prime Minister's Relief Fund.

- A total of 12,924 electoral bonds worth Rs 6534.78 crore have been sold in fifteen phases between March 2018 to January 2021.

Advantages

- It works to aid in the government's goal to make **election funding more secure and digitized**. Any donation above ₹2000 is now legally required to be in the form of cheques of electoral bonds.

- All bonds issued are to be redeemed by bank accounts that have been disclosed by the Election Commission of India, hence, **visibility of any potential malpractice is strengthened.**

- The widespread use of electoral bonds can aid in **curbing fake political parties who operate with the goal of simply collecting funds** from the public. This is because only registered parties who have attained at least 1% of the votes in the general election can receive electoral funding.

Arguments Against Electoral Bonds

- Through an amendment to the Finance Act 2017, the Union government has **exempted political parties from disclosing donations** received through electoral bonds. This means the voters will not know which individual, company, or organisation has funded which party, and to what extent.

- Before the introduction of electoral bonds, political parties had to disclose details of all its donors, who have donated more than Rs 20,000. According to transparency activists, the change **infringes the citizen's 'Right to Know'** and makes the political class even more unaccountable.

- While electoral bonds provide no details to the citizens, the said **anonymity does not apply to the government of the day,** which can always access the donor details by demanding the data from the State Bank of India (SBI).

- Printing of these bonds & SBI commission for facilitating the sale and purchase of the bonds is **paid from the taxpayers' money** by the central government.

- **Removal of a cap on corporate donations** that existed earlier—7.5% of three-year average net profit—enables businesses to make unlimited political donations without having to disclose the recipient's name.

- Earlier, no foreign company could donate to any political party under the Companies Act. The government moved an amendment in the Finance Bill to ensure that this provison would not be applicable in case of electoral bonds. Now **Indian, foreign and even shell companies can now donate to political parties** without having to inform anyone of the contribution. Foreign funding that is unregulated could be carried out with the intent to adversely affect the country's personal interests

Conclusion

The goal of transitioning to electoral bonds is to move in the direction of transparency regarding the sources of political funding. This scheme offers a novel way to protect the rights of the donor while digitizing donations through electronically issued bonds. How well this scheme has worked for the country is yet to be known.

5. The Parliament recently passed the Medical Termination of Pregnancy (Amendment) Bill, 2021. Highlight the key features of the bill and its significance.

Answer

The Parliament recently passed the Medical Termination of Pregnancy (Amendment) Bill, 2021 to amend the Medical Termination of Pregnancy Act, 1971. The bill aims to expand access of women to safe and legal abortion services on therapeutic, eugenic, humanitarian or social grounds.

Salient Features

- The amendment **enhances the upper gestation limit from 20 to 24 weeks for special categories** of women, but does not specify the category. The bill leaves the categories to be defined by the states in the amendments to the MTP rules and includes survivors of rape, victims of incest and other vulnerable women like differently-abled women and minors.

- Currently, abortion requires the opinion of one doctor if it is done within 12 weeks of conception and two doctors if it is done between 12 and 20 weeks. The bill allows abortion to be done on the advice of one doctor up to 20 weeks, and two doctors in the case of certain categories of women between 20 and 24 weeks.

- The bill also provides for setting up of **state level medical boards** to decide if a pregnancy is to be terminated after 24 weeks in cases of substantial foetal abnormalities. This clause has been added to keep such cases out of courts.

- The composition, functions and other details of Medical Board will be prescribed subsequently in Rules under the Act.

- Name and other particulars of a woman whose pregnancy has been terminated **shall not be revealed** except to a person authorised in any law for the time being in force

- The amendment also accepts failure of contraception as a valid reason for abortion not just in married but also in unmarried women.

Significance

- Despite a sustained government push over years, contraceptive use in India is not very popular. Data from the National Family Health Survey 4 show that just 47.8% of couples in the country use modern contraceptive methods and only 53% use any method at all.

- According to a 2018 study by the Guttmacher Institute, 50% of pregnancies in six of the larger Indian states — Assam, Bihar, Gujarat, Madhya Pradesh, Tamil Nadu and Uttar Pradesh — are unintended.

- Estimation of unintended pregnancies is important because many of them result in abortions and the availability of cheap and safe abortion services is one of the indicators of a robust health system.

- Several petitions have been filed in the Courts seeking permission for aborting pregnancies at a gestational age beyond the present permissible limit on grounds of foetal abnormalities or pregnancies due to sexual violence faced by women.

- The current changes are a step towards safety and well-being of women and many women will be benefited by comprehensive abortion care, under strict conditions, without compromising service and quality of safe abortion.

The amendments will increase the ambit and access of women to safe abortion services and will ensure dignity, autonomy, confidentiality and justice for women who need to terminate pregnancy.

6. The Reserve Bank of India has invited applications to set up New Umbrella Entities (NUEs) for payment systems. What are New Umbrella Entities (NUEs) for payment systems? Delineate the criteria for NUE applicants and their scope of activities.

<u>Answer</u>

- New Umbrella Entities (NUEs) for payment systems are being created as an alternate mechanism to the existing National Payments Corporation of India (NPCI). Currently, the government-owned (NPCI), is the only umbrella body to facilitate retail payments.

- NPCI owns and operates more than 12 such platforms, including the Unified Payments Interface, Rupay network, Bharat Bill Payments and FASTag, among others.

- Just like NPCI runs UPI, and other payment modes, the NUEs will create similar mechanisms which will then be used by banks and fintech companies.

Reasons for Creating NUEs

- The main reason for creating NUEs is to bring more people into the digital payment ecosystem from cash transactions, as digital transactions are more transparent and tax authorities can monitor money movements, unlike cash transactions.

- Moreover, the RBI feels that NPCI alone won't be able to carry out the big shift to digital payments, due to the huge volume of transactions involved and the number of new entrants. The NUEs will effectively offer competition to the NPCI.

Criteria for NUE Applicants

- Only those entities that are owned and controlled by Indian citizens with at least three years of experience in the payments segment can become promoters of NUEs. Foreign investment is allowed in NUEs as long as they comply with the existing guidelines.

- The umbrella entity needs to conform to the norms of corporate governance along with 'fit and proper' criteria for persons to be appointed on its Board.

- The applicants must have a business plan covering the payment systems proposed to be set up and operated.

- The plan should include technology, security features, market analysis, benefit of such payment systems, operational structure of the payment systems, time-period for setting up the payment systems and proposed scale of operations, etc.

- Once the RBI gives approval to an NUE, the umbrella entity will be required to begin operations within six months, extendable up to a maximum of one year.

Scope of Activities

- The NUEs can set-up, manage and operate new retail payment systems related to ATMs, white label point-of-sale devices, Aadhaar-based payments and remittances services. It can also work on new forms of payments and develop new standards and technologies.

- Retail payments solutions created by NUEs should interact and be interoperable with existing systems operated by the NPCI.

- The new entity, should also be able to operate clearing and settlement systems for banks and non-banks that participate and manage various risks like settlement, credit, liquidity and operational risks.

- The entity will also have to monitor domestic and international developments in retail payments to avoid shocks and frauds that can affect the system or the economy.

New Umbrella Entities (NUEs) for payment systems will give a boost to the Digital India mission by offering innovative payment systems that will include excluded sections of the society, and enhance access, customer convenience and safety.

Extra Mile

Possible Applicants

- Several companies have either tied up with banks or major technology companies to apply for NUEs. Reliance Industries, along with Facebook and Google — which have invested in Jio Platforms — are planning to apply.

- Further, Tata Group has joined hands with HDFC Bank, Kotak Mahindra Bank, MasterCard and Bharti Airtel.

- Companies promoted by Softbank like Paytm and Ola have also reportedly joined hands to apply for the NUE.

National Payments Corporation of India (NPCI)

- National Payments Corporation of India (NPCI), set up in 2008, is an umbrella organisation for operating retail payments and settlement systems in India.

- It is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a strong Payment & Settlement Infrastructure in India.

- It has been incorporated as a Not for Profit Company with an intention to provide infrastructure to the entire banking system in India for physical as well as electronic payment and settlement systems.

- The Company is focused on bringing innovations in the retail payment systems through the use of technology for achieving greater efficiency in operations and widening the reach of payment systems.

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7. **Recently Securities and Exchange Board of India (SEBI) revoked the earlier announced rules which imposed several restrictions on mutual fund (MF) investments in additional tier-1 (AT1) bonds. What are AT1 bonds? Discuss the issue.**

Answer

- Recently SEBI issued new rules which imposed several restrictions on mutual fund (MF) investments in additional tier-1 (AT1) bonds. The new rules were to be effective from April 1.

- Additional Tier-1 (AT-1) bonds, are a type of unsecured, perpetual bonds, with no maturity date. These bonds are typically issued by banks to increase their core or tier-1 capital.

- Tier-1 capital refers to equity and other forms of permanent capital that remains with the bank, as deposits and loans flow in and out of the bank.

- AT-1 bonds are purchased by institutional investors, mutual funds and insurance companies. AT1 bonds have a 'call' option, which gives the right to the issuing bank or non-banking finance company (NBFC) to buy these bonds back from investors on specified dates.

- Further, banks are not obliged to use this call option and can opt to pay only interest on these bonds for as long as they want.

SEBI Rules

- In the circular issued in March, SEBI told mutual funds (MFs) to value these perpetual bonds (AT-1 bonds) as a 100-year instrument. This essentially means MFs have to make the assumption that these bonds would be bought back by the banks in 100 years.

- SEBI has also placed restrictions on the amount a mutual fund can invest in bonds with special features (primarily AT1 bonds).

- A scheme shall not invest more than 5 per cent of its corpus in such securities issued by a single issuer and 10 percent in all such instruments, put together. Additionally, a mutual fund house must not hold more than 10 percent in such securities of a single issuer.

- According to SEBI, AT-1 bonds can be riskier than other debt instruments. Last year, RBI had written off Rs 8,400 crore on AT1 bonds issued by Yes Bank Ltd as part of a rescue plan. Thus, the new rules were aimed at reducing retail investors' exposure to risky assets.

Impact Of The Rules

- As mentioned above, AT-1 bonds have no fixed maturity, but banks have the option, to buy them back at specified dates. Mutual funds have treated these dates, typically not more than 10 years, as maturity dates.

- Treating them as 100-year bonds would increase their risk significantly, as longer-term bonds carry greater interest rate risk.

- This could also lead to volatility in the prices of these bonds as the risk increases the yields on these bonds. **Bond yield** is the return an investor gets on that bond or on a particular government security.

- Bond yields and bond prices move in opposite directions and therefore, higher yield will reduce the price of bond, which in turn will lead to a decrease in the net asset value of MF schemes holding these bonds.

- This can lead to a situation where mutual fund houses start selling these bonds in panic in the market, which can lead to a disruption in the markets for debt instruments.

Impact On Banks

- AT1 bonds have emerged as the instrument of choice for state banks to increase their core capital. State banks have cumulatively raised around $ 2.3 billion in AT1 instruments in 2020-2021.

- Mutual funds are one of the largest investors in AT-1 bonds and currently hold more than Rs 35,000 crore of the total Rs 90,000 crore AT-1 bonds issued.

- If there are restrictions on investments by mutual funds in such bonds, it will be difficult for banks to raise capital at a time when they need funds, due to rise in non-performing assets (NPAs).

Finance Ministry's Stand

- The finance ministry had asked SEBI to withdraw the rule that specifies a 100 year maturity for AT-1 bonds.

- According to various estimates, the banking sector's capital requirement is between $15 billion-58 billion under various stress scenarios for the next two years. The government does not want a

disruption in the fund mobilisation exercise of banks at a time when the government is planning to privatise two state banks.

- However, the ministry did not object to other provisions in the Sebi circular, specifying limits on investment in AT-1 bonds.

- After this, SEBI decided to postpone the 100-year maturity rule for valuing perpetual bonds by two years. MFs will have to value these bonds as ten-year papers to begin with, gradually increasing the maturity and valuing them as 100-year instruments from April 1, 2023.

Time period	Maturity to be considered for AT1 bonds (years)
From April 1, 2021	10
From April 1, 2022	20
From Oct 1, 2022	30
From April 1, 2023	100*

The revocation by SEBI will address the fears for the time being as valuation of these bonds in MF schemes may fluctuate less than what was apprehended but gradually MFs will reduce exposure to these bonds as price volatility will rise at 20-30-year maturities, which may also impact the capital raising plans of banks.

Extra Mile

Mutual Fund

- A mutual fund is an investment instrument where many investors pool their money to earn returns on their capital over a period.

- This pool of funds is managed by an investment professional known as a fund manager or portfolio manager. It is his/her job to invest the money in different securities such as bonds, stocks, gold and other assets and seek to provide potential returns.

- The gains (or losses) on the investment are shared collectively by the investors in proportion to their contribution to the fund.

- In India, Mutual Funds are regulated by SEBI.

8. **South China Sea has assumed great geopolitical significance in the present context. Comment.**

Answer

- The South China Sea is a marginal sea that is part of the Pacific Ocean, encompassing an area from the Karimata and Malacca Straits to the Strait of Taiwan.

- In 2016, Permanent Court of Arbitration awarded a verdict refuting Chinese claim over South China Sea. Also, USA is pursuing Pivot to Asia policy aggressively. In this context, the significance of this sea has increased a lot.

Geopolitical Significance

- **For China**
    - ✓ China declared its right to the islands of this region in an official address to the UN Secretary General back in May 2009.
    - ✓ With its growing economy and increasing energy and raw material exports shipped through the Malacca Strait, Beijing needs to create strongholds in the sea to insure against possible risks.

- **For ASEAN**

- ✓ Many ASEAN countries like Vietnam, Philippines, Brunei etc. claim their sovereign rights over this region and hence are parties to the dispute.
- ✓ After the verdict, government of these countries would get more leverage in their own disputes with Beijing over South China Sea.

- **For USA**

  - ✓ USA is aggressively pursuing its rebalancing strategy and hence it is wary of Chinese domination in this region.
  - ✓ After the verdict, there are chances of more confrontation between USA and China in this region.

- **For India**

  - ✓ India's presence in Pacific is increasing making it an important player in the Indo-Pacific region. For this freedom of navigation through South China Sea is very important.
  - ✓ India is also pursuing its economic interest in this region. It has collaborated with Vietnam to explore the petroleum resources in South China Sea which has been opposed by China
  - ✓ Also, large volume of Indian trade happens through the Strait of Malacca.

- **Resource availability**

  - ✓ The region has huge amount of oil and natural gas reserve.
  - ✓ This body of water holds one third of the entire world's marine biodiversity, thereby making it a very important area for the ecosystem.

- **For Multilateralism**

  - ✓ South China Sea region has become a litmus test for multilateralism especially after the verdict of PCA which China is not willing to accept. It has potential to affect the credibility of PCA.
  - ✓ World community fears that aggressive posture of China may lead to defying of United Nation Convention on Law Of Sea (UNCLOS) which ensures freedom of navigation in high seas.

Conclusion

Involvement of multiple actors reflects the geopolitical significance of this region. Also, events in the South China Sea will have ramifications for the wider Asian Commons. Principled stand to promote international maritime laws will help in diffusing the tensions.

Philippines Military Deployed Ships to South China Sea

- The Philippine military had ordered navy ships deployed to the South China Sea.

- This decision was taken days after the coast guard reported that **hundreds of Chinese boats**, believed to be crewed by militia, **were seen swarming near a contested reef**.

What is the issue?

- Around 220 steel-hulled boats had been seen moored **near Whitsun Reef**, which Manila calls Julian Felipe, 175 nautical miles off Palawan Island.

- It is being feared that these boats are part of China's "*maritime militia*".

- China claims that these are the fishing boats and are sheltering from poor weather near the reef (which China claims is part of the contested Spratly Islands).

- On the other hand, Manila described the presence of these boats as an incursion of its sovereign territory. Now **diplomatic row has escalated** with several countries, including Canada, Australia and Japan, expressing concern over the renewed tensions in the region.

South China Sea Dispute

- It is a dispute over territory and sovereignty over ocean areas in south China sea. This also includes the two islands namely – The Parcels and the Spratlys.

- China often invokes the so called nine-dash line to justify its apparent historic rights over most of the South China Sea.

- Parts of this sea is also claimed by Taiwan, Malaysia, The Philippines, Brunei and Vietnam.

- China has ignored a 2016 international tribunal decision that declared its assertion as without basis.
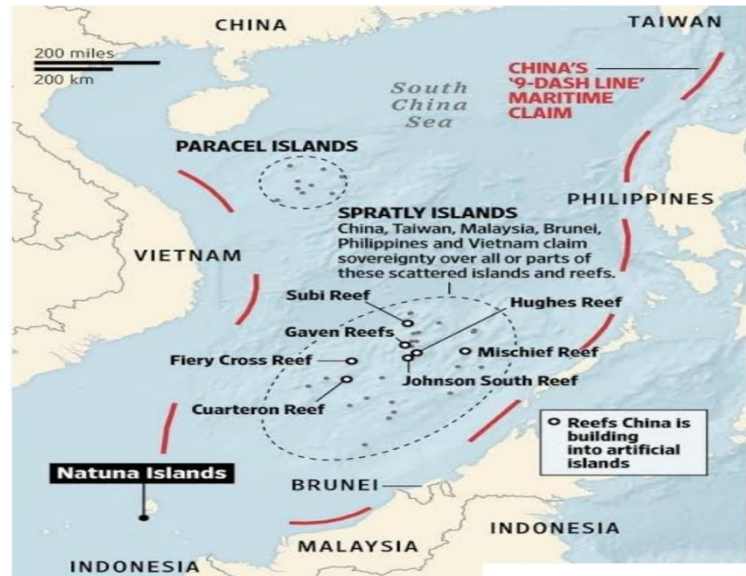
9. **Examine the role played by Over Ground Workers (OGWs) in assisting terrorist organizations in insurgency affected areas. Discuss measures to neutralize influence of OGWs.**

Answer

The police categorize "**anybody who supports the militants**" as an OGW. Terrorist organisations like Hizbul and LeT had a well-established network of OGWs which was sustaining militancy in Kashmir. For every active militant, there are 10 OGWs lined up by their mentors. Militants act on the advice and orders of their mentors and OGWs.

Role Played by OGW:

- **Provides Social base** - OGWs provides safe house, passage etc. for suspected militants. By doing so, it helps militants to establish a connection with locals there by generation sympathies for their activities. E.g. – **Role of Elgar Parishad** in supporting Maoism.

- **Makes militants inconspicuous** - OGW base is the main reason that militants move without getting noticed. Off late, OGWs have become **capable of carrying out small scale strikes** while retaining the capability to mix rapidly with the population.

- **Provides Logistic base** – Recently two OGWs were arrested by J&K police who were illegally transporting arms and ammunition from Punjab to Kashmir. They also carry information by acting as a messenger.

- **Financial Support** – They help militants in mobilizing funds for their activities. They collect funds from sympathizers, carry out disguised trade and indulge in money laundering activities so support terrorist organizations financially. This was one of the reason **India suspended cross border trade with PoK** in April 2019.

- **Helps in Recruitment** – They work towards the development of a negative sentiment in the minds of the so-called grey population or fence sitters in an insurgency affected region.

Measures to Neutralize Influence of OGWs

- **Control of Foreign Funding** – The government should ensure strict compliance to the Foreign Contribution (Regulation) Act 2010, money-laundering act etc. so as to stop the financial support.

- **Breaking the OGW - Terrorist nexus** by identifying and apprehending the OGWs. Establishing checkpoints at strategic points, strengthening intelligence mechanism etc. can be very helpful in this.

- **Grievance Redressal & Development activities - T**he grievances of the people should be addressed in order to halt radicalisation that creates militants and spawns the OGWs. Similarly, the ensuring an inclusive development of the region would generate trust on the government.

- **Categorisation of OGWs** - it is important to categorise the OGWs so that separate response strategies can be made for each one of the categories. For example OGWs for Logistic Support or OGWs managing Funding are easily identifiable and can be caught in the act. On the other hand, OGWs providing ideological support are har to detect.

Conclusion

- OGWs have always been the mainstay for an insurgency movement and government must formulate **multi-pronged strategy** to neutralize their influence.

- There is definitely a need to **jointly map the OGWs, terrorists and anti-national elements** through a multi-agency effort.

- This will help in **generation of an intelligence picture** which is in sync with ground realities. Also, due care must be taken so as to identify anti-national elements and as it has potential to alienate masses.

UN Confirms Receiving Donation from pro-Khalistan Group

- The United Nations has confirmed to have **received a 'donation' of $10,000** from the **pro-Khalistani outfit Sikhs For Justice** (SFJ).

- The Centre had banned the SFJ in 2019 on grounds of secessionism.

- As per a report, the SFJ was also trying to sway the UN to **form a "commission of inquiry"** to probe the **alleged mistreatment of farmer protesters** in India.

PRELIMS MCQs

1. **Freedom in the World 2021 Report, recently in news, was released by**

a) United Nations

b) Amnesty International

c) Freedom House

d) None of the above

Answer: C

Explanation:

- Freedom in the World report 2021 has downgraded India's status from a '**Free' country to a 'Partly Free' country**, giving it 'global freedom score' of **67/100** after judging it on various political rights and civil liberties.

- The report has been published by **US-based non-profit organization Freedom House**, which is **funded by the US government** and conducts research into democracy and political freedom around the world.

Highlights Of The Report

- The report noted a **"multiyear pattern"** as it attributed the downgrade — from a score of 71 in 2019 and 75 in 2018 to 67 in 2020 — to "**rising violence and discriminatory policies affecting the Muslim population**" and "**crackdown on expressions of dissent** by the media, academics, civil society groups, and protesters" under the present government.

- **Discrimination Against Muslims**

  o The report said India with about 80 per cent Hindu population is "formally secular" with freedom of religion constitutionally guaranteed, but a number of **Hindu nationalist organizations and some media outlets promote anti-Muslim views**.

  o It mentions **Delhi riots of February 2020** where at least 53 people, "mostly Muslims", were killed amid violence that followed "weeks of demonstrations against discriminatory changes to the country's citizenship law.

  o The implementation of the **Citizenship Amendment Act** and the government's intention for a National Register of Citizens threatened to "**disenfranchise Muslim voters** by effectively classifying them as illegal immigrants".

  o Attacks against Muslims and others in connection with the **alleged slaughter or mistreatment of cows**" continued in 2020.

- **Lack of Freedom' In Institutions**

  o The report alleged that freedom of various institutions such as the Election Commission of India and the Supreme Court have been "called into question".

  o The panel's decisions concerning the timing and phasing of national elections, and allegations of selective enforcement of the Model Code of Conduct, which regulates politicians' campaign behavior and techniques, suggested bias toward the ruling government.

- **Right to Information Act:** The salaries and tenures of the information commissioners were placed under the control of the central government, "potentially exposing the commissioners to political pressure. It also noted "concerns that the positions (in the commissions) that have been filled are held by ruling-party loyalists".

- **Judicial independence:** It noted that judicial independence had also come under strain, pointing to the case of a **Delhi High Court judge who was transferred immediately after reprimanding the police for taking no action during riots** in the capital that left over 50 people dead. Uttar Pradesh's law prohibiting forced religious conversion through interfaith marriage was also listed as a concern.

- **Freedom of media and expression:** The report said the authorities have used security, defamation, sedition, and hate speech laws, as well as contempt of court charges, to "quiet critical voices in the media.

2. **The Ease of Living Index 2020 and the Municipal Performance Index 2020, recently in news, was released by which among the following?**

a) **Ministry of Housing and Urban Affairs.**   b) **NITI Aayog**

c) **Ministry of Panchayati Raj**   d) **None of the above**

Answer: A

Explanation:

Ministry Housing and Urban Affairs has announced the release of the final rankings of the Ease of Living Index (EoLI) 2020 and the Municipal Performance Index (MPI) 2020.

Ease of Living Index (EoLI) 2020

- The Ease of Living Index 2020 is an evaluation tool that reflects the ease of living in Indian cities. It examines the quality of life, economic and social opportunities available to the citizens, and the impact of various initiatives on urban development programs.

- The Index evaluates the well-being of Indian citizens, across various parameters that consist of **four pillars**: **Quality of Life** (35% weightage); **Economic Ability** (15% weightage); **Sustainability** (20% weightage), and **Citizens Perception Survey** (30% weightage).

  o The pillar on Quality of Life examines provisions for necessities such as affordable housing, access to clean water, basic education, healthcare facilities, safety and security, and recreation avenues.

  o The pillar on Economic Ability captures the economic well-being of citizens by evaluating the level of economic development and inequalities that they encounter in a particular city.

  o The Sustainability pillar evaluates availability of green spaces, promotion of green buildings, level of energy consumption, the quality of natural resources such as air and water, and the city's ability to withstand natural disasters.

- Indian cities have achieved an average score of 53.51 in the Ease of Living Index that ranges from a scale of 0 (worst-case scenario) to 100 (best-case scenario). Economic Ability is the worst performing amongst all the pillars, with an aggregate score of 13.17. The Sustainability pillar also scored a high national average of 53.63.

- The rankings under Ease of Living Index 2020 were announced for **cities with a population of more than a million, and cities with less than a million people.** 111 cities participated in the assessment exercise that was conducted in 2020.

- **Bengaluru** emerged as the top performer in the Million+ category [in category of 'population more than million], followed by Pune, Ahmedabad, Chennai. **Bareilly, Dhanbad and Srinagar** come at the bottom of the list.

- **Shimla** topped the category of cities with population of less than million, followed by Bhubaneswar; while **Muzaffarpur** in Bihar had the lowest score.

- Cities play an increasingly important role in driving economic growth, leading to higher per capita income, facilitating innovation and enhancing the quality of life. However, this rapid pace and scale of development is accompanied by multiple challenges. The index helps cities to assess their level of development and identify existing gaps that obstruct their growth.

- It also promotes healthy competition through rankings and incentivises them to improve further and borrow best practices from other cities.

Municipal Performance Index (MPI) 2020

- The first ever MPI was launched as an accompaniment to the Ease of Living Index.

- It seeks to examine local government practice in municipalities across areas of **services, finance, policy, technology and governance** (See theor weightage in figure). It assesses the sectoral performance of 111 municipalities.

- The MPI provides a granular understanding of a municipalities' functionalities and the extent of their development and capabilities.
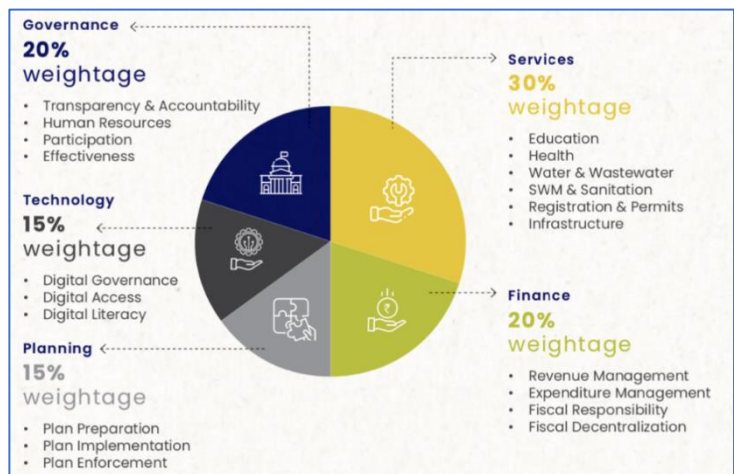
- Learnings from MPI can help the government to identify gaps, work on potential opportunities, and increase efficiency in local governance to cultivate better quality of life for people, create infrastructure, and address challenges of urbanization.

- Through the index, citizens can better understand their local government administration, which in turn builds transparency and generates trust among key stakeholders.

- Municipalities have performed the **best in Services**, with a national average of 52.13, closely followed by Finance at 51.11. The national average for Governance is 42.83. Technology emerges as the **lowest-scoring vertical**, at 24.02. Municipalities have also fallen short in their planning performance, with the national average at 34.03.

- **In the million-plus category**, **Indore topped the list**, followed by Surat and Bhopal. Municipalities at the bottom of the index under million plus category are Guwahati, Kota, Srinagar and North Delhi Municipal Corporation.

- In the **'less than million category', New Delhi Municipal Council (NDMC)** emerged as the leader, followed by Tirupati and Gandhinagar. Municipalities at the bottom of the index under this category are Shillong, Imphal, and Kohima.

3. **Food Waste Index Report 2021 recently in news was released by?**

a) **International Food Policy Research Institute**

b) **The Hunger Project**

c) **United Nations Environment Programme (UNEP)**

d) **Center for Food Safety**

Answer: C

Explanation:

The Food Waste Index Report 2021**,** from the **United Nations Environment Programme (UNEP)** and partner organisation WRAP, said that around **931 million tonnes of food waste was generated in 2019,** 61% of which came from households, 26 % from food service and 13 % from retail.

Highlights of the Report

- Around 23 million 40-tonne trucks would be needed to transport this waste and if they stood bumper to bumper, **they would circle the Earth seven times.**

- Contrary to belief, the study by the UNEP revealed that **food waste was a global problem and not that of just the developed world**. The data, though scarce, revealed that food waste was substantial, regardless of income level.

- Data on all three areas of food waste, namely household, food service and retail was available only for high income countries. The **index was prepared by using data from 54 countries** and then extrapolated to the remaining countries.

- The document noted that on an average, 74 kilograms of food was wasted per capita per year at the household level. Some countries like Austria and South Africa produce very low amounts of waste at 39 kg / capita / year and 40 kg / capita / year respectively.

- In South Asia, estimates at the household level show a waste of 50 kg of food per person per year in India compared to 82 kg in Afghanistan, 79 kg in Nepal, 76 kg in Sri Lanka, 74 kg in Pakistan and 65 kg in Bangladesh.

- Per capita, food wastage is, in fact, much higher in west Asian and sub-Saharan African countries compared to South Asian and most of the European and North American countries.

- With only nine years to go, we will not achieve the Sustable Development Goal (SDG) 12 Target 3 if we do not significantly increase investment in tackling food waste in the home globally. **SDG target 12.3 aims at halving per-capita global food waste** at the retail and consumer levels and reducing food losses along production and supply chains.

- Food waste also has a substantial environmental, social and economic impact. For example, **8-10 % of global greenhouse gas emissions** are associated with food that is not consumed.

- Food loss and waste causes **about $940 billion per year in economic losses.** Reductions can save money for farmers, companies, and households.

4. **Consider the following statements with regard to Members of Parliament Local Area Development Scheme (MPLAD)**
   1. **MPs are to recommend works costing at least 15 % of the MPLADS entitlement for the year for areas inhabited by Scheduled Tribe population.**
   2. **Nominated Members of both the Rajya Sabha and Lok Sabha can recommend works anywhere in the country.**

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

Union Minister of State for Defence handed over Hearse Vans and Garbage Pickup Vehicles under MPLAD Scheme to Village Panchayats.

About MPLAD

● MPLADS is an ongoing **Central Sector Scheme** which was launched in 1993-94. The Scheme enables the Members of Parliament to recommend works for creation of durable community assets based on locally felt needs to be taken up in their constituencies in the area of national priorities namely drinking water, education, public health, sanitation, roads etc.

● The **Ministry of Statistics and Programme Implementation** has been responsible for the policy formulation, release of funds and prescribing monitoring mechanism for implementation of the Scheme.

Features

● The MPLADS is a Plan Scheme **fully funded by Government of India.** The annual MPLADS fund entitlement per MP constituency is Rs. 5 crore.

● MPs are to recommend every year, works costing **at least 15 % of the MPLADS entitlement for the year for areas inhabited by Scheduled Caste population** and **7.5 % for areas inhabited by S.T. population.**

● In order to encourage trusts and societies for the betterment of tribal people, a ceiling of **Rs. 75 lakh is stipulated for building assets** by trusts and societies subject to conditions prescribed in the scheme guidelines.

● **Lok Sabha Members** can recommend works **within their constituencies** and **Elected Members of Rajya Sabha** can recommend works **within the State of Election** (with select exceptions). **Nominated Members of both the Rajya Sabha and Lok Sabha** can recommend **works anywhere** in the country.

● All works to meet locally felt infrastructure and development needs, with an emphasis on creation of durable assets in the constituency, are permissible under MPLADS as prescribed in the scheme guidelines. Expenditure on **specified items of non durable nature** are also permitted as listed in the guidelines.

● **MPLAD Scheme can be converged in individual/stand-alone projects of** other Central and State Government schemes provided such works of Central/State Governments Schemes are eligible under MPLADS. Funds from local bodies can similarly also be pooled with MPLADS works.

    Wherever such pooling is done, funds from other scheme sources should be used first and the MPLADS funds should be released later, so that MPLADS fund results in completion of the project.

5. **Consider the following statements with regard to Inter-Parliamentary Union (IPU)**

   1. **It was established by United Nations in 1889.**
   2. **India is not a member of Inter-Parliamentary Union.**

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

- Lok Sabha Speaker of India made a remark that no parliament should discuss laws passed by other parliaments. Lok Sabha Speaker made these remarks in the Central Hall of Parliament while hosting the Inter-Parliamentary Union (IPU) president Duarte Pacheco.

- The Speaker's remarks are significant as they come just days after **lawmakers in Britain discussed the farmers' protests in India** in the British parliament.

- Without naming any country, the Lok Sabha Speaker also asserted that India has a clear policy against terrorism and expansionism.

About IPU

- The IPU is the global organization of national parliaments. It was created in 1889, in an era when there were no established means for governments or parliaments to work together internationally.

- It took two 19th century men of vision—Englishman William Randal Cremer and Frenchman Frédéric Passy—to lay the foundations for all that has followed. They set up an association of MPs which has been transformed into the thriving global organization of today.

- Their work led to the **world's first permanent international political organization** and provided the origins for multilateral cooperation between nations today. The IPU was instrumental in setting up the Permanent Court of Arbitration in The Hague in 1899, and its calls for an international institution linking governments **helped lay the foundations for the creation of the League of Nations in 1919 and the United Nations in 1945.**

- The IPU is inching ever closer to universal membership, with 179 Member Parliaments out of the 193 countries in the world – from huge nations like **China, India and Indonesia**, to the tiny States of Cabo Verde, San Marino and Palau.

6. **Central Drugs Standard Control Organisation (CDSCO):**
   1. **CDSCO is the regulatory body for medical devices in India.**
   2. **CDSCO is a department of Drugs Controller General of 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: A

Explanation

- The Drugs Controller General of India (DCGI) has revised its permission for Bharat Biotech's 'Covaxin', by removing the "clinical trial mode" label given to it.

- In January 2021, the DCGI had given emergency use authorisation (EUA) to Covaxin, and Serum Institute of India's Covishield. However, unlike Covishield, the EUA given to Covaxin was in "clinical trial mode".

- After this revision of permission, Covaxin will now have the same authorisation as Serum Institute of India's Covishield.

- The revision comes after Bharat Biotech recently released interim data from late-stage clinical trials.

Clinical Trial Mode

- A "clinical trial mode" approval means the vaccine is administered to everyone and they are monitored closely as if they are in a clinical trial.

- The clinical trial mode label meant Bharat Biotech had to take informed consent from the recipient of the vaccine.

- It also had to submit updates on the safety, ability to develop immunity and efficacy of the vaccine from its phase 1, 2 and 3 clinical trials more regularly than Covishield.

- Government norms allow compensation for vaccine-related injuries during clinical trials. Thus, in clinical trial mode, participants could claim compensation if they had a serious side-effect linked to Covaxin.

- However, there will be no provision for compensation after the full emergency license has been granted without clinical trial mode.

Central Drugs Standard Control Organization (CDSCO)

- The CDSCO is the national regulatory body for Indian pharmaceuticals and medical devices, and has a similar function to the *Food and Drug Administration of the United States*.

- Drugs Controller General of India (DCGI) is a department of the Central Drugs Standard Control Organization responsible for approval of licences of specified categories of drugs such as blood and blood products, IV fluids and vaccines in India.

- The DCGI is advised by the Drug Technical Advisory Board (DTAB) and the Drug Consultative Committee (DCC).

- It is divided into zonal offices which do pre-licensing and post-licensing inspections, post-market surveillance, and recalls when needed.

7. Swachhta Saarthi Fellowship has been launched by:

a) Ministry of Housing and Urban Affairs   **b) Ministry of Jal Shakti**

c) Ministry of Education   **d) None of the above**

Answer: D

Explanation:

- The Office of the Principal Scientific Adviser to the Government of India under its Waste to Wealth Mission has launched the Swachhta Saarthi Fellowship.

- The fellowship will recognize students, community workers/self-help groups, and municipal/sanitary workers who are engaged in tackling the enormous challenge of waste management, scientifically and sustainably.

- It is aimed to empower interested students and citizens to continuously engage in their attempts to reduce waste in cities and rural areas.

Categories Of Awards Under The Fellowship

- **Category-A** – Open to school students from 9th to 12th standards engaged in waste management community work.
- **Category-B** – Open to college students (UG, PG, research students) engaged in waste management community work.
- **Category-C** – Open to citizens working in the community and through SHGs, municipal or sanitary workers working beyond specifications of their job requirement/descriptions.

Waste to Wealth Mission

- The Waste to Wealth Mission is **one of the nine national missions** of the Prime Minister's Science, Technology, and Innovation Advisory Council **(PM-STIAC).**
- The mission will identify, develop, and deploy technologies to treat waste to generate energy, recycle materials, and extract resources of value.
- It will assist and augment the Swachh Bharat and Smart Cities projects to create circular economic models that are financially viable for waste management to streamline waste handling in the country.

8. **Consider the following statements about Catch the rain campaign:**
   1. **The campaign will be conducted only in rural areas.**
   2. **Under the campaign, geotagging of water bodies will be done.**

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

- On the occasion of World Water Day, the Prime Minister launched the **Jal Shakti Abhiyan: Catch the Rain** campaign.
- The PM said that India's self-sufficiency is dependent on its water resources and water connectivity, and its fast-paced development is not possible without water security and effective water conservation.
- He noted that the challenge of the water crisis is increasing equally with India's development. Thus, it is the responsibility of the present generation of the country to fulfil its responsibility for the generations to come.
- He also emphasised that if India manages rainwater effectively, the country's dependence on groundwater will also reduce. Therefore, success of campaigns like 'Catch the Rain' is very important.

Catch The Rain Campaign

- Jal Shakti Abhiyan is the flagship water conservation campaign of Ministry of Jal Shakti.
- The 'Catch the Rain' campaign will be undertaken across the country, in **both rural and urban areas** with the theme "**catch the rain, where it falls, when it falls**". It will be implemented from March 22 to November 30 - the pre-monsoon and monsoon period in the country.
- The campaign aims to take water conservation at grass-root level through people's participation.

- On an average India receives 1,170mm of rainfall, most of it during the summer monsoon months, but only 10-20% of that is currently tapped.

- The campaign will push all stakeholders to create rainwater harvesting structures suitable to the climatic conditions, to ensure proper storage of rainwater.

- Further, geotagging of all water bodies will be carried out throughout the country, which will form the basis for assessment of rejuvenation efforts for water bodies across the country.

World Water Day

- The resolution to observe World Water Day was first adopted by the UN General Assembly in 1992, after which March 22 was declared as World Water Day and is celebrated around the world since 1993 to highlight the importance of water and raise awareness about water crisis in the world.

- The core focus of the day is to support the achievement of **Sustainable Development Goal 6**: Water and Sanitation For All by 2030.

- Theme of World Water Day 2021: **"Valuing Water"**

Water Status In India

- In India, the lack of access to clean water is an ongoing challenge that the country has been facing for several years.

- As most of the rivers in the country are inter-State rivers, the regulation and development of waters of these rivers, is a source of inter-State differences and disputes.

- In India, the average annual per capita water availability has fallen from 1820 cubic meters in 2001 to 1545 cubic meters in 2011, and could reduce further to 1341 and 1140 in the years 2025 and 2050 respectively.

- Annual per-capita water availability of less than 1700 cubic meters is considered as **water stressed condition**, whereas annual per- capita water availability below 1,000 cubic meters is considered as a **water scarcity condition**.

- Due to high variations in rainfall, water availability in many regions of the country is much below the national average and can be considered as water stressed/water scarce.

9. **As per the Constitution (Scheduled Castes) Order 1950, communities from which of the following religion can be placed under the Scheduled Caste category?**
   1. **Hinduism**
   2. **Jainism**
   3. **Buddhism**
   4. **Sikhism**

Choose the correct option using the codes below:

a) **1 only**

b) **1, 3, and 4 only**

c) **1, 2 and 3 only**

d) **1, 2, 3 and 4**

Answer: B

Explanation

- The Parliament recently passed The Constitution (Scheduled Castes) Order (Amendment) Bill, 2021. The Bill amends the Constitution (Scheduled Castes) Order, 1950 to modify the list of Scheduled Castes in the state of Tamil Nadu.

- The bill replaces the entry for the Devendrakulathan community, with Devendrakula Vellalar, that will comprise of seven sub-castes that previously existed as separate castes.

- The seven sub-castes to be covered under Devendrakula Vellalars are Devendrakulathan, Kadaiyan, Kalladi, Kudumban, Pallan, Pannadi and Vathiriyan.

Devendrakula Vellalars

- Devendrakula Vellalars are also called Pallars in Tamil Nadu and are listed under the Scheduled Caste category.

- According to the 2011 census, the total SC population in Tamil Nadu, is 20 per cent, and the Pallars comprise nearly 17.07 per cent.

- The word Pallar is derived from the Tamil word Pallam, meaning a low-lying area.

- Pallars are largely peasants and cultivators in the lower wetlands but conditions such as poverty and drought forced them to take up other menial jobs.

- The demand for the name change is linked to the stigma associated with the term Pallar. Some of the castes in the grouping have also made demands to move them out of the Scheduled Caste category.

Scheduled Castes

- Scheduled Castes are sub-communities within the framework of the Hindu caste system who have historically faced deprivation, oppression, and extreme social isolation in India due to their perceived low status.

- The term Scheduled Caste was first used in the Government of India Act, 1935. Earlier, they were referred as depressed classes.

- After, Independence, the Constitution of India, continued the usage of this term.

Constitution (Scheduled Castes) Order 1950

- **Article 341(1)** of the Constitution empowers the **President** to specify the list of Scheduled Castes in various States and Union Territories, after consultation with the Governor.

- Accordingly, the President notified an order called 'Constitution (Scheduled Castes) Order-1950.

- It consists the entire list of castes that come under the category of Scheduled Castes. It also contains certain norms and criteria for inclusion of other communities in the list.

- According to the criteria, only communities belonging to the Hindu (Sikh or the Buddhist) religion, can be included in the list of Scheduled Castes.

- Thus, a person who is not a Hindu, Buddhist or a Sikh, will not be entitled to reservation on the basis of being a Scheduled Caste.

- Further, under Article 341(2), the Parliament can include or exclude the above-mentioned groups from the list of Scheduled Castes.

10. Ration cards are issued by the:

a) **Union Government.**

b) **State Government.**

c) **Local Government**

d) **None of the above.**

Answer: B

Explanation:

- The Supreme Court has asked the Centre to respond to allegations in a PIL that nearly three crore ration cards have been cancelled because of non-seeding with Aadhaar.

- As per the PIL, the government states that these cards were cancelled because they were fake cards.

- However, many people in rural and tribal areas do not have Aadhaar cards and technological systems based on iris identification, thumb prints etc. do not work in such areas due to lack of internet.

- Due to this, large scale cancellation of ration cards has taken place without notice to the concerned families.

- This deprived millions of Indians living below the poverty line of food and led to starvation deaths in Jharkhand, U.P., Odisha, Karnataka, M.P., Maharashtra, Bihar, Chhattisgarh, West Bengal, Andhra Pradesh and other States.

High Aadhaar linkage

Of the 23.58 crore ration cards (RCs) issued in India, 89% are Aadhaar-seeded, while only 33% and 17% are also seeded using mobile numbers and bank accounts

Over **20 crore** ration cards had Aadhaar linked to them, while around **7.76 crore** had mobile numbers linked and **4.05 crore** of them had bank accounts linked

Queuing up: People outside a ration shop in Chennai. • PICHUMANI K

SOURCE: NATIONAL FOOD SECURITY PORTAL

- It is to note that in **K Puttaswamy case of 2017**, the SC had directed the government that non-verification of ration cards with Aadhaar details should not lead to denial of ration to poor.

Ration Card

- A ration card is issued to the head of the family, depending on the number of members in a family and the financial status of the applicant.

- It is used by households to get essential food grains at subsidised prices from designated ration shops (also called fair price shops) under the Targeted Public Distribution System (TPDS).

- It is the responsibility of State/UT government to identify eligible families and issue ration cards to them.

Linking Ration Card With Aadhar

- In 2017, the Department of Food and Public Distribution had issued a notification to various state governments to link Aadhaar numbers with ration cards.

- Of the 23.58 crore ration cards issued in India, 89% of ration cards have been seeded with Aadhaar numbers, till now.

- The deadline for linking has been extended on various occasions and currently the deadline is 31st March, 2021.

- *Benefits of Linking*
  - The biometric enabled distribution system would help PDS shops to identify the genuine beneficiaries and reduce the number of fake ration cardholders who enjoy subsidies on food grains.
  - Diversion and leakage of PDS ration can also be controlled.

11. The Gandhi Peace Prize for 2020 was given to:

a) **Sheikh Mujibur Rahman**

b) **Sultan Qaboos bin Said Al Said**

c) **Swami Vivekanand**

d) **None of the above**

Answer: A

Explanation:

- The Ministry of Culture recently announced that the Gandhi Peace Prize for 2020 and 2019 was given to Bangladesh's father of the nation Sheikh Mujibur Rahman and the late Sultan of Oman, Qaboos bin Said Al Said respectively.

- The Gandhi Peace Prize is an annual award instituted by Government of India **since 1995**, the **125th birth anniversary commemoration year of Mahatma Gandhi.**

- It is an annual award for those involved in **social, economic and political transformation** across the world through non-violent tactics.

- The award is **open to all people** regardless of nationality, race, language, caste, creed or sex.

- The jury for Gandhi Peace Prize is **chaired by Prime Minister** and comprises two ex-officio members -- Chief Justice of India and Leader of the single largest Opposition Party in Lok Sabha. Two eminent members were also part of the jury.

- This is the first time that the prestigious prize has been **awarded posthumously.**

Sheikh Mujibur Rahman

- Sheikh Mujibur Rahman was chosen in recognition of his outstanding contributions towards social, economic and political transformation through non-violent and other Gandhian methods.

- The award recognised his unparalleled contribution towards inspiring the liberation of Bangladesh.

- Moreover, the path shown by him has laid a strong foundation for the partnership, progress and prosperity of India and Bangladesh over the last decade.

Sultan Qaboos bin Said Al Said

- Late Sultan Qaboos bin Said Al Said was awarded in recognition of his vision to strengthen relations with India, and his efforts to promote peace and non-violence in the Gulf region.

- He was the longest ruling monarch of Middle East and the architect of the special ties between India and Oman.

- His twin policy of moderation and mediation in addressing international issues won him praise and respect across the globe.

12. Consider the following statements about STOP TB partnership:

1. **STOP TB partnership is a national body created by NITI Aayog.**
2. **The Prime Minister is the chairman of STOP TB partnership.**

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:

- Union Minister for Health and Family Welfare Dr Harsh Vardhan has been appointed as the Chairman of Stop TB Partnership Board.
- He will serve a three-year term as the chairman, commencing from July 2021.

Stop TB partnership

- Established in the year 2000, the Stop TB Partnership an international body, is mandated to eliminate tuberculosis as a public health problem.
- The organization was conceived following the meeting of the First Session of the *Ad Hoc Committee on the Tuberculosis Epidemic* held in London in 1998.
- In its inaugural year itself, the Stop TB Partnership through the Amsterdam Declaration gave a call for collaborative action from 20 countries that bear the highest burden of TB.
- The participation of a wide range of constituencies gives this global body the credibility and the broad range of medical, social and financial expertise needed to defeat TB.
- It has 1500 partner organizations which include international, non-governmental and governmental organizations and patient groups. The Secretariat is based at **Geneva, Switzerland**.

13. Consider the following statements about GRAM UJALA:
   1. **Free LED bulbs will be distributed under the programme.**
   2. **The programme will be financed through carbon credits.**

Which of the statements given above is/are correct?

a) **1 only**

b) **2 only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Answer: B

Explanation:

- The **Ministry of Power** recently launched the Gram UJALA programme. Under the programme, high quality LED bulbs will be distributed, at an affordable cost of **10 rupees per bulb in rural areas**.
- Each household will get up to 5 LEDs, in exchange for working condition old incandescent lamps. These rural households will also have metres installed in their houses to account for usage.
- In its first phase, 15 million LED bulbs will be distributed across villages of Arrah (Bihar), Varanasi (Uttar Pradesh), Vijaywada (Andhra Pradesh), Nagpur (Maharashtra), and western Gujarat.
- The bulbs are offered by state-run Energy Efficiency Services Ltd's (EESL) subsidiary **Convergence Energy Services Ltd (CESL)** by leveraging scale.
- EESL is a joint venture of PSUs under the Ministry of Power, which was set up by the government to facilitate energy efficiency projects and to work as Energy Service Company.
- The programme will be financed entirely through **carbon credits** and will be the first such programme in India. It will claim credits under the **United Nations' Clean Development Mechanism (CDM).**
- Carbon credit is a credit for greenhouse emissions reduced or removed from the atmosphere from an emission reduction project, which can be used, by governments, industry or private individuals to compensate for the emissions they are generating

- The Government's previous **Ujala (Unnat Jyoti by Affordable Lighting for All) scheme** had cut LED bulb prices to ₹70 apiece from around ₹310 in 2014.

- Under Gram Ujala, the revenue earned from carbon credits will contribute ₹60 per LED bulb piece, with the balance ₹10 to be paid by the rural consumer.

Benefits

- The programme will support widespread distribution by removing the chief barrier of cost for rural consumers.

- It will have a significant impact on India's climate change action energy savings of 2025 million kWh/year and CO_2 reductions of 1.65 million T CO_2/year.

- It will lead to a better standard of life, financial savings, and better safety for the citizens in rural areas and help in achieving a sustainable future.

- In addition to helping improve energy access in rural areas, the mandatory domestic manufacturing clause in sourcing LED bulb tenders through the scheme will expedite India's efforts to become an integral part of global supply chains, as firms look to move production lines out of China.

14. The Global Gender Gap Index is published by:

a) **World Bank**

b) **World Economic Forum**

c) **United Nations Development Program**

d) **None of the above**

Answer: B

Explanation:

- The World Economic Forum recently released the Global Gender Gap report 2021.

- Now in its 15th year, the Global Gender Gap Index benchmarks the evolution of gender-based gaps in four key areas -- **Economic Participation and Opportunity; Educational Attainment; Health and Survival; and Political Empowerment.**

- It also examines the reasons of gender gaps and outlines the policies and practices needed for a gender-inclusive recovery.

- This year, the index benchmarks 156 countries, providing a tool for cross-country comparison.

Global Findings

- **Iceland** remains the world's most gender-equal country, followed by _Finland, Norway, New Zealand and Sweden_.

- Globally, the average distance completed to parity (equality) is at 68 per cent, which has declined compared to 2020 (by -0.6 percentage points). Based on the current performance, it will now take 135.6 years to close the gender gap worldwide.

- The gender gap in political empowerment remains the **largest of the four gaps** tracked. Across the 156 countries covered by the index, women represent _only 26.1%_ of some 35,500 parliament seats and _just 22.6%_ of over 3,400 ministers worldwide. In 81 countries, there has never been a woman head of state, as of January 2021.

- The **second-largest gender gap** among the four components is for the Economic Participation and Opportunity sub index. Globally, _only 58.3 %_ of this gap has been closed so far.

- However, gender gaps in Educational Attainment and Health and Survival are nearly closed. In Educational Attainment, 95% of this gender gap has been closed globally, with 37 countries already at parity. In Health and Survival, 96% of this gender gap has been closed.

Regional Performance

- Western Europe region has progressed the most towards gender equality (77.6%). North America is the second-most advanced (76.4%), followed by Latin America and the Caribbean (72.1%) and Eastern Europe and Central Asia (71.2%).

- The **Middle East and North Africa region** remains the area with the largest gap (60.9%).

- South Asia is the second-lowest performer on the index, with 62.3 per cent of its overall gender gap closed. The report estimates that it will take South Asia 195.4 years to close the gender gap, while Western Europe will take 52.1 years.

Findings From India

- India has fallen 28 places to **rank 140th among 156 countries**, becoming the **third-worst performer in South Asia**. India has closed 62.5 per cent of its gender gap till date.

- Among **India's neighbours**, Bangladesh ranked 65, Nepal 106, Sri Lanka 116, Bhutan 130, Pakistan 153, and Afghanistan 156.

- Most of India's decline occurred on the **political empowerment sub index**, where India fell by 13.5 percentage points, with a significant decline in the number of women ministers (from 23.1 % in 2019 to 9.1 % in 2021).

- India performed poorly in the **economic participation** index.

   o There is a decrease in *women's labour force participation rate*, which fell from 24.8 per cent to 22.3 per cent.

   o The share of *women in senior and managerial positions* also remains low, with only *14.6 %* of these positions being held by women and there are only 8.9 per cent firms with female top managers.

   o Further, the *estimated earned income* of women in India is only one-fifth of men's income, which puts India among the bottom 10 globally on this indicator.

- Discrimination against women is also reflected in the **health and survival sub index statistics**. With 93.7 per cent of this gap closed to date, India ranks among the bottom five countries in this sub index. Wide gaps in sex ratio at birth are due to the prevalent gender-based sex-selective practices. In addition, more than one in four women has faced intimate violence in her lifetime.

- 96.2 per cent of the **educational attainment sub index** gender gap has been closed, with equality achieved in primary, secondary and tertiary education. However, gender gaps exist in terms of literacy: one third of women are illiterate (34.2 per cent) compared to 17.6 per cent of men.

Way Ahead

- The report offers ways for countries to work towards closing their gender gaps. These include further investment in the care sector and equitable access to care leave for working men and women.

- It advocates policies that focus on overcoming occupational separation by gender, effective mid-career skills-development policies for women, and managerial practices based on unbiased hiring and promotion practices.

15. Consider the following statements about Pradhan Mantri Swasthya Suraksha Nidhi (PMSSN):

1. **PMSSN is a single non-lapsable reserve fund for health.**
2. **Proceeds from the Health and Education Cess will be credited into PMSSN.**

Which of the statements given above is/are correct?

a) **1 only**

b) **2 only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Answer: C

Explanation

The Union Cabinet recently approved the Pradhan Mantri Swasthya Suraksha Nidhi (PMSSN) as a single non-lapsable reserve fund for health.

Features of PMSSN

- PMSSN is non-lapsable reserve fund for Health in the Public Account.

- Proceeds of share of health in the **Health and Education Cess**, levied under Section 136-b of Finance Act, 2007 will be credited into PMSSN.

- The accruals into the PMSSN will be utilized for the **flagship schemes of the Ministry of Health and Family Welfare**. These flagship schemes are Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana, Ayushman Bharat - Health and Wellness Centres, National Health Mission, Pradhan Mantri Swasthya Suraksha Yojana (PMSSY).

- It will also be utilised for **emergency and disaster preparedness**, responses during health emergencies and **any future programme/scheme that targets to achieve progress towards SDGs** and the **targets set out in the National Health Policy (NHP) 2017**.

- In any financial year, the expenditure on such schemes of the Ministry would be initially incurred from the PMSSN and thereafter, from Gross Budgetary Support (GBS).

- Administration and maintenance of the PMSSN is entrusted to Ministry of Health & Family Welfare.

Benefits

- The major benefit will be enhanced access to universal & affordable health care through availability of earmarked resources, while ensuring that the amount does not lapse at the end of financial year.

- From an economic standpoint, better health improves productivity, and reduces losses due to premature death, prolonged disability and early retirement.

- Health and Nutrition also directly impact scholastic achievements and have a bearing on productivity and income.

- One extra year of population life expectancy raises GDP per capita by 4%. Investment in health creates millions of jobs, largely for women, through a much needed expansion of the health workforce.

16. World Happiness Report is released by:

a) **World Bank**

b) **World Economic Forum**

c) **UNICEF**

d) **None of the above**

Answer: D

Explanation:

- The World Happiness Report 2021 was recently released by the **UN Sustainable Development Solutions Network (SDSN).**

- The World Happiness Report is a landmark survey of the state of global happiness that ranks 149 countries by how happy their citizens perceive themselves to be.

- The report is based on the Gallup World Poll that evaluates levels of happiness by taking into account factors such as **GDP, social support, personal freedom, and levels of corruption** in each nation.

- This year, the report also tried to focus on the effects of COVID-19 on the structure and quality of people's lives, and to describe and evaluate how governments all over the world have dealt with the pandemic.

Key Findings

- Overall, the index showed little change in happiness levels compared to last years' report, which was based on information from before the Covid-19 pandemic.

- Trust was the key factor used to measure happiness in each country. Nations where citizens had more faith vested in its institutions and had greater income equality were considered to be more successful in combating the pandemic.

- **Finland** has been ranked as the happiest country in the world for the fourth consecutive year. The Nordic nation is followed by *Iceland, Denmark, Switzerland, Netherlands, Sweden, Germany and Norway*. Of the 10 top countries in the list, nine were in Europe.

- The United States was ranked 19th, despite being one of the richest countries in the world.

- **India ranked 139th**, a slight improvement since last year, when it was ranked 140th. Pakistan is on 105th, Bangladesh on 101st and China on 84th.

- People in war-torn **Afghanistan** are the most unhappy with their lives, followed by Zimbabwe (148), Rwanda (147), Botswana (146) and Lesotho (145).

- The pandemic acts as a reminder of global environmental threats, the urgent need to cooperate, and the difficulties of achieving cooperation in each country and globally. The report points that the world must aim for wellbeing rather than mere wealth, which will be temporary if the world does not address the challenges of sustainable development.

UN Sustainable Development Solutions Network

The United Nations Sustainable Development Solutions Network (SDSN) initiative was launched in 2012. It operates under the auspices of the United Nations to mobilize scientific and technical expertise to promote practical solutions for implementation of the Sustainable Development Goals (SDGs) and the Paris Climate Agreement.

17. Consider the following statements about Central Revenues Control Laboratory (CRCL):

1. CRCL works under the Central Board of Direct Taxes.

2. CRCL has been recognised as a Regional Customs Laboratory for Asia Pacific.

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 World Customs Organisation (WCO) recently recognised Central Revenues Control Laboratory CRCL, New Delhi as a Regional Customs Laboratory (RCL) for Asia Pacific.

- The CRCL is working under the Central Board of Indirect Taxes and Customs. Established in 1939, CRCL is the headquarters of 14 Revenue Laboratories.

- These laboratories assist in enforcement of Customs Act, Narcotic Drugs and Psychotropic Substances Act, GST Laws, Central Excise Act and other allied Acts for the purpose of environment protection, food safety etc.

- These laboratories have been upgraded extensively in the past 3 years. With the introduction of instrument based testing, Revenue Laboratories are now facilitating faster clearances, playing a significant role in trade facilitation.

Regional Customs Laboratory (RCL)

- The primary role of the WCO RCLs is to help WCO Members in the region to improve the accuracy and effectiveness of Customs laboratory analysis work by enhancing regional cooperation and networking.

- RCLs play a significant role as regional hubs and in building networks between Customs officers within a region. RCLs also play a key role in developing regional activities.

- With CRCL becoming an RCL, the expertise and facilities of CRCL will be available to WCO Members in the Asia/Pacific region. This will enhance information sharing in the region.

- CRCL's expertise and facilities will also be used to organize workshops and seminars on analysis methodologies and techniques to enhance efficiency in revenue collection, in protecting the society as well as facilitating trade.

World Customs Organization (WCO)

- The World Customs Organization (WCO) is an independent intergovernmental body headquartered in Brussels, Belgium.

- It was established in 1952, with the objective of enhancing the effectiveness and efficiency of Customs administrations.

- It is internationally acknowledged as the global centre of customs expertise and plays a leading role in the discussion, development, promotion and implementation of modern customs systems and procedures.

- It develops international standards, enables cooperation and builds capacity to facilitate legitimate trade.

- Today, the WCO represents 183 Customs administrations across the globe that collectively process approximately 98% of world trade.

18. Prompt Corrective Action framework is applicable to which of the following?

a) **Co-operative banks**   b) **Commercial banks**

c) **Non-Banking Financial Companies**   d) **All of the above**

Answer: B

Explanation

- The Reserve Bank of India (RBI) has taken out IDBI Bank from the prompt corrective action (PCA) framework, subject to continuous monitoring.

- RBI had placed IDBI Bank under PCA framework in May 2017, after it had crossed thresholds on various parameters used for PCA.

- In a recent review it was noted that as per published results for the quarter ending December 31, 2020, IDBI is not in violation of various PCA parameters. The bank has also provided a written commitment that it would comply with the required norms.

Prompt Corrective Action

- Prompt Corrective Action (PCA) is a framework under which banks with weak financial health are put under monitoring by the RBI.

- As most bank activities are funded by deposits which need to be repaid, it is important that a bank carries a sufficient amount of capital to continue its activities.

- PCA is intended to alert the RBI as well as investors and depositors if a bank may face problems in the future.

- Essentially PCA helps RBI to monitor key performance indicators of banks, and take corrective measures, to restore the financial health of a bank.

- The PCA framework is applicable **only to commercial banks** and not to co-operative banks and non-banking financial companies (NBFCs).

Parameters Used for PCA

- The PCA framework considers a bank as risky if it falls below certain norms on the parameters such as **Capital to Risk (Weighted) Assets Ratio (CRAR), Net non-performing assets (NPA)**, and **Return on Assets (ROA)**.

- The PCA has **three risk threshold levels** (1 being the lowest risk and 3 being the highest risk) based on where a bank stands on the above mentioned parameters.

- For example, the first threshold is triggered, if the CRAR is less than 9%, but equal or more than 6%. For second threshold CRAR should be less than 6%, but equal or more than 3% and the third threshold is triggered if the CRAR is less than 6%.

Impact Of Putting A Bank Under PCA

- The RBI can place various restrictions on the bank depending on the threshold level crossed by the bank.

- The RBI can put restrictions on the amount of dividend distributed by the bank and may ask the promoters of the banks to increase the capital base of the bank by bringing in fresh funds.

- Additionally, RBI can put restrictions on the domestic and overseas branch expansion of the bank. It can also impose restrictions on pay hikes, director's fees, promotions, annual hikes and recruitments.

- It also has the power to initiate other measures like special inspections, audit of the bank, detailed review of the bank in terms of investments etc.

19. The Negotiable Instruments Act, 1881 is applicable on which of the following?

a) **Cheque** b) **Bill of Exchange**

c) **Promissory Note** d) **All of the above**

Answer: D

Explanation:

- Over three crore cases related to bounced cheques are pending in the trial courts, High Courts and Supreme Courts.

- Earlier, the Supreme Court had set up a committee to address this issue, which submitted its report in October 2020. Setting up additional courts to facilitate the early disposal of cheque dishonour cases was one of the steps proposed by the committee.

- Following this, the SC had urged the Centre to use its power under **Article 247** of the Constitution to create additional courts for better administration of the Act.

- After the directions of the Supreme Court, the central government has agreed to set up additional courts, to accelerate the trial in cheque bounce offences under the Negotiable Instruments Act.

- A cheque is a promise made in writing by one party to unconditionally pay another party a specified amount of money, which is owed to it**.**

- A cheque "bounces" or gets "dishonoured" when the cheque is deposited or presented for payment but this promise is not honoured.

Negotiable Instruments Act

- A negotiable instrument is a document guaranteeing the payment of a specific amount of money, either on demand, or at a set time, whose payer is usually named on the document.

- Negotiable Instruments (like cheques) have been used in commercial world for a long period of time as one of the convenient modes for transferring money.

- Negotiable Instruments Act, 1881 is an act in India dating from the British colonial rule, that is still in force. It is applicable to Promissory Note, Bill of Exchange and Cheques.

- Before 1988, there was no effective legal provision to prevent people from issuing cheques without having sufficient funds in their account or any stringent provision to punish them.

- Over the years, through various amendments to the act, the government has made the offence of dishonouring a cheque, **a criminal offence**. This has been done to promote the growth of trade and commerce and to safeguard the faith of creditors.

- The penalty under the Act for dishonouring a cheque is an imprisonment up to two years or a fine, which may extend to twice the amount of the cheque or both.

Justice Chauhan Committee

- After agreeing to set up additional courts, the Centre suggested to the SC, that the modalities for the required number of courts and the procedure to be followed by the courts would have to be worked out by an expert committee.

- The SC agreed with the Centre's proposal and has set up a committee headed by former Bombay High Court Judge R C Chauhan. The committee will have to submit its report within three months.

20. Which of the following is a flowering method of Bamboos?

a) **Gregarious flowering**   b) **Sporadic flowering**

c) **Annual flowering**   d) **All of the above**

Answer: D

Explanation:

A phenomenon called, 'gregarious flowering of bamboo' is taking place inside the Wayanad Wildlife Sanctuary (WWS) and the nearby Mudumalai Tiger Reserve and Gudalur forest division in Tamil Nadu.

Bamboo

- Bamboo is the largest member of the grass family, but a very tall grass with woody stems. With over 1400 species worldwide bamboo grows everywhere except for places with extremely cold climates.

- The thorny bamboos in Wayanad forests belong to the species, Bamboosa Bambos.

- Bamboosa Bambos is a monocarpic plant belonging to the Poaceae family (grass family), and its flowering cycle varies from 40 to 60 years. Monocarpic plants are plants that flower only once in its lifetime.

- Most bamboos flower once every 60 to 130 years depending on the species. The long flowering intervals of bamboos is still unexplained.

- However, not all bamboos have same flowering characteristics or patterns. Depending on the species, a bamboo can have either gregarious flowering, sporadic flowering or annual flowering.

Gregarious flowering

- Gregarious flowering takes place when all populations of a particular species of bamboo flower almost at the same time, all over the world, irrespective of geographic location and climate.

- For most species of bamboo, this can happen at intervals between 60 to 130 years. This flowering cycle is genetically pre-programmed into each species.

- Once a species reaches its life expectancy, the bamboo flowers and produces seeds. When a bamboo flowers gregariously, it spends a tremendous amount of energy in producing flowers and seeds.

- The mass flowering puts a lot of stress on the bamboo and it eventually dies in the process.

Sporadic flowering

- Sporadic flowering is when bamboo flowers sporadically or intermittently. It is generally due to environmental factors and not due to genetics.

- Unlike gregarious flowering, sporadic flowering does not happen on a mass scale and the bamboo does not always die after flowering.

- It typically occurs on an individual or a group of plants from a localized area.

Annual Flowering

- There are a few species of bamboo that flower annually. This flowering cycle is known as Annual flowering.

- In these species, the bamboo can flower annually with no effect on the parent plant itself.

Concerns With Gregarious Flowering in WWS

- During summer, herbivorous animals in the Nilgiri biosphere depend on the bamboo groves in the Wayanad forest for fodder.

- Gregarious flowering may adversely affect migration, especially by elephants, wild gaur, and other herbivores due to the mass destruction of bamboo groves after the flowering.

- Local communities fear that shortage of fodder in forests may force wild animals to enter farms and increase man-animal conflict.

- Bamboo provides livelihood for many tribals who use it to make a variety of products and sell them in local markets. Gregarious flowering can have an adverse impact on their livelihood.

21. In India, the Foreign Direct Investment limit in the Insurance sector is:

a) **26%**

b) **49%**

c) **74%**

d) **100%**

Answer: C

Explanation

- The Insurance (Amendment) Bill, 2021 was recently passed by the Parliament. The Bill amends the Insurance Act, 1938, that provides the framework for functioning of insurance businesses.

- The Act also regulates the relationship between an insurer, its policyholders, its shareholders, and the regulator (the Insurance Regulatory and Development Authority of India).

Provisions of the Bill

- The Bill increases the FDI limit in an Indian insurance company to 74%, and removes restrictions on ownership and control. Currently, the permissible FDI limit in insurance companies is 49%, with ownership and management control with Indians.

- By raising the FDI limit to 74%, the current provision of ownership and management control with Indians had to be dropped. However, such foreign investment will be subject to additional conditions.

- Under the new structure, the majority of directors on the board and key management persons would be resident Indians, which will make them accountable under the Indian law.

- Moreover, at least 50% directors have to be independent directors which will also help to ensure accountability.

- Furthermore, a specified percentage of profit will be retained as general reserve.

Benefits

- Increase in foreign investment will help to meet the growing capital requirements of insurance companies and strengthen the insurance sector in the country.

- Life insurance premium as a percentage of GDP is 3.6 per cent in India, which is way below the global average of 7.13 per cent.

- In case of general insurance, it is even worse at 0.94 per cent of GDP, as against the world average of 2.88 per cent.

- Increase in FDI will provide affordable insurance facilities to the people and improve the penetration of insurance in the country, which is far behind the world average.

- It will also safeguard the interest of 24 lakh employees engaged in the private insurance sector in addition to 17 lakh working in public sector insurance companies.

22. King Bhumibol World Soil Day Award 2020 was awarded to:

a) **Indian Council of Agricultural Research (ICAR)**

b) **United Nations Environment Programme (UNEP)**

c) **World Wide Fund for Nature (WWF)**

d) **None of the above**

Answer: A

Explanation:

- The King Bhumibol World Soil Day Award 2020 of Food and Agriculture Organization (FAO) was recently conferred to Indian Council of Agricultural Research (ICAR), for its commitment to raising awareness of the importance of healthy soils.
- ICAR was given the award for the awareness initiative undertaken in December 2019, involving participation of more than 13,000 people through a social media campaign.
- ICAR placed particular emphasis on youth by raising awareness about importance of soil for food security and climate change mitigation through various events.

King Bhumibol World Soil Day Award

- Launched in 2018, the King Bhumibol World Soil Day Award acknowledges individuals or institutions that raise public awareness of soils by organising successful and influential World Soil Day celebrations.
- The award, sponsored by the Kingdom of Thailand, is named after King Bhumibol Adulyadej of Thailand for his lifelong commitment to raising awareness of the importance of sustainable soil management and rehabilitation for food security, poverty alleviation and more.

ICAR

- ICAR is an autonomous body responsible for coordination, guidance and management of agricultural research and education in India.
- In this capacity, ICAR oversees one of the largest networks of agricultural research and education institutes in the world, covering the whole country in the fields of horticulture, soil science, fisheries and animal sciences among others.
- It reports to the Department of Agricultural Research and Education, Ministry of Agriculture and Farmers Welfare. The Union Minister of Agriculture serves as its president.

23. Consider the following statements about National Food Security Act (NFSA):
1. **Food entitlements under Antyodaya Anna Yojana are covered under NFSA.**
2. **Under NFSA, two thirds of the rural population are provided subsidized food grains.**

Which of the statements given above is/are correct?

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

Answer: A

Explanation:

NITI Aayog recently circulated a discussion paper on a proposed revision in the National Food Security Act (NFSA), 2013.

Provisions Under NFSA

- The NFSA provides a legal right to persons belonging to "eligible households" to receive foodgrains at subsidised price– under the Targeted Public Distribution System (TPDS).

- The subsidised price for various foodgrains is: rice at Rs 3/kg, wheat at Rs 2/kg and coarse grain at Rs 1/kg. These are called **central issue prices** (CIPs).

- Under the Act, the term "eligible households" comprises **two categories** — priority households, and families covered by the Antyodaya Anna Yojana (AAY).

- **Priority households** are entitled to receive 5 kg of foodgrains per person per month, whereas **AAY households** are entitled to 35 kg per month at the same price.

Central Issue Price Revision

- The paper circulated by NITI Aayog has proposed revision of CIPs. Even the Economic Survey of 2020-21 had recommended a revision in the CIPs.

- Under Schedule-I of the Act, these subsidised prices were fixed for a period of three years from the date of commencement of the Act.

- The three-year period was completed in July, 2016. However, the government has not yet revised the subsidised prices.

- To revise the prices, the government can amend Schedule-I through a notification. A copy of this notification has to be laid before each House of Parliament after it is issued.

- However, the revised prices cannot exceed the minimum support price for wheat and coarse grains and rice.

Beneficiary Coverage

- As per NFSA, the coverage under eligible households includes 75% of the rural population and up to 50% of the urban population.

- This overall figure has been divided among the states and Union Territories, based on the NSSO Household Consumer Expenditure Survey 2011-12.

- Section 9 of the Act deals with an update of coverage of population under the Act. As per NFSA, the percentage coverage in rural and urban areas for each State shall be determined by the Central Government.

- The total number of persons to be covered in the State are to be calculated on the basis of the population estimates of the census for which the figures have been published.

- On the basis of Census 2011 figures and the national rural and urban coverage ratios, 81.35 crore persons are covered under NFSA currently.

- The number of NFSA beneficiaries was frozen in 2013. However, due to the population increase since then, there have been demands from the states and union territories to update the list by ensuring an annual updating system under NFSA.

- NITI Aayog has suggested that the national rural and urban coverage ratio should be reduced from the existing 75% (rural)-50%(urban) to 60% (rural)-40% (urban).

- To make these changes in the law, the government will have to amend the NFSA. For this, it will require parliamentary approval.

Impact of Coverage Revision

- If the national coverage ratio is revised downward, the number of beneficiaries under the NFSA will drop to 71.62 crore (on the basis of the projected population in 2020).

- It will also help the Centre to save up to Rs 47,229 crore. However, the move may be opposed by some of the states.

- On the other hand, if the rural-urban coverage ratio remains at 75%-50%, then the total number of people covered will increase from the existing 81.35 crore to 89.52 crore —an increase of 8.17 crore.

- This estimate is based on the projected 2020 population, and will result in an additional subsidy requirement of Rs 14,800 crore.

24. Consider the following statements about cryptocurrencies:

1. **Cryptocurrencies are created by using encryption techniques.**
2. **All companies in India have to disclose any profit or loss on transactions involving cryptocurrency in their financial statements.**

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 Corporate Affairs (MCA) recently made changes to Schedule III of the Companies Act, 2013. Schedule III contains general instructions for preparation of balance sheet and statement of profit and loss of a company.

- As per the changes, all companies will now have to disclose any profit or loss on transactions involving cryptocurrency in their financial statements filed with the Registrar of Companies.

- They will also have to share the amount of cryptocurrency held on the reporting date, and any deposits or advances received from anyone for the purpose of investing in cryptocurrencies or virtual currencies

Cryptocurrency

- A cryptocurrency is a type of currency which uses digital files as money. Usually, the files are created using the methods of cryptography (the science of hiding information) and use encryption techniques for safety. The most popular cryptocurrency is Bitcoin.

- Cryptocurrencies are based on a network that is distributed across a large number of computers. This decentralized structure allows them to exist outside the control of governments and central authorities.

Background

- In a circular in 2018, the RBI had banned banks from dealing with cryptocurrency exchanges and individual holders. However, in March 2020, the ban was overturned by the Supreme Court.

- In the recent past, the government was also planning to ban all private cryptocurrencies, through a new bill – Cryptocurrency and Regulation of Official Digital Currency Bill, 2021. However, later, the Finance Ministry said that the Centre will try to regulate cryptocurrencies.

- There are estimated to be around 10 million individual cryptocurrency investors in India, but the number of companies having exposure to cryptocurrencies is not known.

Concerns Associated With Cryptocurrencies

- Transaction records of cryptocurrencies are publicly available in an open ledger (for record keeping) in an anonymous and an encrypted form. This ledger is called blockchain.

- Though each transaction is recorded in a public log, names of buyers and sellers are never revealed and only their wallet IDs are revealed.

- This keeps cryptocurrency users' transactions private but it also lets them buy or sell anything without easily tracing it back to them. That's why it has become the preferred currency for buying drugs online or other illicit activities.

- Further, the anonymous nature of cryptocurrencies goes against the global money laundering rules.

- Moreover, investments in cryptocurrencies are highly volatile, which leads to significant investment risks.

Impact

- Now that the government has asked companies to disclose holdings of cryptocurrencies, it is likely that the government will try to regulate cryptocurrencies in India, instead of banning them.

- There have been reports that some startups were paying employees part of their salaries in cryptocurrencies. Ev Thus, the new regulations will help to improve transparency in the country with respect to dealings in cryptocurrency.

- Moreover, this can eventually lead to clear tax guidelines on earnings from cryptocurrencies, which is still not clear.

25. Which of the following statements is correct regarding Voluntary Vehicle-Fleet Modernization Program?

a) **As per VVFMP, both commercial and private vehicles older than 15 years will be de-registered and scrapped.**

b) **As per VVFMP, only private vehicles older than 10 years will be de-registered and scrapped.**

c) **As per VVFMP, only commercial vehicles older than 10 years will be de-registered and scrapped.**

d) **None of the above**

Answer: D

Explanation:

The Ministry of Road Transport and Highways (MoRTH) has introduced the **Voluntary Vehicle-Fleet Modernization Program** (VVMP), also known as the **Vehicle Scrapping Policy**. The policy is aimed at creating an ecosystem to phase out old and unfit vehicles.

Current Status

- According to MoRTH, India has 51 lakh Light Motor Vehicles that are more than 20 years old and 34 lakh vehicles over 15 years old. Moreover, there are around 17 lakh Medium and Heavy Commercial Vehicles that are older than 15 years and without valid fitness certificates.

- These vehicles are estimated to cause 10-12 times more pollution than the latest vehicles.

- Currently, Delhi is the only city where diesel vehicles older than 10 years and petrol vehicles older than 15 years get automatically deregistered. However, people are unable to scrap them since there are not enough authorised scrapping centres.

Details Of The Policy

- The policy aims to de-register unfit vehicles and scrap them by terming them as **"end of life" vehicles**.

- **Commercial vehicles** will be de-registered after 15 years in case of failure to get the fitness certificate. **Private Vehicles** will be de-registered after 20 years if found unfit or in case of a failure to renew registration certificate.

- Moreover, all vehicles of the Central Government, State Government, Municipal Corporation, Panchayats, Public Sector Undertakings will be compulsorily de-registered and scrapped after 15 years from the date of registration.

- Criteria to determine vehicle fitness will be emission tests, braking, safety equipment, among many other tests which are as per the Central Motor Vehicle Rules, 1989.

- As a disincentive measure, increased fees for fitness certificate and fitness test will be applicable for commercial vehicles 15 year onwards from the date of initial registration.

- Similarly, increased re-registration fees will be applicable for private vehicles 15 year onwards from the date of initial registration.

- The new regulatory regime, will start mandatory fitness testing of heavy commercial vehicles from April 2023 and for other categories, in a phased manner, from June 2024.

- Scrapping of government and PSU vehicles above 15 years of age will begin from April 2022.

Scrapping Facilities And Fitness Centres

- The MoRTH will promote setting up of **Registered Vehicle Scrapping Facility** (RVSF) across India and will encourage public and private participation for opening up of such centres.

- The centres will be linked to police and national databases to track stolen vehicles or those linked to other criminal activity.

- Locations identified include Alang in Gujarat, where a highly specialised scrapping centre is planned.

- Similarly, MoRTH will promote setting up of **Automated Fitness Centres (AFC)** on a public private partnership (PPP) model by state government, private sector, automobile companies etc.

- The aim is to have one AFC in every district, or at least 718 such centres across India.

Incentives To Owners

- The scheme shall provide strong incentives to owners of old vehicles to scrap old and unfit vehicles through registered scrapping centres, which will provide the owners with a scrapping certificate.

- State governments have been advised to offer a road- tax rebate of up to 25% for personal vehicles and up to 15% for commercial vehicles

- Ministry will issue advisories to carmakers to give a five per cent discount on the purchase of a new vehicle on the basis of a scrapping certificate.

- In addition, the registration fees may also be cancelled for purchase of new vehicle against the scrapping certificate.

Benefits Of The Policy

- Financial incentives of scrapping and buying a new car will be higher than the running cost of a 15-year-old personal vehicle. Moreover, the new vehicles will come with more safety features, which have been made compulsory.

- It will help in encouraging fuel efficient, environment friendly vehicles, thereby reducing vehicular pollution and oil import bill of the country.

- The policy will formalize the currently informal vehicle scrapping industry and boost availability of low-cost raw materials for automotive, steel and electronics industry.

- The ecosystem is expected to attract additional investments of around Rs. 10,000 Crore and 35,000 job opportunities.

26. National Bank for Financing Infrastructure and Development can borrow money from:

1. **Central government.**
2. **Reserve Bank of India.**
3. **Scheduled Commercial Banks.**
4. **World Bank**

Choose the correct option using the codes below:

a) **3 and 4 only**

b) **1, 2 and 3 only**

c) **1, 2 and 4 only**

d) **1, 2, 3 and 4**

Answer: D

Explanation

- The National Bank for Financing Infrastructure and Development Bill, 2021 was recently passed in the Parliament.

- The Bill seeks to establish the National Bank for Financing Infrastructure and Development (NBFID) as the principal development financial institution (DFIs) for infrastructure financing.

- DFIs are set up for providing long-term finance for such segments of the economy where the risks involved are beyond the acceptable limits of commercial banks and other ordinary financial institutions.

- Unlike banks, DFIs do not accept deposits from people. They source funds from the market, government, as well as multi-lateral institutions, and are often supported through government guarantees.

- The Bill also provides for any person to set up a DFI by applying to RBI.   RBI may grant a licence for DFI in consultation with the central government. RBI will also prescribe regulations for these DFIs.

NBFID

- NBFID will be set up as a corporate body with authorised share capital of one lakh crore rupees. Initially, the central government will own 100% shares of the institution which may subsequently be reduced up to 26%.

- NBFID will have both financial as well as developmental objectives. Financial objectives will be to directly or indirectly lend, invest, or attract investments for infrastructure projects located entirely or partly in India.

- NBFID may borrow money from central government, RBI, scheduled commercial banks, mutual funds, and multilateral institutions such as World Bank and Asian Development Bank.

- Union budget has allocated ₹20,000 crore to capitalize the DFI, which is expected to create a lending portfolio of at least ₹5 trillion in about three years.

- Central government will prescribe the sectors to be covered under the infrastructure domain.

- Developmental objectives include facilitating the development of the market for bonds, loans, and derivatives for infrastructure financing.

- No investigation can be initiated against employees of NBFID without the prior sanction of:

  o The central government in case of the chairperson or other directors; and

  o The managing director in case of other employees.

- Courts will also require prior sanction for taking cognisance of offences in matters involving employees of NBFID.

27. Shigmotsav is celebrated in:

a) **Goa**   b) **Kashmir**

c) **Tamil nadu**   d) **Madhya Pradesh**

Answer: A

Explanation

- Due to the rising Covid-19 cases the Goa government has cancelled the parades that were part of Shigmo celebrations.

- Shigmo or Shigmotsav, is the celebration of a 'rich, golden harvest of paddy' by the tribal communities of Goa.

- Agricultural communities including the Kunbis, Gawdas and Velips celebrate the festival that also marks the onset of spring.

- Shigmo celebrations last over a fortnight in the months of Phalgun-Chaitra months of the Hindu calendar that correspond with March-April every year.

- The festival begins with Naman, the invocation of local folk deities on the village maand, or the village stage, to the beats of percussion instruments like the ghumat, dhol, mhadle and tashe by men.

- Folk dances like Ghodemodini (a dance of equestrian warriors), Gopha and Phugadi are among the dances performed by the participating communities.

28. Anangpal II belonged to which dynasty?

a) **Chera dynasty.**   b) **Tomar dynasty.**

c) **Chola dynasty.**   d) **None of the above.**

Answer: C

Explanation:

- A government seminar conducted recently highlighted the legacy of Tomar king — Anangpal II.

- Anangpal II, popularly known as Anangpal Tomar, belonged to the Tomar dynasty that ruled parts of present-day Delhi and Haryana between the 8th and 12th centuries. Their rule is attested by multiple inscriptions and coins.

- The most reliable evidence about the early history of Delhi is inscribed on the iron pillar of Masjid Quwaatul Islam, adjacent to the Qutab Minar.

- According to this inscription, Anangpal of the Tomar Rajputs founded Delhi between 1053 and 1109 AD. It refers to Delhi as Delhi, a name that has endured.

- Anangpal II built Lal Kot fort (also known as Qila Rai Pithora) and Anang Tal Baoli.

- Anangpal Tomar II was succeeded by his grandson Prithviraj Chauhan. The Delhi Sultanate was established in 1192 after Prithviraj Chauhan's defeat in the Battle of Tarain (present-day Haryana) by the Ghurid forces.

29. Which of the following region/country has been declared as LGBTIQ Freedom Zone recently?

a) **European Union**
b) **African Union**
c) **Canada**
d) **Central America**

Answer – A

Explanation

- The European Parliament symbolically declared the **entire 27-member bloc as an "LGBTIQ Freedom Zone"** – the acronym meaning lesbian, gay, bisexual, trans, non-binary, intersex and queer.

- The step was taken as a response against member state Poland's controversial move to create more than 100 "LGBTIQ ideology-free zones" around the country since 2019.

- Also, there were reports of backsliding of LGBTIQ rights in some EU countries, particularly in Poland and Hungary

- A majority of countries in the **EU (23/27) recognise same-sex unions**, with **16 legally recognising same-sex marriage**. Poland is part of the small minority that does not acknowledge such relationships.

30. Which of the following country has launched the so-called virus passports in order to strengthen its fight against COVID-19?

a) **India**
b) **China**
c) **Brazil**
d) **Russia**

Answer – B

Explanation

- China has launched a health certificate programme for Chinese international travellers, leading the world in plans for so-called **virus passports**.

- The digital certificate, which shows a **user's vaccination status** and **virus test results**, is available for Chinese citizens.

- The certificate is being rolled out "to help promote world economic recovery and facilitate cross-border travel".

- The certificate is meant for **travel in and out of China**, it is currently only available for use by Chinese citizens and it is not yet mandatory.

- The United States and Britain are among countries currently considering implementing similar permits.

- The European Union is also working on a vaccine "green pass" that would allow citizens to travel between member countries and abroad.

31. Which of the following country has become the first Central American country to be declared malaria-free?
a) **Costa Rica**
b) **Honduras**
c) **Mexico**
d) **El Salvador**

Answer – D

Explanation

- EI Salvador **became the first country in Central America** to be awarded a certification of malaria elimination by the WHO.

- Certification of malaria elimination is granted by WHO when a country has proven, beyond reasonable doubt, that the chain of indigenous transmission has been interrupted nationwide for at least the previous three consecutive years.

- EI Salvador is the **third country to have achieved malaria-free status** in recent years in the WHO Region of the Americas, following **Argentina i**n 2019 **and Paraguay** in 2018.

- India is yet to achieve this status. WHO has initiated **High Burden to High Impact** (HBHI) initiative in **11 high malaria burden countries, including India**.

32. Consider the following statements regarding Brahmaputra river:
   1. **It passes through the Indian states of Arunachal Pradesh and Assam.**
   2. **Lohit and Dhansiri rivers are its left bank tributaries.**

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 – D

Explanation

- For the first time, China has approved building of dams in the downstream of Brahmaputra or Yarlung Tsangpo River (as known in Tibet).

- The approval of building of the dams was mentioned in the **draft five-year plan (2021-25) of China**.

What are India's Apprehensions?

- There is **no bilateral treaty governing sharing of river water** between India and China. In the absence of such treaty, China may use these dams to its own advantage especially during tense times.

- Brahmaputra river basin is a **critical water source** for Arunachal Pradesh, Assam, Meghalaya, Sikkim, Nagaland and West Bengal. It also supports the **lives of several indigenous communities**.

About Brahmaputra River

- The Brahmaputra, called *Yarlung Tsangpo in Tibet*, *Siang/Dihang River in Arunachal Pradesh* and *Luit, Dilao in Assam*, is a **trans-boundary river** which flows through **Tibet, India and Bangladesh**.

- It is the 9th largest river in the world by discharge, and the 15th longest.

- It originates in the Manasarovar Lake region, near the Mount Kailash, located on the northern side of the Himalayas in Burang County of Tibet as the Yarlung Tsangpo River.

- It passes through Indian States of Arunachal Pradesh and Assam.

- **Left Bank Tributaries** - Lhasa River, Nyang River, Parlung Zangbo, Lohit River, Dhansiri River, Kolong River.

- **Right Bank Tributaries** -Kameng River, Manas River, Beki River, Raidak River, Jaldhaka River, Teesta River, Subansiri River

33. Consider the following statements regarding recently inaugurated Maitri setu:
   1. **It was inaugurated between India and Nepal.**
   2. **This setu is situated on Mahakali river.**

Which of the above statements is/are Coorect?

a) **1 Only**

b) **2 Only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Answer – D

Explanation

- Indian Prime Minister Modi **virtually inaugurated Maitri Setu** also called as **India Bangladesh Friendship Bridge** to give a boost to the relationship between the two countries.

- The bridge is 1.9 kilometres long and is **situated on Feni river**. It connects Sabroom in south **Tripura to Ramgarh in Bangladesh**.

- The project is fully funded by the Indian government and will provide the connectivity to the landlocked Northeast region through Sabroom to Chittagong port.

Significance of Maitri Setu

- The bridge will not only help to enhance friendly relations between India and Bangladesh but will also develop as a trade corridor between the India's north-eastern region and Bangladesh.

- The improvement in connectivity will enhance economic opportunities for people of both the countries.

- It will help Bangladesh to trade more easily not only with India but also with Nepal and Bhutan and will enable Bangladesh to play an important role in regional trade.

- With the opening of the bridge, Agartala (capital of Tripura) will become the closest city in India to an international sea port. Earlier the nearest sea port for Agartala was Kolkata which is over 1,600 km away. However, the new bridge will reduce the distance between Agartala and Chattogram to less than 100 km. Chattogram is a key port city in Bangladesh.

- It would also benefit south Assam, Manipur and Mizoram to flourish in **trade and tourism.**

- As per the World Bank, if the transport facility is improved between India and Bangladesh, **Indian export will witness more than 172% increase and Bangladesh would see a hike of 297% in its exports to India**.

Foundation Stone of ICP Laid

- The PM also inaugurated and laid the foundation stone of multiple infrastructure projects in Tripura, including an Integrated Check Post at Sabroom.

- The Integrated Check Post will be a logistics hub with parking lot, warehousing and container trans-shipment facilities, that will help to boost trade by ensuring continuous movement of goods and passengers between India and Bangladesh.

- The project would be implemented by the Land Ports Authority of India.

34. Consider the following statements regarding Overseas Citizens of India (OCI) cards:
   1. **OCI cardholders can enter India multiple times, get a multipurpose lifelong visa to visit India.**
   2. **They can not vote in India but they can buy the agricultural land.**
   3. **If an individual is registered as an OCI for a period of five years, he/she are eligible to apply for Indian citizenship.**

Which of the above statements is/are Correct?

a) **1 and 2**

b) **2 and 3**

c) **1 and 3**

d) **1, 2 and 3**

Answer – C

Explanation

People of Indian origin and the Indian diaspora having Overseas Citizens of India (OCI) cards are now not required to carry their old, expired passports for travel to India, as required earlier.

About Overseas Citizen

- It was a category **introduced by the government in 2005**.

- Persons of Indian Origin (PIOs) of certain categories as specified in the Citizenship Act, 1955 are eligible for being OCI cardholders.

- Later, in 2015, government **merged PIO and OCI cardholders** into single category.

Privileges enjoyed by OCI Cardholders

- Can enter India multiple times, get a multipurpose lifelong visa to visit India,

- are exempted from registering with Foreigners Regional Registration Office (FRRO) no matter how long their stay.

- If registered as an OCI for a period of five years, he/she are eligible to apply for Indian citizenship.

- They **do not get voting rights, cannot hold a government job and purchase agricultural or farmland**.

35. **Consider the following statements regarding World Heritage Sites in India:**
    1. **At present, India has 38 World Heritage Properties.**
    2. **Khangchendzonga National Park is listed as a natural site in the he World Heritage List maintained by UNESCO.**

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

- At present, India has **42 sites listed under Tentative List** which is a pre-requisite condition for inscription as World Heritage Site.

- '**Dholavira: A Harappan City'** has been submitted for nomination of World Heritage Site in 2019-2020.

- Nomination dossiers of '**Santiniketan, India'** and '**Sacred Ensemble of Hoysalas'** have been submitted to UNESCO for the year 2021-22 cycle.

- At present, **India has 38 World Heritage Properties**. Khangchendzonga National Park (2016) has been categorised as **mixed site** in the list.

INDIA WORLD HERITAGE SITES

36. Consider the following statements regarding UN Institute for Training & Research (UNITAR)

1. **UNITAR is a dedicated training arm of the United Nations system.**
2. **Its Headquarter is situated at Geneva, Switzerland.**

Which of the above statements is/are Correct?

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

Answer – C

Explanation

- Recently, PM Modi expressed gratitude to **UN Institute for Training & Research (UNITAR).**

- Earlier, UNITAR had commended India's remarkable progress in reducing the premature mortality from Non-Communicable Diseases.

About UN Institute for Training & Research (UNITAR)

- UNITAR is a dedicated **training arm of the United Nations system**.

- It provides **training and capacity development activities** to assist mainly developing countries with special attention to Least Developed Countries (LDCs), Small Island Developing States (SIDS) and other groups and communities who are most vulnerable, including those in conflict situations.

- Established in 1963, it is headquartered at Geneva, Switzerland.

- The work of UNITAR is organized under five pillars:

  o Promote peace and just and inclusive societies (**Peace**)

  o Prosperity through sustainable economic growth (**Prosperity**)

  o People and social inclusion (**People)**

  o Planet, environmental protection and restoration, and climate change (**Planet**)

  o Optimizing the use of technology and supporting coherence for the 2030 Agenda (**Cross-fertilizing knowledge and expertise**)

37. Which among the following states does not share a land boundary with Myanmar?
a) **Nagaland**
b) **Mizoram**
c) **Arunachal Pradesh**
d) **Assam**

Answer – D

Explanation

- The Union Ministry of Home Affairs has written to four North East states bordering Myanmar, asking them to be vigilant against influx of people from the neighbouring country.

- MHA has sent advisories in this regard to the chief secretaries of **Nagaland, Mizoram, Manipur, Arunachal Pradesh** and the Director-General of Assam Rifles.

- Last month, Myanmar's military seized power in a coup against the civilian government. A state of emergency was declared and leaders of the democratically elected government, including Nobel laureate Aung San Suu Kyi, were detained.

- Since then many nationals of Myanmar, particularly policemen, have crossed the border.

[For detailed discussion about the coup, please refer the topic "**Myanmar Coup**" from February 2021 issue of CA magazine]

38. Which of the following railway bridge has got the distinction of World's Highest Railway Bridge?

a) **Chenab Rail Bridge of Jammu & Kashmir**

b) **Pakul Dul Rail Bridge of Jammu & Kashmir**

c) **Sadiya- Dhubri Rail Bridge of Assam**

d) **None of the Above**

Answer – A

Explanation

- The construction of the arch of the world's highest railway bridge that **soars 359 metres above the bed of the Chenab river** in Jammu and Kashmir was completed.

- The 1.3-kilometre-long bridge aims to boost connectivity to the Kashmir Valley and it is being constructed as part of the Udhampur-Srinagar-Baramulla Railway Link project.

- The bridge is 35-metre higher than the Eiffel Tower in Paris.

What Makes the Bridge Unique?

- The Bridge is designed to withstand high wind speed up to 266 km/hr. It is designed for blast load in consultation with DRDO for the first time in India.

- It can also bear earthquake forces of high intensity zone-V in India.

39. Consider the following statements:
  1. **Joint military exercise DUSTLIK is conducted between India and Kazakhstan.**
  2. **Exercise Desert Flag-VI was conducted between India and UAE.**

Which of the above statements is/are Correct?

a) **1 Only**   b) **2 Only**

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

Answer – D

Explanation

Exercise DUSTLIK II

- The **India - Uzbekistan** joint military exercise DUSTLIK II was conducted in Foreign Training Node Chaubatia, Ranikhet in Uttarakhand.

- This was the Second Edition of annual bilateral joint exercise of both armies. The first edition of the exercise was held in Uzbekistan in November 2019.

- The broad aim of the exercise is **Counter Insurgency (CI) and Counter Terrorism (CT) operations** in mountainous, rural and urban scenarios under **United Nations (UN) mandate.**

- The focus was on **people-centric intelligence** based surgical operations, incorporating technological advancements to minimize collateral damage.

- The exercise provide impetus to the ever growing military and diplomatic ties between the two nations and also reflects the strong resolve of both nations to counter terrorism.

Exercise Desert Flag-VI

- Exercise Desert Flag is an annual multinational large force employment warfare exercise hosted by the UAE Air Force.

- This year's exercise was conducted at Al-Dhafra air base, UAE.

- **Participants**: The air forces of the UAE, India, United States of America, France, Saudi Arabia, South Korea and Bahrain.

- This was the **first time that Indian Air Force participated** in this exercise.

- The objective of the exercise was to expose participating forces to large force deployment, sharpen tactical capabilities, and enhance interoperability along with fostering closer relations.

- The exercise in the UAE with friendly forces afforded a unique opportunity to gain valuable learning experience to all the participating forces.

Boosting Defence ties with UAE

- The defence and security ties between India and the UAE are expanding steadily. In February, India sent a **warship to Abu Dhabi** to participate in two naval defence exhibitions.

- Chief of Army Staff Gen MM Naravane visited the UAE in December 2020 in the first ever visit by a head of the 1.3 million strong Army to the strategically important Gulf nation.

- Joint Military Exercises between India and UAE - **In-UAE BILAT** (bilateral naval exercise) as well as **Desert Eagle-II** (bilateral air force exercise)

40. Consider the following statements regarding Baralacha pass:
1. **It is situated in the Zanskar range.**
2. **It is a high mountain pass that connects Leh district in Ladakh and Lahaul district in Himachal Pradesh.**

Which of the above statements is/are Correct?

a) **1 Only**   b) **2 Only**

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

Answer – C

Explanation

- For the first time, the Border Road Organisation (BRO) has begun work on opening 16,043 feet high Baralacha La Pass, much ahead of the schedule.

- Earlier, the road used to get **opened in May after the completion of snow clearance**.

- The Baralacha La Pass is considered one of the toughest roads that remain under 15 to 20 feet of snow during the winters when the temperature dips down to minus 18 to 20 degree Celcius.

- Connectivity to Ladakh is crucial amid the ongoing tension with China in Eastern Ladakh.

- There is a lot of pressure on the BRO this time to maintain all-weather connectivity on this sector for the movement of the troops and other supplies **as an alternative to the Srinagar-Leh route via Zoji-La pass in Kashmir**.

About Baralacha La Pass

- Baralacha La, better known as Baralacha pass is situated in the **Zanskar range**.

- It is a high mountain pass located along the Leh-Manali highway that **connects Leh district in Ladakh and Lahaul district in Himachal Pradesh**.

- The Bhaga river, a tributary of the Chenab river, originates from Surya taal lake, which is situated a few of kilometers from the pass towards Manali.

- The pass also acts as a **water-divide between the Bhaga river and the Yunam river**

41. The terms, 'Barium'', 'Wicked Panda', 'Wicked Spider', 'Red Echo', 'ShadowPad', often seen in news is related to

a) **Malware**

b) **Exoplanet**

c) **Biodiversity underseas**

d) **Names of Places at Mars Planet**

Answer: A

Explanation

Red Echo

- Maharashtra Power Minister announced that a State Cyber Cell probe had found **14 Trojan horses** in the servers of the Maharashtra State Electricity Transmission Company.

- These malwares had the **potential to disrupt power distribution** in the State.

- The announcement came in the wake of a report from **Recorded Future,** a U.S.-based cybersecurity firm, stating that a group linked to the Chinese government, which is called **'Red Echo'**, had targeted 10 vital nodes in India's power distribution system and two seaports.

- It found a large number of **IP addresses** linked to critical Indian systems communicating for months with **AXIOMATICASYMPTOTE servers** connected to **Red Echo.** These servers had domains spoofing those of Indian power sector entities configured to them.

- AXIOMATICASYMPTOTE servers act as **command-and-control** centres for malware known as **ShadowPad**.

ShadowPad

- ShadowPad is a **backdoor Trojan malware**, which means it opens a secret path from its target system to its **command-and-control servers**. Information can be extracted, or more malicious code delivered via this path.

- ShadowPad is built to target **supply-chain infrastructure** in sectors like transportation, telecommunication, energy and more. It was first identified in 2017 when it was found hidden in a legitimate software produced by a company named **NetSarang.**

Link with China

- **Kaspersky** states that several techniques used in **ShadowPad** are also found in malware from **Winnti group**, "allegedly developed by **Chinese-speaking actors**".

- Security analysis firm FireEye links ShadowPad to a **group known as 'APT41'**, which it says overlaps with the Winnti group.
- The **U.S. Department of Justice** confirmed the intrusions that various security researchers were tracking using different threat labels such as '**APT41', 'Barium', 'Winnti', 'Wicked Panda', and 'Wicked Spider'.**
- **Microsoft** has been tracking another group under the **name 'Barium'.**

42. **Consider the following sentences about Mapping Genomes in the Indian Ocean:**

1. **India is launching a 90-day scientific cruise mission in the second week of March to sample water, sediments, planktons as well as various organisms in search of genomes and micro-nutrients.**
2. **It will help in strengthening the country's research into commercial biotechnology applications including anticancer treatments as well as help understand new climate change patterns.**
3. **Similar exercise was done by India in 1998.**
4. **The expedition will start from Visakhapatnam and will go up to 30°S, touching the waters between Australia and Maldives.**

Which of the above sentences is/are correct?

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

Answer: B

Explanation:

- India is launching a **90-day scientific cruise mission** in the second week of March to **sample water, sediments, planktons and various organisms** in search of **genomes and micro-nutrients**, that may help strengthen the country's research into commercial biotechnology applications including anticancer treatments as well as help understand new climate change patterns.
- The **first-of-its-kind** research project in the country is aimed at understanding the **biochemistry** and the response of the ocean to climate change, nutrient stress and increasing **pollution**.
- **CSIR-National Institute of Oceanography (NIO)** has been commissioned to conduct genome and proteome mapping (micronutrients) present **inside single-cell organisms** in the Indian ocean.
- The expedition will take off **from Visakhapatnam,** going up to **30°S,** touching the waters between **Australia and Maldives,** and then circling back to Goa, covering 9,000 nautical miles by mid-May.
- The Project will see the team of **30 scientists** and researchers, including six women, course the Indian Ocean from India's east coast, all the way to Australia, then onward towards Port Louis in Mauritius and up to the border of Pakistan, off India's west coast, gathering samples at an average depth of about 5 km for genome mapping of microorganisms in the Indian Ocean.
- One of the key **objectives** of this mission is to **identify and characterise** the **genes and proteins** in the ocean to understand the cellular level operations of organisms in the ocean.

43. **Consider the following sentences about Fugaku:**

1. **It is the world's most powerful supercomputer now, fully developed in China.**

2. **It started development in 2014 as the successor to the K computer and is officially scheduled to start operating in 2021.**

Which of the above sentences is/are correct?

a) **1 only**

b) **2 only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Answer: B

Explanation:

Fugaku

● The **world's most powerful supercomputer Fugaku** is now fully developed in **Japan,** and the machine is available for research use.

● **IBM's Summit** had been the world's fastest computer from November 2018 till June last year.

● Fugaku, named after an **alternative name for Mount Fuji**, is a claimed **exascale supercomputer** (while only at **petascale** for mainstream benchmark), at the RIKEN Center for Computational Science in Kobe, Japan.

● It started development in 2014 as the **successor to K computer** and is officially scheduled to start operating in 2021.

● Fugaku made its debut in 2020 and became the **fastest supercomputer** in the world in the June 2020 TOP500 list, as well as becoming the first **ARM architecture-based** computer to achieve this.

K Compute

● The K computer named for the **Japanese word/numeral "Kei"**, meaning **10 quadrillion (10^{16})**, was a supercomputer manufactured by Fujitsu, installed at the Riken Advanced Institute for Computational Science campus in Kobe, Hyōgo Prefecture, Japan.

● The **K computer** was based on a distributed memory architecture with over 80,000 compute nodes.

● It was used for a variety of applications, including climate research, disaster prevention and medical research.

44. **Consider the following sentences about NISAR:**

1. **NISAR will be the first satellite mission to use two different radar frequencies, L and S-band SAR, to measure changes in our planet's surface less than a centimetre across.**
2. **It is a Joint Earth Observation Satellite Mission between ISRO and NASA.**

Which of the above sentences is/are *incorrect*?

a) **1 only**

b) **2 only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Answer: D

Explanation

● **Indian Space Research Organisation (ISRO)** has completed the development of a **Synthetic Aperture Radar (SAR)** capable of producing extremely high-resolution images for a **joint earth observation satellite mission** with the U.S. space agency **National Aeronautics and Space Administration (NASA).**

- NASA and ISRO signed a partnership on September 30, 2014, to collaborate on and launch NISAR.
- **N**ASA-**I**SRO **SAR (NISAR)** is a joint collaboration for a **dual-frequency L and S-band SAR** for earth observation. NISAR will be the **first satellite mission** to use **two different radar frequencies** to measure changes in our planet's surface **less than a centimetre** across.
- The mission is targeted to be **launched in early 2022** from ISRO's Sriharikota spaceport in Andhra Pradesh.
- **NASA** is providing the **mission's L-band SAR,** a **high-rate communication subsystem** for science data, GPS receivers, a solid-state recorder and payload data subsystem.
- **ISRO** is providing the **spacecraft bus**, the **S-band radar,** the launch vehicle and associated launch services for the mission, whose goal is to make global measurements of the causes and consequences of land surface changes using advanced radar imaging.
- NISAR, which will weigh 2,800 kg, is estimated to be the **world's most expensive imaging** satellite.
- It will detect movements of the planet's surface as small as **0.4 inches** over areas about half the size of a tennis court.

Application

- The mission will measure **Earth's changing ecosystems,** dynamic surfaces and ice masses, providing information about biomass, natural hazards, sea-level rise and groundwater, and will support a host of other applications.
- It will observe Earth's land and ice-covered surfaces globally with **12-day regularity** on ascending and descending passes, sampling Earth on average every six days for a baseline three-year mission.

    This allows the mission to observe a **wide range of Earth processes,** from the flow rates of glaciers and ice sheets to the dynamics of earthquakes and volcanoes.
- NISAR uses a sophisticated information-processing technique known as SAR to produce extremely high-resolution images. Radar penetrates clouds and darkness, enabling NISAR to collect data day and night in any weather.

45. Consider the following sentences about Helium
   1. **It is a colorless, odorless, sweet-taste, toxic, inert, monatomic gas, the first in the noble gas group in the periodic table.**
   2. **Helium is the second lightest and second most abundant element in the observable universe.**
   3. **In 1906, Moris Travers extracted helium in small quantities by heating up monazite sand abundantly available in Kerala beach, in a pioneering effort.**
   4. **China is the most important exporter of helium across the world.**

Which of the above sentences is/are correct?

a) **1, 2 and 3 only**   b) **2 and 3 only**

c) **2, 3 and 4 only**   d) **1 and 4 only**

Answer: B

Explanation:

- India **imports helium** for its needs, and with the **U.S. appearing** set to cut off exports of helium since 2021, Indian industry stands to lose out heavily.

- Helium is a **chemical element** with the **symbol He** and **atomic number 2**.
- It is a **colorless**, **odorless**, **tasteless**, **non-toxic**, **inert**, **monatomic** gas, the first in the **noble gas** group in the periodic table. Its **boiling point** is the lowest among all the elements.
- Helium is the **second lightest** and **second most abundant** element in the observable **universe** (hydrogen is the lightest and most abundant).
- The **first evidence** of helium was observed on August 18, **1868**, as a bright yellow line with a wavelength of 587.49 nanometers in the spectrum of the **chromosphere** of the Sun.
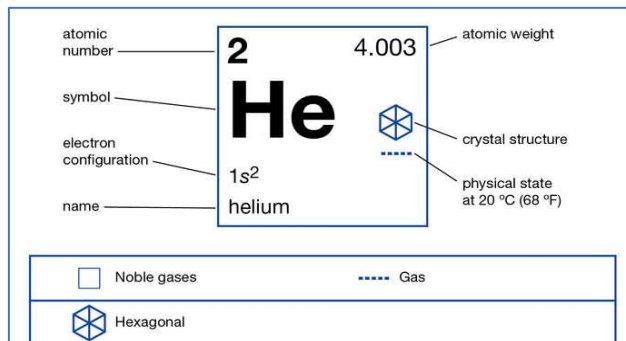
Helium on Earth

- On **Earth**, it is relatively **rare—5.2 ppm** by volume in the atmosphere.
- In 1906, **Moris Travers** extracted **helium i**n small quantity by heating up **monazite sand** abundantly available in Kerala beach, in a pioneering effort.
- Dutch physicist **Kamerlingh Onnes** liquefied Helium by cooling the gas to -270 degrees Celsius. It is known that Kamerlingh Onnes collected helium gas from the **springs of Bath in Baden Baden, Germany** for his liquefaction experiment.
- From the oil drilling operation in **Dexter, Kansas,** in the U.S., chemists Hamilton Cady and David McFarland discovered the presence of helium in natural gas. They further went on to discover that despite its overall rarity, helium was concentrated in large quantities under the **American Great Plains.**
- The **U.S. became the most important exporter** of helium across the world. It was soon realised that U.S. was also the biggest store house of helium.
- India's **Rajmahal volcanic** basin is the storehouse of helium trapped for billions of years, since the very birth of our Earth from the Sun. At present, India mapping the **Rajmahal basin (Jharkhand ,West Bengal)** extensively for future exploration and harnessing of helium.

46. **Consider the following sentences about mosquitoes**
    1. **Aedes Aegypti mosquitoes are known carriers of Japanese encephalitis, a potentially life-threatening but rare viral disease that causes "acute inflammation" of the brain.**
    2. **Culex mosquitoes are known to spread dengue and chikungunya.**
    3. **Culex mosquitoes breed in clean water, Aedes aegypti mosquitoes breed in unclean stagnant water.**

Which of the above sentences is/are incorrect?

a) **1 and 2 only**   b) **2 and 3 only**

c) **1 and 3 only**   d) **1, 2 and 3**

Answer: D

Explanation:

- With the **change in season** and **rise in temperature**, culex or common house mosquitoes have made a reappearance across many states especially in Delhi.

- **Culex mosquitoes** are known carriers of **Japanese encephalitis,** a potentially life-threatening but rare viral disease that causes "acute inflammation" of the brain.
- Unlike **Aedes aegypti** mosquitoes, which spread **dengue and chikungunya** and breed in clean water, **Culex mosquitoes** breed in unclean stagnant water.

47. Megha-Tropiques, SARAL-Altika are space Cooperation of India with which country?

a) **France**

b) **United Kingdom**

c) **Russia**

d) **United State of America**

Answer: A

Explanation:

- **India and France** are working on **their third joint satellite mission**, even as the **bilateral space collaboration** is entering into multiple domains, including the **human spaceflight programme**.
- **France** is the biggest partner of India in space.
- **ISRO** and **French space agency Centre National d'Études Spatiales (CNES)** has undertaken **two joint missions 'Megha-Tropiques',** which was launched in 2011, and **'SARAL-Altika' in 2013**.
- ISRO and CNES have completed the feasibility study to realise the **earth observation satellite** mission with a thermal infrared imager, **TRISHNA (T**hermal infra**Red I**maging **S**atellite for **H**igh-resolution **N**atural resource **A**ssessment) and are working towards finalising an implementing arrangement for the joint development.
- The two space agencies have also finalised all interface control documents for accommodating **CNES's 'ARGOS'** instrument in **ISRO's OCEANSAT-3** satellite.

Argos

- Argos is a **satellite-based system** that collects, processes and disseminates environmental data from **fixed and mobile platforms** worldwide.
- In addition to satellite **data collection,** what makes Argos more useful is the ability to geographically locate the data source from any location on Earth using the Doppler effect.
- Argos was **established in 1978** and it has **provided data to environmental research** and **protection communities** that, in many cases, was otherwise unobtainable.
- Doppler effect: Doppler Effect refers to the change in wave frequency during the relative motion between a wave source and its observer. It was discovered by Christian Johann Doppler who described it as the process of increase or decrease of starlight that depends on the relative movement of the star.Doppler Effect works on both light and sound objects.

Oceansat

- Oceansat is a series of **earth observation satellites** built, launched, and operated by the **ISRO**, and dedicated to oceanography and **atmospheric** studies.
- They facilitate a **range of applications** including documenting chlorophyll concentration, phytoplankton blooms, atmospheric aerosols and particulate matter as well as marine weather forecast to predict cyclones.
- OceanSat-1 was the **first Indian satellite** built specifically for oceanographic applications which was launched on 26 May 1999 and completed its mission on August 8, 2010.
- Oceansat-2 was launched on 23 September 2009 and currently operational.

● Oceansat-3 is expected to be launched in October 2021.

48. Consider the following sentences about Diphtheria

1. Diphtheria is Viral disease and mainly spread by coughs and sneezes, or through close contact with someone infected.
2. Diphtheria is a highly contagious infection and death occurs in 5% to 10% of those infected, mainly children under 5 years of age.

Which of the following sentences is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Answer: B

Explanation:

A team of **researchers from India, the UK and Russia,** has found that Diphtheria, which is a relatively easily **preventable infection,** has started to become **resistant to several classes of antibiotics**. There is a possibility that in future, it **may** even **become immune to vaccination.**

Diphtheria

● Diphtheria is primarily **caused by the bacterium Corynebacterium diphtheriae** and is mainly **spread by coughs and sneezes,** or through close contact with someone infected.

● Diphtheria is a **highly contagious infection. Death** occurs in **5% to 10%** of those infected, mainly **children under 5 years of age.**

● The **number of diphtheria cases reported globally** has been increasing gradually. **In 2018,** there were 16,651 reported cases, **more than double** the yearly average for **1996-2017.**

● The researchers **used genomics to map the infections**, including a subset from **India, where over half of the globally reported cases occurred in 2018.**

● The main **disease-causing component** of **C. diphtheriae** is the diphtheria toxin, which is encoded by the `tox' gene.

● **Genomes of bacteria** isolated from infections from the most recent decade (2010-19) **showed the highest average number of antimicrobial resistance genes per genome,** almost **four times** as many on average than in the next highest decade, which was the **1990s.**

● Genomics is the study of whole genomes of organisms, and incorporates elements from genetics. Genomics uses a combination of recombinant DNA, DNA sequencing methods, and bioinformatics to sequence, assemble, and analyse the structure and function of genomes.

49. Consider the following sentences about Hope Consortium

1. The Hope Consortium is Saudi Arabia's commitment to the global battle against the COVID-19 pandemic.
2. It organised the World Immunisation and Logistics Summit.

Which of the above sentences is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Answer: B

Explanation:

Union Minister for Health and Family Welfare digitally participated in a panel discussion on **vaccine production and distribution** across Asia at the **"World Immunisation and Logistics Summit** on 30th March 2021.** It was hosted by the **HOPE Consortium**.

Hope Consortium

● The Hope Consortium is **Abu Dhabi's commitment** to the global battle against the COVID-19 pandemic.

● Combining its unique logistical capabilities and geographical proximity to ~3.6 billion people worldwide, Abu Dhabi has launched one of the largest and most **integrated logistical efforts** of its type to deliver hope and vital vaccines to the global community.

● It was spearheaded by the Department of Health – Abu Dhabi, who has led the formation of the **emirate-wide consortium,** the HOPE Consortium brings together leading brands to deliver an end-to-end solution to distribute COVID-19 vaccines globally.

50. India's Biggest Floating Solar Power Plant will be set up in which among the following states?

a) Kerala   b) Telangana

c) Andhra Pradesh   d) None of the above

Answer: B

Explanation:

• India's biggest floating solar power plant with 100 MW capacity is to be **set up in Telangana** by May. These floating solar projects are coming up at **Ramagundam power project**, which will be single location largest floating solar plant in the country as of now;

• The solar project is commissioned by the energy conglomerate **National Thermal Power Corporation (NTPC).**

• This solar project is estimated to cost around Rs 423 crore and will have 4.5 lakh photovoltaic panels. Floating solar plants is an opportunity to **generate power with low cost** as land acquisition of at least five acres per megawatt of capacity involves huge fixed cost.

World's Largest Solar Plant

The world's largest solar power plant with 600 MW capacity is being set up on **Omkareshwar Dam on Narmada river in Madhya Pradesh.** The project, costing Rs 3,000 crore, is expected to start power generation only by 2022-23.

Largest Dam-based Solar Project

South Korea is building the largest dam-based floating solar power plant in the world with a capacity of 41 MW. The project will be set up at Hapcheon dam.

51. Global Energy and Environment Leadership Award, recently in news, was given by

a) United Nations Environment Programme (UNEP)

b) World Wide Fund for Nature

c) Cambridge Energy Research Associates (CERA)

d) United States Environmental Protection Agency

Answer: C

Explanation:

- Prime Minister Narendra Modi was conferred with the 'Global Energy and Environment Leadership Award' by the Cambridge Energy Research Associates (CERA).

- CERA is a **US-based consulting firm** that specializes in energy markets and organizes the CERAWeek, an annual conference that features world leaders as keynote speakers.

- The CERAWeek Global Energy and Environment Leadership Award was instituted in 2016. It **recognises the commitment of leadership on the future of global energy and environment,** and for offering solutions and policies for energy access, affordability and environmental stewardship.

52. Similipal Biosphere Reserve is located in which among the following States?

a) Odisha b) West Bengal

c) Madhya Pradesh d) Jharkhand

Answer: A

Explanation:

A massive fire has threatened to cause colossal damage to Similipal Biosphere — one of the largest biospheres of India.

About Similipal Biosphere Reserve

- Similipal, which derives its name from 'Simul' (silk cotton) tree, is a **national park and a tiger reserve** situated in the northern part of **Odisha's** Mayurbhanj district.

- Similipal and the adjoining areas, comprising 5,569 sq km, was declared a biosphere reserve by the Government of India on June 22, 1994, and lies in the eastern end of the eastern ghat.

- The tiger reserve is spread over 2750 sq km and has some beautiful **waterfalls like Joranda and Barehipani.**

- The park is surrounded by high plateaus and hills, the highest peak being the twin peaks of **Khairiburu and Meghashini** (1515m above mean sea level). At least twelve rivers cut across the plain area, all of which drain into the Bay of Bengal. The prominent among them are **Burhabalanga, Palpala Bandan, Salandi, Kahairi and Deo.**

- Similipal is the abode of 94 species of orchids and about 3,000 species of plants.

53. Pench Tiger Reserve, recently in news, is located in which of the following States?

a) Maharashtra b) Arunachal Pradesh

c) Odisha d) Sikkim

Answer: A

Explanation:

The female cub of tigress Avni, who was shot dead after being declared a man-eater in November 2018, has been released into the wild in the Pench Tiger Reserve (PTR) of Maharashtra's Nagpur district after over two years of "re-wilding" efforts.

About Pench Tiger Reserve (PTR)

- Named after the pristine **Pench River,** Pench Tiger Reserve is located in Chhindwara and Seoni districts of Madhya Pradesh which border on the state of **Maharashtra**. Pench Tiger Reserve is the joint pride of both **Madhya Pradesh and Maharashtra.**

- The **Pench river flows right through the middle of the park.** It descends from north to south, thereby dividing the reserve into equal eastern and western parts.

- The place is more popularly known as **Pench National Park**. Pench National Park was created as a wildlife sanctuary in **1977**. Soon after in **1983**, its status was elevated to that of a National Park. The year **1992** brought to Pench the official identity of a Tiger Reserve.

- Its unique location makes it accessible from both states, as entry **gates open into each of the two states.** Over the years, it has gathered much fame for rafting. It was also bestowed with the 'Best Management Award' in 2011.

- Pench alone has **over 53 tigers living in the reserve** and an additional 80 tigers (approximately) utilising the reserve.

- The reserve was the muse behind Rudyard Kipling's iconic character '**Mowgli' from The Jungle Book.**

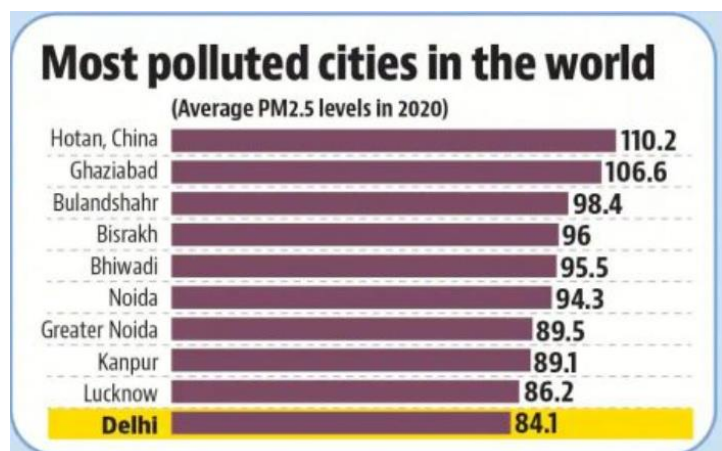**54. World Air Quality Report 2020, recently in news, was released by which among the following?**

a) IQAir

b) United States Environmental Protection Agency

c) World Meteorological Organization

d) None of the above

Answer: (A)

Explanation:

- A Swiss organisation, **IQAir**, in its recent 'World Air Quality Report, 2020', stated that 22 of the world's 30 most polluted cities are in India, with **Delhi being ranked the most-polluted capital city** globally. But the report also noted that Delhi's air quality showed 15% improvement between 2019 and 2020.

- The global cities ranking report is based on PM2.5 data from 106 countries, which is measured by ground-based monitoring stations, most of which is operated by government agencies.

- **Ghaziabad** is the second most polluted city in the world after Hotan (**Xinjiang)** in China.

Most polluted cities in the world
(Average PM2.5 levels in 2020)

City	PM2.5
Hotan, China	110.2
Ghaziabad	106.6
Bulandshahr	98.4
Bisrakh	96
Bhiwadi	95.5
Noida	94.3
Greater Noida	89.5
Kanpur	89.1
Lucknow	86.2
Delhi	84.1

- **Bangladesh** has been ranked as the most polluted country followed by Pakistan and India.

- The Union Minister for MOEFCC Prakash Javedkar admitted that the air quality along the Indo-Gangetic belt is poor, but the Centre has taken a number of steps, including a **National Clean Air Programme (NCAP)** to address the issue of air pollution in 100 cities.

- **National Clean Air Programme (NCAP)**, launched in 2019, is India's flagship program for better air quality in 122 cities. This review evaluates the scientific, legislative, financial, and institutional framework of the 102 publicly available clean air action plans submitted under NCAP.

- Targets is to achieve 20% to 30% reduction in Particulate Matter concentrations by 2024 keeping 2017 as the base year for the comparison of concentration.

- PM 2.5 refers to the ambient airborne particles of size 2.5 micrometres that are emitted from various sources and are linked to negative health effects such as cardiovascular disease, respiratory illness and premature mortality.

- **Major sources of India's air pollution** include transportation, biomass burning for cooking, electricity generation, industry, construction, waste burning, and episodic agricultural burning.

Pollution in Delhi

- Delhi, the **world's second most populous city**, is located southeast of India's agricultural breadbasket,   where open burning is common. It is estimated that as much as **20% to 40% of Delhi's air pollution originates from Punjab farm fires.**

- During peak burning season, Delhi experienced average PM 2.5 levels of 144 µg/m3 in November and 157 µg/m3 in December, exceeding the WHO's annual exposure guideline by more than 14 times.

o The **annual exposure limit of PM2.5 set by WHO is 10 µg/m3**, lower than 40 µg/m3 set under the Indian National Ambient Air Quality Standards.

- The average concentration of PM 2.5 in Delhi in 2020 was 84.1 µg/m3, the highest among the capital cities of 92 countries mentioned in the report. Delhi was followed by Dhaka and Ulaanbaatar in Mongolia.

55. Pilibhit Tiger Reserve, recently in news, was located in which among the following?

a) **Madhya Pradesh**
b) **Karnataka**
c) **Uttra Pradesh**
d) **Odisha**

Answer: (C)

Explanation:

A day after the carcass of a five-year-old tigress was found in the **Pilibhit Tiger Reserve**, a search was launched to trace four of its cubs that "were possibly spotted by a forest official".

About Pilibhit Tiger Reserve

- Pilibhit Tiger Reserve is located in Pilibhit district, Lakhimpur Kheri District and Bahraich District of **Uttar Pradesh.**

- Pilibhit Tiger Reserve was declared in September 2008 based on its special type of ecosystem with vast open spaces and sufficient feed for the elegant predators. It is the India's 45th Tiger Reserve Project.

- The northern edge of the reserve lies along the **Indo-Nepal border** while the southern **boundary is marked by the river Sharada and Khakra.**

- It is home to a habitat for over 127 animals, 326 bird species and 2,100 flowering plants. The jungles are home to a myriad of wild animals including the endangered tiger, swamp deer, Bengal florican, hog deer, leopard, etc.

- The area of Pilibhit Tiger Reserve has a **dry and hot climate** which brings a combination of dry teak forest and Vindhya mountain soils.

- **The major forest types** found here include open woodlands, grasslands and riverines covered with thorny woodlands and tall grass.

National Population Register (NPR)

The Registrar-General of India (RGI) is preparing to conduct field trials of the first phase of the Census and the National Population Register (NPR) using a mobile application in all the States and Union Territories.

What Is NPR

- The National Population Register (NPR) is a **Register of usual residents of the country.**

- It is being prepared at the **local (Village/sub-Town), sub-District, District, State and National level** under provisions of the Citizenship Act 1955 and the Citizenship (Registration of Citizens and issue of National Identity Cards) Rules, 2003.

- It is **mandatory** for every usual resident of India to register in the NPR. A usual resident is defined, for the purposes of the NPR, as a person who has resided in a local area for the *past six months or more*, or a person who intends to reside in that area for the *next six months*. The law compulsorily seeks to register every citizen of India and issue a national identity card.

- The process of updating NPR will be carried out under the aegis of the **Registrar General and ex-Officio Census Commissioner, India.**

- **Objectives of NPR**

The objective of the NPR is to create a comprehensive identity database of every usual resident in the country. The database would contain demographic as well as biometric particulars.

- **Benefits**
  - NPR data helps identify the demographics of actual residents who will be direct beneficiaries of any schemes launched in the area.
  - The NPR data will help government design and adapt schemes like Ayushman Bharat, Jandhan Yojana, or medium of instruction in schools as per the current demographics, thus making the schemes more effective.

What Information Will Be Collected Under NPR

The database would contain **demographic particulars such as:** Name; Relationship to head of household; Father's name; Mother's name; Spouse's name (if married); Sex; Date of birth; Marital status; Place of birth; Nationality (as declared); Present address of usual residence; Duration of stay at present address; Permanent residential address; Occupation; Educational qualification.

How Is NPR Different Than Census

- While the process of NPR and Census will begin simultaneously, the two databases are not same. The **decennial census is the largest single source of a variety of statistical information** on different characteristics of the people of India.

- **While NPR only contains demographic information,** more details are required for census like information on demography, economic activity, literacy and education, and housing and household amenities besides others.

- The **census is the basis for reviewing the country's progress** in the past decade, monitoring the ongoing schemes of the government and plan for the future. The census provides detailed and authentic information on demography, economic activity, literacy and education, housing and household amenities, urbanisation, fertility and mortality, scheduled castes and scheduled tribes etc. besides others.

- The enumerators also **collect data related to cultivators and agricultural labourers, their sex, occupational classification of workers** in the non-households industry, trade, business, profession or service by class of worker and sex. There will be a detailed survey on gender and literacy rate, a number of towns, slum households and their population. Information is also collected on sources of potable water, energy, irrigation, method of farming, whether a house is a concrete, thatched or others.

- **The census, 2021 will be done in two phases**. In the first phase, the work of house-listing or housing census will be conducted from April to September 2020. In the second phase, the enumeration of the population will be done from February 9 to February 28, 2021, with reference moment as 00:00 hours of March 1, 2021. For snow-bound areas in Jammu and Kashmir, Himachal Pradesh and Uttarakhand, the reference date will be October 1, 2020.

Difference between NPR and NRC (National Register of Citizens)

- National Population Register is a database of people living in India, citizens or not, but NRC is a database of Indian citizens.

- The NRC process **demands proof of citizenship from the respondents**. Those who found in wnat of the proof may face deportation or detention in long run. But in **NPR, there is no need to provide any document.**

- It is possible that some names may be missed in the NPR, still their **citizenship will not be revoked** because this is not the process of NRC. Nobody will lose citizenship because of NPR.

THE CITIZEN COUNT

What is NPR?
It is an identity database of residents. It does not offer the right to claim citizenship.

How is NPR different from Census?
Census is a primary source of socioeconomic and demographic data, which is shared as aggregates.

Is privacy guaranteed under NPR?
Privacy is not offered formally. The data covered under NPR is available for government use.

How will government use NPR?
NPR will be used for identifying beneficiaries for welfare programmes, like in the case of Ujjwala.

Is NPR linked to NRC?
The home minister says no. But a 2018-19 govt report says NPR is the first step towards the creation of NRC.

Does NPR have any links to CAA?
No. CAA is meant to grant citizenship to non-Muslims fleeing Pakistan, Bangladesh and Afghanistan.

₹12,695 cr Cost of conducting Census, updating NPR.

Feb 2021 Deadline for completing both the exercises.

Unique Land Parcel Identification Number (ULPIN) Scheme

- The Unique Land Parcel Identification Number (ULPIN) scheme has been launched in ten States this year and will be rolled out across the country by March 2022.

- The Centre plans to issue a **14-digit identification number to every plot of land** in the country within a year's time. It will subsequently integrate its land records database with revenue court records and bank records, as well as Aadhaar numbers on a voluntary basis.

- The identification will be **based on the longitude and latitude coordinates of the land** parcel, and is dependent on detailed surveys and geo-referenced cadastral maps.

- The integration of the Aadhaar numbers with the land record database would be done on **a voluntary basis.**

- This is the next step in the **Digital India Land Records Modernisation Programme (DILRMP),** which began in 2008. Creating a modern land record room in every district would cost ₹50 lakh per district, while the integration of land records with the Revenue Court Management System would cost ₹270 crore.

- These components will **enhance the service deliveries to the citizen** of the country and will also function as inputs to the schemes of the other sectors like Agriculture, Finance, Disaster Management etc.

No Confidence Motion

No confidence motion against Haryana government-led by Manohar Lal Khattar was defeated in the Legislative Assembly by 55-32.

What Is A No-Confidence Motion

- A government can function **only when it has majority support in the Lok Sabha (Lower house)**. The party can remain in power when it shows its strength through a floor test which is primarily taken to know whether the executive enjoys the confidence of the legislature.

- If any member of the House feels that the **government in power does not have a majority then he/she can move a no-confidence motion**. If the motion is accepted, then the party in power has to **prove its majority in the House.**

- The member **need not give a reason** for moving the no-confidence motion.

How It Works?

- A no-confidence motion can be **moved by any member of the House**. It can be **moved only in the Lok Sabha and not Rajya Sabha**. **Rule 198** of the Rules of Procedure and conduct of Lok Sabha specifies the **procedure for moving a no-confidence motion.**

- The member has to give a **written notice of the motion before 10 am** which will be read out by the Speaker in the House.

- **A minimum of 50 members have to accept the motion** and accordingly, the Speaker will announce the date for discussion for the motion.

    In 1952, the lower limit of a no-confidence was at 30 MPs. **J.B. Kripalani**, or Acharya Kripalani as he was known, **moved the first-ever no-confidence motion in August 1963 against the Nehru government** after India-China war.

- The allotted date has to be within 10 days from the day the motion is accepted. Otherwise, the motion fails and the member who moved the motion will be informed about it.

- If the government is not able to prove its majority in the House, then the **government of the day has to resign.**

Govt. Staff Should Not Be Appointed As Election Commissioners

● The Supreme Court held that **independent persons, and not government employees, should be appointed Election Commissioners.**

● The Supreme Court Bench said giving government employees additional charge as Election Commissioners was a **mockery of the Constitution.**

● It held that **people holding public office could not be appointed Election Commissioners** and directed States to comply with the constitutional scheme of independent and fair functioning of election commissions. The independence of the panels could not be compromised.

● The court said it was disturbing to see government employees manning election commissions as an add-on job.

● The judgment came as the top court censured the Goa government for appointing its law secretary as the state election commissioner for conducting municipal council elections in the state.

The Right To Counsel In Custody

● National Investigation Agency (NIA) told a special court in Mumbai that the arrested assistant police inspector Sachin Waze was not cooperating in the probe against him and was insisting on his lawyer being present during interrogation.

● Waze was arrested by the NIA for his alleged role in the **Ambani residence bomb threat case.**

Is Access To A Lawyer The Right Of An Accused

● Across the world, various rights are available to a person while in custody of an investigating agency to **prevent him or her from being forced into giving self-incriminating statements** through means including torture.

● The **International Covenant on Civil and Political Rights** affirms the right of an accused to be informed of the reasons for an arrest, the charges against him and the right to be provided legal assistance.

● **The "Miranda rights" or "Miranda warning**", as they are referred to in the US, require a police officer to inform a suspect being arrested that he has the right to talk to a lawyer for advice **before being questioned**, and the right to have a lawyer with him **during questioning.**

● **In India**, the safeguards available to a person in such circumstances are enshrined in the Constitution.

  o **Article 20 (3) states**: "No person accused of any offence shall be compelled to be a witness against himself".

  o **Article 22** states that a **person cannot be denied the right to consult and to be defended by a legal practitioner of his choice.** This includes provisions that grant an accused the "right to consult" a lawyer.

● **Section 41D** of the Criminal Procedure Code (CrPC) states that an accused is entitled to "meet an advocate of his choice during interrogation, though *not throughout interrogation*".

- Apart from the provisions of Section 41D of the CrPC, courts also rely on the **Supreme Court judgment in the D K Basu case of 1997**, considered the guiding principles to be followed by investigating agencies in cases of arrest or detention.

Supreme Court Judgments

- **In the D K Basu case of 1997**, judgment states that "an arrestee may be permitted to meet his lawyer during interrogation, though not throughout the interrogation". The Court stressed the safeguards for accused, but also spoke of "difficulties in detection of crimes", especially in cases of "hardcore criminals", and ruled that a lawyer cannot be permitted to remain present throughout the interrogation.

- In **Senior Intelligence Officer vs Jugal Kishore Sharma (2011) case,** the Supreme Court took into consideration alleged threats given to an accused of being subjected to third degree methods, as well as his medical condition as he had suffered a heart attack.

- It allowed the accused's lawyer to "watch the proceedings from a distance or from beyond a glass partition", but said "he will *not be within the hearing distance* and it will not be open to the respondent to have consultations with him in course of the interrogation".

- In many criminal cases, it is **left to the discretion of the court** that has remanded an accused to the custody of the police, to decide on whether the lawyer can be permitted to meet the person for a stipulated time in private when interrogation is not in progress.

Conclusion: There are more exceptions to it than there is substance. It could be said that the system exhibits some innate fear of allowing a suspect to meet a lawyer, that this would allow the suspect to 'wise-up' and thwart investigation. This is bogus.

Annual Democracy Report

The fifth annual democracy report by **Sweden's V-Dem Institute**, titled *'Autocratisation goes viral',* has downgraded India from "**the world's largest democracy**" to an **"electoral autocracy"**.

Key Highlights Of The Report

Democracy On The Decline

- The fifth annual report by the organisation summarises the state of democracies of the world against the backdrop of developments that have taken place over the past decade.

- The report finds that **liberal democracies have diminished over the past decade** from 41 countries to 32 countries. The level of democracy enjoyed by the average global citizen in 2020 is down to levels last found around 1990.

- It notes that the **number of democratising countries has dropped by almost half** to 16, hosting a mere 4 % of the global population.

- It also notes an accelerating wave of **autocratisation engulfing 25 nations**, home to one-third of the world's population — that is 2.6 billion people. Several G20 nations such as *Brazil, India, Turkey, and the United States of America* are part of this drift.

Findings Related To India

- While India's score was at an all-time high at 0.57 (on a scale of 0-1) in 2013, it had declined to 0.34 by the end of 2020 — a **loss of 23 percentage points in seven years.**

- India is, in this aspect (**censorship) now as autocratic as is Pakistan**, and worse than both its neighbours Bangladesh and Nepal.

- It adds that the **use of defamation "frequently used to silence journalists"** and the use of the **Unlawful Activities Prevention Act (UAPA)** have placed constraints on civil society and gone against the Constitution's commitment to secularism. The UAPA has been used also to **silence dissent in academia**.

- Universities and authorities have also punished students and activists in universities engaging in protests against the Citizenship Amendment Act (CAA)."

- The report notes that **civil society is being increasingly muzzled** while organisations aligned with the "Hindutva movement" have gained freedom.

V-Dem Institute

- It is an independent research institute and the Headquarters of the project based at the Department of Political Science, University of Gothenburg, Sweden.

- V-Dem (Varieties of Democracy) claims to produce the largest dataset on democracy with almost 30 million data points for 202 countries from 1789 to 2020.

Mera Ration Mobile App

- **Ministry of Consumer Affairs, Food And Public Distribution** has launched Mera Ration Mobile App and the app is a part of the government's **One Nation One Ration Card (ONORC) system.**

- The Mera Ration app is for **migrant labourers who have to keep moving** for work and ideally need a ration card that should work across states. The app **currently covers 32 states and union territories** and according to reports the remaining states are going to be added soon.

- The system was initially started in four states in August 2019 and was then rolled out to 32 states and union territories by December 2020. The only states not on the roster right now include Assam, Chhattisgarh, Delhi and West Bengal and these four are expected to be included over the next few months.

- The Mera Ration app also **allows users to check what they are entitled to,** locate nearby ration shops etc. It also supports biometric authentication.

- The app comes with **Aadhar-based login** and is available in both Hindi and English. Support for 14 regional languages is expected to come soon.

About One Nation, One Ration Card' System

- Under the **National Food Security Act, 2013**, about 81 crore persons are entitled to buy subsidized foodgrain — rice at Rs 3/kg, wheat at Rs 2/kg, and coarse grains at Re 1/kg — from their designated Fair Price Shops (FPS) of the Targeted Public Distribution System (TPDS).

- In the present system, a ration cardholder can buy food grains only from an FPS that has been assigned to her in the locality in which she lives. However, under the ONORC system, the beneficiary will be able to **buy subsidized food grains from any FPS across the country.**

- The new system will **identify a beneficiary through biometric authentication** on electronic Point of Sale (ePoS) devices installed at the FPSs, and enable that person to purchase the quantity of food grains to which she is entitled under the NFSA.

National Commission for Allied and Healthcare Professions Bill, 2020

The National Commission for Allied and Healthcare Professions Bill, 2020 was recently passed in the Parliament. The Bill seeks to **regulate and standardise the education and practice** of allied and healthcare professionals.

Allied and Healthcare Professionals

- Allied and healthcare professionals include a wide range of workers for diagnosis, evaluation and treatment of acute and chronic diseases. These professions also work to optimise patient outcomes and attend to overall prevention, promotion, wellness and management of diseases.

- The Bill defines 'allied health professional' as an associate, technician, or technologist trained to support the diagnosis and treatment of any illness, disease, injury, or impairment.

- A 'healthcare professional' includes a scientist, therapist, or any other professional who studies, advises, researches, supervises, or provides preventive, curative, rehabilitative, therapeutic, or promotional health services.

National Commission for Allied and Healthcare Professions

- The Bill sets up a statutory body called the National Commission for Allied and Healthcare Professions. The Commission will perform the following functions:
  - Framing policies and standards for regulating education and practice.
  - Creating and maintaining an online Central Register of all registered professionals.
  - Providing basic standards of education, courses, curriculum etc.
  - Providing for a uniform entrance and exit examination.

- The Commission will constitute a Professional Council for every recognised category of allied and healthcare professions. The Commission may delegate any of its functions to this Council.

State Councils

- Further, State governments will have to constitute State Allied and Healthcare Councils. The State Councils will:
  - Enforce professional conduct and code of ethics to be observed by allied healthcare professionals.
  - Maintain respective State Registers.
  - Inspect allied and healthcare institutions.
  - Ensure uniform entry and exit examinations.

- Prior permission of the State Council will be required to establish a new institution, or open new courses, increase the admission capacity, or admit a new batch of students to existing institutions.

- If such permission is not sought, then any qualification granted to a student from such an institution will not be recognised under the Bill.

Penalties

- No person is allowed to practice as a qualified allied and healthcare practitioner other than those enrolled in a State Register or the National Register.

- Any person who violates this provision will be punished with a fine of Rs 50,000.

Benefits

- The legislation will increase employment opportunities for the allied and healthcare professionals and provide dignity to their valuable work.

- It will also create an institutional structure, which will create a workforce to cater to the global demand of allied healthcare professionals, projected to be around 1.80 crore by 2030 as per the WHO global workforce report.

- The bill will address the need to implement new ways of deploying health workers, strengthen the workforce and improve access to quality services through qualified and competent allied and healthcare professionals, in order to deliver healthcare with a patient-centric approach and focus on moving to multi-disciplinary team-based care.

Vaccine Wastage

At a recent meeting with Chief Ministers, Prime Minister Narendra Modi raised concerns on vaccine wastage emerging from the Covid-19 vaccination drive.

- Vaccine wastage leads to a situation where the available vaccines in the vaccination drive cannot be used for administering it to people.

- It is an expected component of any large vaccination drive, and a vaccine is procured from the maker with an estimated wastage.

- In general, high vaccine wastage increases vaccine demand and increases unnecessary vaccine procurement and supply chain costs.

VACCINE WASTAGE: THE STATES	
Telangana	17.6%
Andhra Pradesh	11.6%
Uttar Pradesh	9.4%
Karnataka	6.9%
Jammu & Kashmir	6.6%
National average	6.5%
Rajasthan	5.6%
Assam	5.5%
Gujarat	5.3%
West Bengal	4.8%
Bihar	4%
Tamil Nadu	3.7%

- Vaccine wastage is directly linked to vaccine usage, which is the proportion of vaccines administered to people against vaccines issued to a vaccination site.

- The **vaccine wastage rate** is defined as 100 minus the vaccine usage rate.

Wastage Factor

- Vaccine wastage rate directly determines the "**wastage factor**" that needs to be determined for each vaccine in the vaccine schedule, to accurately plan vaccine needs.

- Wastage Multiple Factor (WMF) is calculated from the formula **WMF** = 100/(100 – wastage).

- In the Centre's operational guidelines on Covid-19 vaccination, WMF has been calculated at 1.11 after assuming an allowable programmatic wastage of 10%, so that WMF = 100/(100 – 10) = 1.11.

- The number of Covid-19 vaccines required in a month in a catchment area (state/ district/ block/ sector) for a month is calculated from the following formula:

Requirement = (Total population to be covered in the catchment area) × (% of the population to be covered in this catchment area/no. of months of the campaign) × 2 doses × WMF.

Factors of Vaccine Wastage

The factors of vaccine wastage are broadly divided into **two categories**: wastage in unopened vials (small glass container), and wastage in opened vials.

- *Wastage in unopened vials* can occur due to six broad reasons -- If the expiry date has been reached; If the vaccine is exposed to heat; If the vaccine has been frozen; Breakage of vials; Missing inventory and theft; and While discarding unused vials returned from the vaccination site.

- *Wastage in opened vials* can occur due to five broad reasons: While discarding remaining doses at the end of the session; Not being able to extract the number of doses in a vial; Submerging opened vials in water; Suspected contamination; and Poor vaccine administration practices.

- Vaccine Wastage occurs at **three stages** -- during transportation; at cold chain point; and at a vaccination site.

Reasons for High Vaccine Wastage

- At the meeting, the PM specifically pointed that vaccine wastage in **Telangana, Andhra Pradesh and Uttar Pradesh** is around 10% and above.

- The first reason identified by the Centre is **inadequate planning of sessions**. For instance, if the vial contains doses for 10 people and only six people come for vaccination, four doses can be wasted. This happens because, vaccines have to be discarded after four hours of opening.

- The second reason is **inadequate training**. Due to inadequate training, vaccinators are extracting lesser number of doses from the vial.

Measures to Reduce Wastage

- The states should examine the reasons for vaccine wastage and establish a mechanism to monitor this on a daily basis.

- As per the operational guidelines, issue of vaccine doses should match the registered list of beneficiaries. Supply frequency should also be monitored closely.

- Moreover, vaccine sessions should be planned properly and each session should vaccinate maximum 100 beneficiaries.

- Vaccine vials with earlier manufacturing dates should be prioritised for issue first, along with proper training of vaccinators.

Pandemic's Impact On Poverty - Pew Report

- The Pew Research Center recently released a report of the economic impact of the pandemic.

- For the purpose of this report, populations in global regions were divided into five groups — poor, low income, middle income, upper-middle income and high income.

- The poor are estimated to survive on less than $2 daily, low income between $2.01 to $10, middle income between $10.01 to $20, upper-middle income between $20.01 to $50 and high income on more than $50 daily.

Key findings

- The pandemic is estimated to have erased a year of growth, leaving the global middle-class population nearly unchanged from 2019 to 2020.

- As per the report, the global middle class included 54 million fewer people in 2020 than the number which was projected prior to the pandemic.

- From 2011 to 2019, the middle class population globally had increased to 1.34 billion from 899 million. Further, it was expected to increase by 54 million annually on average, but the global outbreak is expected to have decreased this number to 1.32 billion.

- Middle class in India also decreased, by 32 million, due to the economic downturn. This is significant considering that 57 million were added into this bracket between 2011 to 2019, in India.

- However, the middle class in advanced economies was estimated to have increased by 16 million. The report predicted that this could be due to a drop-off in the high-income tier in these countries.

Increase In Global Poverty

- From 2011 to 2019, global poverty decreased at an average rate of 49 million each year, wherein the number of global poor fell to 691 million from 1.1 billion. However, the pandemic has worsened the state of poverty in the world.

- The number of global poor are estimated to have increased to 803 million in 2020, which is a significant increase from 672 million, the pre-pandemic prediction.

- The global poverty rate also increased to 10.4 per cent last year after witnessing a steady decline over the years. It was previously expected that the poverty rate would decrease to 8.7 per cent in 2020.

- From 2011 to 2019, the number of poor in India was estimated to have reduced to 78 million from 340 million. However, in 2020, the number increased by 75 million. This accounted for almost 60 per cent of the global increase in poverty.

Water Security for All

UNICEF recently released a report as a part of its 'Water Security for All' initiative, that identifies areas where physical water scarcity risks overlap with poor water service levels.

Key Findings

- Decades of misuse, poor management, over-extraction of groundwater and contamination of freshwater supplies has worsened water stress.

- Rapid population growth, urbanisation, climate change and extreme weather events are compounding water stress and reducing available quantities of safe water.

- Globally, **over 1.42 billion people**, including 450 million children, live in areas of high, or extremely high, water vulnerability which means that **1 in 5 children** worldwide does not have enough water to meet their everyday needs.

Vulnerable Areas

- **Eastern and Southern Africa** has the highest proportion of children living in such areas, with over half of children - 58 per cent - facing difficulty accessing sufficient water every day. It is followed by West and Central Africa (31 per cent), South Asia (25 per cent), and the Middle East (23 per cent).

- **South Asia** is home to the largest number of children living in areas of high or extremely high water vulnerability - more than 155 million children.

- Children in **37 'hotspot' countries** face especially dire circumstances in terms of absolute numbers, the proportions of children affected, and where global resources, support and urgent action must be mobilized. This list includes Afghanistan, Burkina Faso, Ethiopia, Haiti, Kenya, Niger, Nigeria, Pakistan, Papua New Guinea, Sudan, Tanzania and Yemen.

- More than **two crore children in India** are experiencing extremely high water vulnerability, according to an analysis by UNICEF.

- Women and girls are the most often burdened with fetching water long distances, which disrupts their education and opportunity for any work.

- This is worsened by the fact that India is particularly vulnerable to climate change, which exposes women and children to increasing environmental hazards.

Water Security for All

- The COVID-19 pandemic has underscored the crucial need to establish an access to clean water and sanitation, particularly for those living in the most vulnerable, water scarce conditions.

- In response, UNICEF has launched the Water Security for All initiative to ensure every child has access to sustainable and climate-resilient water services.

- The initiative aims to mobilize resources, partnerships, innovation and global response to identified hotspots where the need is the greatest and most urgent.

CSIR Floriculture Mission

- The CSIR Floriculture Mission was recently approved for implementation in 21 States and Union Territories.

- Floriculture, or flower farming, is a discipline of horticulture concerned with the cultivation of flowering and ornamental plants for gardens and for floristry.

- Despite the fact that India has diverse agro-climatic and edaphic conditions, and rich plant diversity, it shares only 0.6 % of global floriculture market.

- At least 1200 million USD worth of floriculture products are being imported by India every year from different countries.

- The Indian floriculture market was worth Rs 15700 crore in 2018 and the market is projected to reach Rs 47200 crore by 2024.

Floriculture Mission

- The Mission is being implemented by CSIR in collaboration with:
  - Indian Council of Agricultural Research (ICAR);

- o Khadi and Village Industries Commission (KVIC);
- o Agricultural and Processed Food Products Export Development Authority (APEDA);
- o Tribal Cooperative Marketing Development Federation of India Ltd. (TRIFED);
- o Fragrance and Flavour Development Centre (FFDC); and
- o Ministry of Micro, Small and Medium Enterprises (MSME).

- It will focus on commercial floral crops, seasonal/annual crops, wild ornaments and cultivation of flower crops for honey bee rearing.

- Efforts will be made to take agro-technologies, new varieties and value addition technologies available with the CSIR institutions, to farmers and entrepreneurs, and help them in multiplying their income.

- Market linkage and trade issues will be solved with partnership of APEDA, state horticulture departments and TRIFED.

Benefits

- Floriculture has the potential to provide employment to a large number of people through nursery raising, floriculture farming, entrepreneurship development for nursery trade, value addition and export.

- The convergence of Floriculture with Apiculture as envisaged in the mission will yield even greater benefits.

CSIR

- The Council of Scientific and Industrial Research (CSIR) was established in 1942 as an autonomous body.

- It has emerged as the largest research and development organisation in India and is known for its cutting edge R&D knowledge base in diverse S&T areas.

- Although it is mainly funded by the Ministry of Science and Technology, it operates as an autonomous body through the Societies Registration Act, 1860.

Sub-Mission on Agroforestry

- The Ministry of Agriculture and Farmers Welfare recently signed a MoU with the Central Silk Board under the Ministry of Textiles on a convergence model for the implementation of Agroforestry in the silk sector under the ongoing Sub-Mission on Agroforestry (SMAF) Scheme.

- The MoU aims to incentivize the farmers to take up sericulture based Agroforestry models to contribute to the Make in India and Make for the World vision.

- This linkage will add another dimension to agroforestry for faster returns to the growers as well as support the production of the range of silks that India is famous for.

- The Central Silk Board (CSB), will act as a catalyst to promote Agroforestry in the silk sector.

- The initiative of formalizing the collaboration in the sericulture sector is especially targeted for augmentation of sericulture host plants e.g. Mulberry, Asan, Arjuna, Som, Soalu, Kesseru,

BadaKesseru, Phanat, etc. to be cultivated both as block plantations and border or peripheral plantations on farmlands.

- Planting sericulture based tree species on the farm bunds and rearing silkworms has the potential of creating additional income opportunities for farmers besides their regular source of income from agriculture activities.

SMAF

- The Department of Agriculture, Cooperation and Farmers Welfare (DAC & FW) has been implementing the Sub-Mission on Agroforestry (SMAF) since 2016-17 as part of the recommendation of the National Agroforestry Policy 2014. At present, the scheme is being implemented in 20 States and 2 UTs.

- SMAF aims to encourage farmers to plant multi-purpose trees together with the agriculture crops for climate resilience and an additional source of income to the farmers, as well as enhanced feedstock.

- Hence there is a concerted effort to include medicinal, fruits, fodder, tree-borne oilseeds, lac host etc. in addition to the longer rotation timber species.

Electric Vehicle Financing Report

NITI Aayog and Rocky Mountain Institute (RMI) India recently released a new report Mobilising Electric Vehicle Financing in India. The report highlights the role of finance in the India's transition to electric vehicles (EVs).

Key Findings

- India's EV ecosystem has till now focused on overcoming adoption barriers associated with technology cost, infrastructure availability, and consumer behaviour. Financing is the next critical barrier that needs to be addressed to accelerate India's electric mobility transition.

- India's transition to electric vehicles (EVs) will require a cumulative capital investment of 266 billion dollars (about ₹19.7 lakh crore) in EVs, charging infrastructure and batteries over the next decade.

- The report also identifies a market size of $50 billion (₹3.7 lakh crore) for financing of EVs in 2030. This is about 80% of the current size of India's retail vehicle finance industry worth $60 billion (₹4.5 lakh crore).

- However, end-users currently face several challenges, such as limited financing options, high interest rates, high insurance rates etc.

CUMULATIVE CAPITAL COST OF INDIA'S EV TRANSITION, 2020–2030: INR19.7 LAKH CRORE (USD266 BILLION)

- Thus, it is important that banks and other financiers lower the cost and increase the flow of capital towards EV assets and infrastructure.
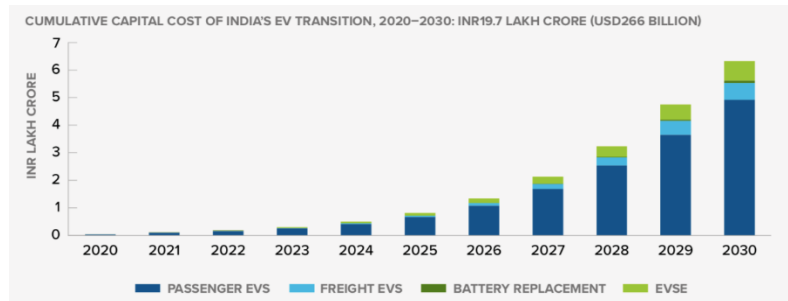
Solutions to Increase Adoption of EVs

- To address these challenges, the report proposes various solutions that financial institutions, as well as the industry and government can adopt.

- As per the report, the EV sector should be included under Priority Sector Lending. This will incentivise banks to increase lending to the EV sector.

- The government should provide interest rate subvention on EV loans. This would substantially improve the affordability of loans.

- It also proposes better partnerships between Original Equipment Manufacturers (OEMs) and financial institutions by providing product guarantees and warranties.

- Furthermore, a developed and formal secondary market can improve the resale value of EVs and improve their adoption.

- Recommendations beyond finance include digital lending, business model innovation, and the creation of an open data repository for EVs.

Future Outlook

- Investment in India's transition to electric mobility has the potential to create significant economic, social, and environmental benefits for the country.

- As the economics of EVs continue to improve, and government programmes drive early adoption and promote domestic manufacturing, it is expected that India's EV market will grow significantly in the coming decade.

Rocky Mountain Institute

- Rocky Mountain Institute (RMI) is a US based non-profit organisation.

- It engages businesses, communities, institutions, and entrepreneurs to accelerate the adoption of market-based solutions that cost-effectively shift from fossil fuels to renewable energy.

- RMI has been supporting India's mobility and energy transformation since 2016.

Mines and Minerals (Development and Regulation) Amendment Bill, 2021

- The Parliament recently passed the Mines and Minerals (Development and Regulation) Amendment Bill, 2021.

- The bill was introduced to bring structural changes in the mining sector through amendment in the Mines and Minerals (Development and Regulation) Act, 1957. The Act regulates the mining sector in India.

- Mining in India contributes to only 1.75 per cent of the GDP, while the share for countries like Australia and South Africa is about 7 per cent of the GDP.

- India produces coal worth Rs 1.25 lakh crore, yet heavily imports it despite being the third largest storehouse of coal in the world.

Salient Features Of The Bill

- Restrictions on the end use of minerals by captive plants have been relaxed. Captive mines produce minerals for the exclusive use by the company that owns them.

- The amendment allows captive miners to sell up to 50 per cent of their production after meeting the requirements of the end-use plant.

- Increased flexibility would allow miners to maximise output from captive mines as they would be able to sell output in excess of their own requirements. It will also prevent hoarding of mines — since miners can sell in the market, the incentive to hoard is gone.

- Hoarding is a big issue, currently, and data suggests that of the 2,904 mining leases, 1,900 — that is two thirds — are lying unused, non-working and unexploited. Even PSUs have 297 functioning leases right now of which 199 mines are non-functional and non-working.

- The new law mandates that whoever takes a mining lease has to start producing within three years of taking such lease or the lease will be taken over and the mine will be re-auctioned.

Transfer of clearances

- Also, all clearance and licenses granted shall continue till the reserves have been mined and post the expiry or termination of the lease, will be transferred to the next successful bidder.

- This will help attract investors as under the previous regime, the new lessee had pre-embedded clearances for only two years, making it difficult to get fresh clearances within this time period.

Auction by the central government

- The Bill empowers the central government to specify a time period for completion of the auction process in consultation with the state government.

- If the state government is unable to complete the auction process within this period, the central government can conduct the auction. However, even if the Centre auctions the mine, all proceeds from it will go to the state only.

Benefits

- The bill will help to strengthen the auction regime and boost transparency in the system.

- It will make mineral mining sustainable and drive economic activities in the country.

- It will generate huge employment opportunities, reduce imports and increase production by bringing large mineral blocks into auction, eventually leading to mineral security of the nation.

Dandi March

- On the 91st anniversary of the historic salt march led by Mahatma Gandhi from Sabarmati Ashram to Dandi in Gujarat, Prime Minister Narendra Modi flagged off a symbolic 'Dandi march', following the same route.

- The 1882 Salt Act gave the British a monopoly in the manufacture and sale of salt. Even though salt was freely available on the coasts of India, Indians were forced to buy it from the colonisers.

- The 24-day march from March 12 to April 5, 1930 was a tax resistance campaign against the British salt monopoly. Based on Gandhi's principle of non-violence or Satyagraha, the march marked the inauguration of the civil disobedience movement.

Significance

- Dandi march was the most significant organised movement against the British Raj after the non-cooperation movement of the early 1920s.

- The popularity gained by the march shook the British government. It responded by arresting more than 95,000 people by March 31.

- As Gandhi broke the salt laws in Dandi, similar acts of civil disobedience took place in other parts of India.

- What started as salt satyagraha soon grew into mass satyagraha. The illegal manufacture and sale of salt was accompanied by the boycott of foreign cloth and liquor. Forest laws were flouted in Maharashtra, Karnataka and the Central Provinces.

- Peasants in Gujarat and Bengal refused to pay land and chowkidari taxes. Acts of violence too broke out in Calcutta, Karachi and Gujarat, but unlike what happened during the non-cooperation movement, Gandhi refused to suspend the civil disobedience movement this time.

- The Congress Working Committee decided to end the Satyagraha only in 1934. Even though it did not immediately lead to self-rule or dominion status, the Salt Satyagraha did have some long term effects. After this, the British also realised that control over India now depended completely on the consent of the Indians.

Joe Biden's Afghanistan Peace Plan

- Biden Administration has unveiled a new peace plan to the Afghan government and the Taliban, seeking to **bring violence to a halt and form an interim government**.

- This could mark the beginning of a new chapter in Afghanistan's violent contemporary history that has played a major role in South Asia's regional and international relations.

What Has Been Proposed By USA

- It has proposed a **UN-led conference** of representatives of **Russia, China, Pakistan, Iran, India and the U.S.** "to discuss a unified approach to support peace in Afghanistan".

- The **US is asking Turkey to convene a meeting** of the government in Kabul and the Taliban to finalise a peace settlement.

- Biden's peace plan has kept open the possibility that the **2500-odd US troops, currently deployed in Afghanistan, might stay on for a while**. In generating ambiguity about its withdrawal, Biden hopes to generate some leverage with the Taliban that has refused to abide by its commitment to reduce the levels of violence.

- USA, through this proposal, is pressing the Taliban to accept an immediate agreement to reduce violence for 90 days that will provide the space for the peace initiative.

- US is not "dictating terms" to the Afghan parties, but facilitating the movement towards an **inclusive interim government**, an agreement on the "foundational principles" for a new political order, and a "permanent and comprehensive ceasefire".

Analysis:

- Kabul, which spent so much time and energy persuading the Taliban to accept peace over the last few years, is now convinced that **it is a waste of time engaging it**. Ghani is not willing to accept power-sharing with the Taliban in an interim arrangement.

- The **Taliban is even less willing to share power**, given its confidence in taking over Kabul the moment the US forces leave. It is certainly not willing to give up its sanctuaries in Pakistan. It will not accept any dilution of the strict Islamic system that it wants to enforce.

- Afghan President Ashraf Ghani has rejected the U.S. proposal. He will **propose a new presidential election within six months**, under a peace plan he will put forward as a counter-offer to a U.S. proposal

Indian Angle

- New Delhi had **protested being left out of regional formulations in the past** both in the original Moscow process, and in the United Nation's April 2020 "6+2+1" that included Afghanistan's "immediate neighbours" only.

- Hence, the inclusion of India in the United States's latest strategy for regional talks on Afghanistan is a relief. Although experts question what such a group would achieve.

- It is a mystery what the U.S. expects to discuss around a table with China, Russia, Iran and Pakistan. These are the countries which are at odds with USA. USA is seeking to contain or sanction these countries. How will it help India?

- Experts also point out to the fact that the U.S.'s outlined discussions on a "negotiated settlement and ceasefire" **don't include a reference to democratic principles, the elected government, or the rights of women and minorities.**

- This is something New Delhi, with major stakes in Afghanistan's development and infrastructure, has always emphasised.

Afghanistan's Taliban, US Sign Agreement Aimed at Ending War

US officials and Taliban representatives in February 2020 signed an agreement in Doha. The agreement is aimed at ending the United States' longest war, fought in Afghanistan since 2001.

Key Highlights

- The agreement was signed in the presence of leaders from Pakistan, Qatar, Turkey, **India**, Indonesia, Uzbekistan and Tajikistan.

- The **agreement has four points**:

o   a timeline of 14 months for the withdrawal of all US and NATO troops from Afghanistan;

o   a Taliban guarantee that Afghan soil will not be used as a launchpad that would threaten the security of the US;

o   the launch of intra-Afghan negotiations by March 10;

o   and a permanent and comprehensive ceasefire.

- The Afghan government will engage with the United Nations Security Council "to remove Taliban members from sanctions list by May 29".

- The deal also provides for a **prisoner swap**. Some 5,000 Taliban prisoners and 1,000 Afghan security force prisoners would be exchanged by 10 March.

Background

- Since 2011, Qatar has hosted Taliban leaders who have moved there to discuss peace in Afghanistan. A Taliban office was opened in 2013, and closed the same year amid rows over flags.

- The **talks were launched in 2018** as part of a push by US President Donald Trump's administration to strike a deal with the Taliban.

- The two sides were on the verge of signing a peace agreement in September when Trump abruptly cancelled the talks after a Taliban attack killed an American soldier.

Saudi Arabia Offers Cease-fire Plan to Yemen Rebels

- Saudi Arabia has offered a cease-fire proposal to Yemen's Houthi rebels that includes reopening their country's main airport.

- This is seen as the kingdom's latest attempt to halt years of fighting in a war that has sparked the world's worst humanitarian crisis.

What Has Forced Riyadh to Offer Cease fire?

- Rebels have stepped up a **campaign of drone and missile attacks** on the kingdom's oil sites, briefly shaking global energy prices amid the coronavirus pandemic.

- It also comes as Riyadh tries to **rehabilitate its image with the U.S**. under President Joe Biden.

- Saudi Arabia has drawn internationally criticism for airstrikes killing civilians and embargoes exacerbating hunger in a nation on the brink of famine.

What has been proposed by Riyadh?

- The plan includes a nationwide ceasefire under UN supervision.

- Saudi Arabia made two concessions to the Houthis in the plan. The first involves reopening Sanaa International Airport, a vital link for Yemen to the outside world that hasn't seen regular commercial flights since 2015.

- The second would see taxes, customs and other fees generated by the Hodeida port while importing oil **put into a joint account of Yemen's Central Bank**. That account would be **accessible to the Houthis and Yemen's recognized government** to pay civil servants and fund other programs.

Background:

- The Saudi-led coalition entered **Yemen's war in March 2015** as the Houthis threatened to take Yemen's port city of Aden and completely overrun the country's internationally recognized government.

- Six years later, the fighting rages on. The war has killed some 130,000 people, including over 13,000 civilians slain in targeted attacks.

US stand on the Yemen Civil War

- Since Biden took office, his administration reversed a decision by former President Donald Trump naming the Houthis as a foreign terrorist organization, allowing U.S. aid to flow into rebel-held territory.

- He also ended U.S. support for the Saudis in the war.

Indian Ocean Border Dispute between Kenya and Somalia

Kenya has announced that it will not take part in proceedings of the International Court of Justice (ICJ) over its maritime border dispute with neighbouring Somalia. It has **accused the UN body of bias**.

Where is the disputed area?

- The main point of disagreement between the two countries is the direction in which their maritime boundary in the Indian Ocean should extend.

- According to Somalia, the **sea border should be an extension of the same direction in which their land border runs** as it approaches the Indian Ocean, i.e. towards the southeast.

- Kenya, on the other hand, argues that the **territorial southeast border should take a 45 degree tur**n as it reaches the sea, and then run in a latitudinal direction, i.e. parallel to the equator.
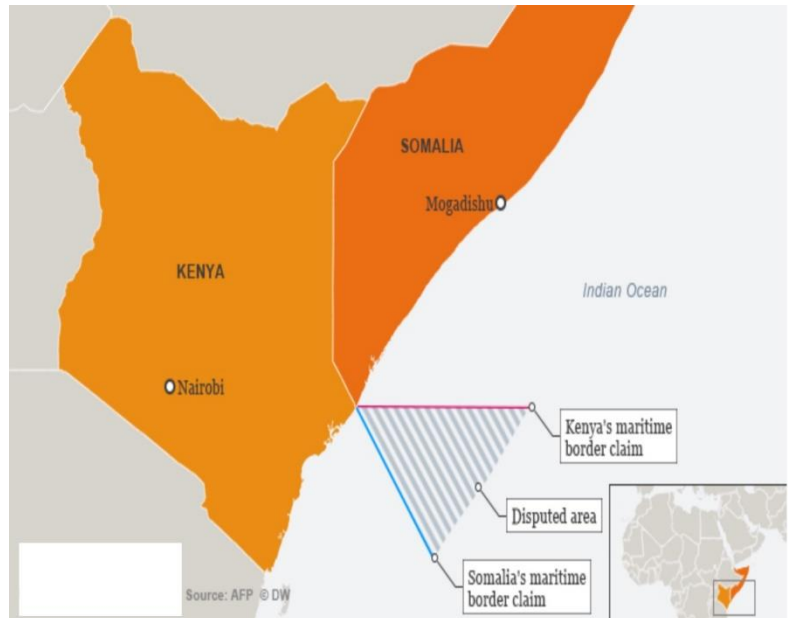
- Such an arrangement would be advantageous for Kenya, whose coastline of 536 km is more than 6 times smaller than Somalia's (3,333 km).

Importance of this area

- The triangular area thus created by the dispute is around 1.6 lakh sq km large. It boasts of **rich marine reserves**. It is also believed to have **oil and gas deposits**.

- Both Somalia and Kenya have accused each other of auctioning off blocks from this area.

US 2021 President's Trade Agenda and 2020 Annual Report

- In March 2021, the Office of the United States Trade Representative (USTR) released **President Joseph Biden's 2021 Trade Agenda and 2020 Annual Report**.

- It provides an overview of "a comprehensive trade policy in support of the administration's effort to help the U.S. recover from the COVID-19 pandemic and build back better".

- The report states that President Biden's trade agenda addresses four national challenges:

i) building a stronger industrial and innovation base so the future is made in America;

ii) building sustainable infrastructure and a clean energy future;

iii) building a stronger, caring economy; and

iv) advancing racial equity across the board.

India Specific Observations Made By The USTR

- It has termed India's large market, economic growth, and progress towards development as an essential market for many U.S. exporters.

- However, it highlighted the fact that a **general and consistent trend of trade-restrictive policies** have inhibited the potential of the bilateral trade relationship.

- As per the report, Indian emphasis on **import substitution through a "Make in India" campaign** has epitomised the challenges facing the bilateral trade relationship.

- The report also described the Trump administration's **revocation of India's preferential trading status under the Generalised System of Preferences** (GSP) program in June 2019 and the ensuing discussion to achieve a mini trade deal ("package") throughout 2020.

What is Generalised System of Preferences?

- GSP program is a preferential tariff system extended by developed countries to developing countries. It is a preferential arrangement in the sense that it allows **concessional low/zero tariff imports** from developing countries.

- GSP involves reduced/zero tariffs of eligible products exported by beneficiary countries to the markets of GSP providing countries.

- However, the GSP has criteria which include the beneficiary nations in respecting arbitral awards in favour of United States citizens or corporations, combating child labour, respecting internationally recognised worker rights, providing adequate and effective intellectual property protection, and providing the United States with equitable and reasonable market access.

Maritime India Summit

- A 3-day "Maritime India" summit that was conducted virtually. India has made the following demands at the summit:

  o *Include Chabahar port in the 13-nation International North South Transport Corridor.*

  o *Expand INSTC membership by including Afghanistan and Uzbekistan.*

- These demands were made as India believes **establishing an eastern corridor through Afghanistan would maximise its potential.**

Key Highlight of the Summit

- The virtual **"Chabahar Day" event** was organised on the margins of the Summit.

- Pitching for Chabahar in the INSTC which goes via Iran's biggest port Bandar Abbas, India proposed that the **land route via Kabul and Tashkent would form the INSTC's "Eastern corridor".**

Chabahar Port and India

- India is developing the Chabahar port, both through the provision of cranes and other equipment at the port as well as rail tracks, signal and switching equipment for the Chabahar-Zahedan railway project.

- In November 2020, Iran asked India to activate the $150-million credit line it offered during Iranian President Rouhani's visit to Delhi in 2018 for the project.

- The Chabahar port, where an Indian state-run firm - **India Ports Global Limited operates Shahid Beheshti Port**, is the practical realisation of this important initiative to enhance connectivity to Afghanistan and the Central Asian states.

- The port played **an important role in shipping humanitarian aid to Afghanistan** amid the COVID-19 pandemic as well as **helped Iran to fight the locust invasion recently**.

- India had utilised **Chabahar Port to ship 75,000 metric tonnes** of wheat as humanitarian food assistance to Afghanistan in September 2020. India also assisted Iran to fight the worst ever locust invasion by supplying 25 MTs of Malathion through Chabahar port

About INSTC

- The International North South Transportation Corridor (INSTC) as originally decided between India, Iran and Russia in 2000 in St Petersburg.

- Subsequently it included **10 other central Asian and west Asian countries**: Azerbaijan Armenia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkey, Ukraine, Belarus, Oman, Syria.

- Bulgaria is an observer.

- It envisions a **7,200-km-long multi-mode network** of ship, rail and road route for transporting freight.

- It is aimed at reducing the carriage cost between India and Russia by about 30% and bringing down the transit time from 40 days by more than half.

India, Japan Cooperation in Patent Verification

- India and Japan have agreed to **recognize each other's offices** to act *mutually as competent International Searching and International Preliminary Examining Authority for any international patent application filed with them*.

- Both sides reconfirmed the importance of innovations that support society and the essence of a **robust Industrial Property system** for promoting investment and innovation amidst the challenging times of the covid-19 pandemic.

- Both sides decided to hold a meeting at least once a year of experts to discuss the functioning of the **Japan-India Patent Prosecution Highway** (PPH) pilot programme.

- PPH is a set of initiatives for *providing accelerated patent prosecution procedures by sharing information between some patent offices*.

- They agreed to continue holding an Information Exchange Programme of patent experts from the offices to further enhance mutual understanding of the patent examination practices.

Indus Water Panel Holds Meeting

- After a gap of more than two and half years Indian and Pakistani delegations met for the 116th Meeting of the Permanent Indus Commission.

- The meeting which **coincided with the National Day of Pakistan** (March 23, as on this day in 1940 Lahore resolution was passed - which paved the way for the creation of Pakistan) is being viewed as part of the broader process of normalisation of bilateral ties between the two neighbours.

- This was also be the first meeting between the two commissioners after the nullification of special provisions under Article 370 that gave special status to Jammu and Kashmir.

- Under the provisions of the Indus Water Treaty, both the commissioners are required to **meet at least once a year alternately** in India and Pakistan.

What is Indus Water Treaty?

- Mediated by the World Bank, India and Pakistan signed a treaty for sharing of river waters of the Indus drainage system in 1960.

- According to this agreement; three rivers: Ravi, Sutlej and Beas were given to India and the other three: Sindh, Jhelum and Chenab were given to Pakistan.

- New Delhi is under obligation to let the waters of the western rivers flow, except for certain consumptive use, with **Pakistan getting 80% of the entire water of the six-river Indus system**. IWT reserved for **India just remaining 19.48% of the total waters**.

India Abstains From Key UNHRC Vote on Sri Lanka

- India **abstained from voting** on a resolution in the **United Nations Human Rights Council** (UNHRC).

- The resolution made a wide-ranging and damaging commentary on the human rights situation in Sri Lanka.

Key Highlights

- This was the **eighth resolution on Sri Lanka** at the Human Rights Council since the end of the war against the LTTE in 2009.

- The resolution – which was adopted by the 47 member UNHR - gives UN human rights chief the mandate to collect and preserve evidence of crimes related to Sri Lanka's civil war that ended in 2009.

- The resolution also contended that the human rights situation has deteriorated under the Rajapaksa administration and that rights defenders and ethnic and religious minorities are facing problems.

- A total of 22 countries voted for the resolution, while 11 countries, including Bangladesh, China and Pakistan, voted against the resolution. A total of 14 countries, including India, Indonesia, Japan and Nepal, **abstained**.

India's Perspective on Human Rights Issues in Sri Lanka

- This is the **second time** India abstained from voting on a resolution on Sri Lanka at the UNHRC since 2014.

- India **has voted twice in favour of resolutions** that have been critical of Sri Lanka in 2012 and 2013. It has also voted in **favour of a resolution sponsored by Sri Lanka at the special session in 2009**.

- India's record of voting on these resolutions shows the **ups and downs of New Delhi-Colombo relations**, the pressures on coalitions in India, the influence of parties in Tamil Nadu, and the ebb and flow of regional and international geopolitics.

- India's approach to human rights in Sri Lanka has been guided by "two fundamental considerations" – support to the Tamil minority for equality, justice, dignity and peace, and ensuring the unity, stability and territorial integrity of the island nation.

- India also supports the world community's call for **Sri Lanka to fulfil its commitments on devolution of political authority to the Tamils**.

- This includes early holding of elections to provincial councils and ensuring that these councils are able to operate effectively in line with the 13th amendment to Sri Lanka's Constitution.

Why India Abstained This Time?

- The Tamil Nadu assembly election, to be held during April-May, is also believed to have been a factor behind India's decision to abstain. The status of Sri Lanka's Tamil minority is often a factor in Tamil Nadu's politics.

- Also, New Delhi had been irked with Colombo for reneging on a **2019 tripartite India-Japan-Sri Lanka agreement** for developing the East Container Terminal at Colombo port.

- **Four Indian fishermen died due to collision** between an Indian vessel and a Sri Lankan naval craft in January 2021. India issued a strong demarche expressing deep anguish at the loss of lives.

QUAD Summit

In March 2021, the first-ever summit of QUAD leaders took place virtually. It was participated by the PMs/Presidents of all the member countries. The summit was hosted by US.

Key Highlights

- **Free and open, prosperous and secure Indo-Pacific** - The QUAD leaders emphasised the commitment to a free and open, prosperous and secure Indo-Pacific.

- **Proposal to Form Working Groups** – At the summit, proposals for setting up 3 Expert Working Groups were accepted. These are – Vaccine Expert working Group; Emerging Technology Working Group; Climate working group for technology, capacity building and climate finance

- **Quad vaccine initiative** – The QUAD leaders decided to launch a Quad vaccine initiative with India as a key player. The idea is to produce billion doses of COVID vaccines that would be used for the good of Indo-Pacific countries.

- Quad vaccine initiative will basically function as "**vaccines developed in the US, manufactured in India, financed by Japan & US, and supported by Australia**". It will allow new manufacturing capacity to be added in India for exports to the Indo-Pacific region.

- At the summit, India described the grouping as a force for global good and an important pillar of stability in the Indo-Pacific.

- The discussions sent a potent message to China that its actions have brought together a committed group of democracies supporting values of pluralism and free access in region.

- QUAD also explored the **possibility of cooperating with some countries in Europe** like France, Germany and Netherlands which had declared Indo-Pacific policies of their own. However, **there was no talk of expanding the Quad**.

[For detailed discussion, please refer the topic *QUAD Grouping* from February 2021 edition of CA magazine]

Heart of Asia – Istanbul Process

- The **9th Heart of Asia-Istanbul Process** (HoA-IP) ministerial conference on Afghanistan was held in Dushanbe (Tajikistan).
- Indian side was represented by External Affairs Minister S Jaishankar.

India's Stand

- India expressed concerned over the increase in violence in Afghanistan in recent years. It highlighted the fact that **2020 marked a 45% increase** in civilian casualties over 2019.
- It reiterated that a stable, sovereign and peaceful Afghanistan is truly the basis for peace and progress in the region.
- India believes that for a durable peace in Afghanistan, a genuine 'double peace' is needed, that is, **peace within Afghanistan and peace around Afghanistan**.
- India has been supportive of all the efforts being made to accelerate the dialogue between the Afghan government and the Taliban, including intra-Afghan negotiations. It attended the **inaugural virtual session of the Doha talks.**
- India also highlighted the fact that it remains committed to steadfastly supporting Afghanistan during this transition.
- **Indian development partnership of USD 3 billion**, including more than 550 Community Development Projects covering all 34 provinces, is aimed at making Afghanistan a self-sustaining nation. The promise of **more drinking water to Kabul is the latest in that list**.
- As the lead country on Trade, Commerce and Investment CBMs under the HoA-IP, India will continue to work on improving Afghanistan's connectivity with the outside world.
- Projects like the **Chhahabar Port in Iran** and the dedicated **Air Freight Corridor** between the cities of India and Afghanistan are part of Indian efforts.

About HoA-IP

- It is an initiative of Afghanistan and Turkey, which was officially launched at a conference hosted by Turkey in Istanbul in 2011.
- It acts as a platform for promoting regional security, economic and political cooperation centred on Afghanistan through dialogue and a set of Confidence Building Measures (CBMs).
- Secretariat: The Directorate General for Regional Cooperation of the Ministry of Foreign Affairs of Afghanistan

Indian-Americans Taking Over US

- US President Joe Biden said that the Indian-Americans are "taking over the country". He was referring to the **large number of "incredible" professionals from the community holding key positions in his administration**.

- In less than **50 days of his presidency, Mr Biden has appointed at least 55 Indian-Americans** to key leadership positions in his administration ranging from his speech writer to the NASA, to almost every wing of the government.

- Indian-American **scientist Swati Mohan** leads the guidance, navigation, and control operations of NASA"s Mars 2020 mission.

- **Vice President** - Kamala Harris; **Joe Biden's speech writer** - Vinay Reddy

- **Few Indian-American women appointed** by Biden include **Uzra Zeya**, Under Secretary of State for Civilian Security, Democracy, and Human Rights, State Department; **Mala Adiga**: Policy Director to Dr Jill Biden; **Aisha Shah**: Partnership Manager, White House Office of Digital Strategy; **Sameera Fazili**, Deputy Director, US National Economic Council (NEC); **Sumona Guha**: Senior Director for South Asia at the National Security Council, White House; and **Sabrina Singh**: Deputy Press Secretary, Vice President White House.

US Think Tank Downgrades India as Partly Free

- Freedom House, a Washington-based 'pro-democracy and civil liberties' think-tank, ha released "The Freedom Report 2021" report.

- The organisation has ranked countries as "Free," "Partly Free," or "Not Free", based on their performance on those indicators.

- In this report, **India has been downgraded to "partly free"** for the first time since 1997 in an annual ranking of democracies.

Key Highlights

- The report has dropped India's score from last year's 71/100 to 67/100.

- Last year, India was rated as "Free", while this year's report had rated India as "Partly Free".

- The score on political rights in India remained constant at 34/40 in both years, the **rating in civil liberties has gone down** from last year's 37/60 to 33/60 this year.

Reasons Cited by the Report

- The report alleged that Indian Government and its state-level allies "**continued to crack down on critics** during the year.

- It also highlighted that the response of Indian govt. to Covid-19 included a ham-fisted lockdown that resulted in the **dangerous and unplanned displacement** of millions of internal migrant workers.

Controversy Created by the Report

- Kashmir, which India maintains is an integral part of the country, has been **ranked separately as 'Indian Kashmir' and 'Pakistan Kashmir'** as "territory as opposed to a country" in the controversial report.

About the report

- The report ranks 210 nations on following parameters:
  - Electoral Process.
  - Political Pluralism and Participation.
  - Functioning of Government.
  - Freedom of Expression and Belief.
  - Associational and Organizational Rights.
  - Rule of Law.
  - Personal Autonomy and Individual Rights.
- Its methodology is derived in large measure from the Universal Declaration of Human Rights, 1948.

LinkedIn Opportunity Index 2021

- LinkedIn Opportunity Index 2021 report has been published.
- The report seeks to understand how people perceive opportunities and the barriers that stand in the way of achieving them.

Key Highlights:

- This year's report tries to understand how women perceive opportunities, and how the gender gap is further slowing down career progress for working women in India amid the pandemic.
- **Covid impact** – The report highlighted that the Covid-19 **pandemic has hit the working women in India the most** as compared to working women in other countries. **Nine in 10 (89%) women** state they were negatively impacted by the COVID-19 pandemic.
- **Gender Bias** - Working women in India continue to battle **strongest gender bias with respect to equal pay and opportunity** across the Asia Pacific countries. **1 in 5 (22%) working women in India** said their company's exhibit a favourable bias towards men compared to the regional average of 16%.
- **Work opportunity** – The report highlighted that 37% of working women in India get fewer opportunities than men.
- **Promotion** - More than 4 in 5 working women (85%) in India claim to have missed out on a raise, promotion, or work offer because of their gender, compared to the regional average of 60%.
- **Pay** - 37% of the women are paid less than men.
- **Maternity** - The report shows that more than 7 in 10 working women (71%) and working mothers (77%) feel that managing familial responsibilities often come in their way of career development.
- The report further states that, women now seek the employers who treat them as equal.
- On the other hand, 56% of the women look for recognition at work for their work. Other women wants that they get work as per their skills.

Barriers Faced by Women

As per report, in India, <u>lack of required professional skills and lack of guidance through networks & connections are the barriers</u> that hinders the career development for working women.

Reasons Behind The Existing Gender Gap In India

1. **Occupational segregation**:

➢ Preference is given to male workers while recruiting or promoting to senior roles.

➢ The rate of female participation in the paid labour market is generally low, and is primarily concentrated in rural areas in the agricultural sector.

➢ Women's participation is also higher in light industries and the unorganized sector, where the wages are usually lower.

2. **Cultural barriers**:

➢ Women are not promoted to seek gainful employment outside their home.

➢ Due to role stereotyping, childcare, cooking etc. is viewed primarily as a women's job.

➢ It leads to interrupted careers of women (career-breaks women take for certain personal and societal reasons)

3. **Education and training**:

➢ Biased socialisation processes do not encourage women to pursue higher education or to upgrade their skills.

➢ The literacy rate for women in India is far lower than the rate for men, and it has been observed that many girls drop out of school and fail to fully complete their education.

4. **Unpaid work**: According to the Human Development Report 1995, women spend

about two-thirds of their working time on unpaid work, while men spend only one-fourth

of their time towards unpaid labour.

Way Forward:

• Introduction of women friendly policies in organisations on voluntary basis can help in improving the situation. E.g. - **Tata Sons announced a seven months' maternity leave for its women with an extension of up to 18 months**.

• Leadership intent to engage women, especially returning women, is crucial. This is **'inclusion in action'**.

• Training the hiring team on how to assess women on breaks, how to identify potential and to match the same with the right job is essential.

• It is also the **responsibility of women to stay up-to-date of these changes**, and upskill themselves constantly, especially when they need to take career breaks.

• **Women must identify a re-entry path**. It could be through an internship (there are many such internships being offered – primary among them being the **Tata SCIP programme**) or through a second-career programme of a company.

ICC Opens Investigation into War Crimes in Palestinian Territories

- The International Criminal Court's chief prosecutor has opened a **formal investigation into alleged war crimes in the Palestinian territories**.

- The probe would cover events in the Israeli-occupied West Bank, East Jerusalem and Gaza Strip since June 2014.

- In February 2021, the Hague-based court ruled that **it could exercise its criminal jurisdiction over these territories**. The ICC has the authority to prosecute those accused of genocide, crimes against humanity and war crimes **on the territory of states party to the Rome Statute**.

- **Israel has never ratified the Rome Statute**, but the court ruled that it had jurisdiction because the United Nations secretary general accepted the Palestinians' accession to the treaty in 2015.

Israel-Palestine Conflict: Current Status

- Israel occupied the West Bank, Gaza and East Jerusalem in the 1967 Middle East war.

- Palestinians claim the territories for a future independent state.

- Currently the **West Bank is nominally controlled by the Palestinian Authority** and is under Israeli occupation.

- Israeli troops enforce security restrictions on Palestinian movement and activities in the area.

Palestinian Loss of Land 1947 to Present

- Gaza is controlled by Hamas (an Islamist fundamentalist party) and is under Israeli blockade but not ground troop occupation. The two Palestinian groups (Fatah and Hamas) have reconciled to create coalition Palestinian government for the first time since 2007.

- The peace negotiations between the Israel and Palestine have failed subsequently and in July and August 2014 the conflict escalated to a full-on war between Israel and Hamas.

[Please refer the topic *Chief Prosecutor at ICC* from February 2021 edition as well as the topic "*Sanctions against International Criminal Court officials*" (prelims section) from June 2020 edition of CA magazine]

World Summit on Information Society Forum 2021

- The World Summit on the Information Society (WSIS) Forum represents one of the world's largest annual gathering of the 'ICT for development' community.

- This year's summit was held in virtual mode.

- **Co-Organised** by - International Telecommunications Union (ITU), UNESCO, UNDP and UNCTAD.

- India was represented by MOS Telecom Shri Sanjay Dhotre.

- At the summit, India underscored the role of Information and Communication Technologies(ICTs) for modernization and transformation of the industry, promotion of inclusive economic growth and stimulation of the national economies to meet the larger objectives of Sustainable Development Goals (SDGs).

India's Effort Towards Development Of Telecom Infrastructure In Remote Areas

- Under the **flagship program BharatNet**, nearly 6,00,000 villages are being connected through laying of more than 4,00,000 Km length of optical fiber cable and use of satellite communication services.

- Through submarine cable networks small and remote islands of Andaman & Nicobar and Lakshadweep and other inaccessible areas are being connected.

- Establishment of ITU Area office and Innovation Centre in India with involvement of SMEs, Academia and Startups in the region will go a long way in development of technologies, standards and solutions best suited for rural and remote areas of developing nations.

About International Telecommunication Union (ITU)

- The ITU is the **United Nations specialized agency** for information and communication technologies – ICTs.

- It was Founded in 1865 to facilitate international connectivity in communications networks.

- ITU allocates *global radio spectrum and satellite orbits, develop the technical standards* that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide.

Greater Tipraland Demand

- Tripura royal scion Pradyot Kishore Manikya has recently announced his new political **demand of 'Greater Tipraland'**.

- It is claimed that this demand is in the interest of tribals, non-tribals, Tripuri tribals staying outside Tripura, even those outside India in Bandarban, Chittagong, Khagrachari and other border adjacent areas in Bangladesh.

What Is Greater Tipraland?

- It seeks to include every tribal person living in indigenous area or village outside the Tripura Tribal Areas Autonomous District Council (TTAADC) under the proposed model.

- However, the idea doesn't restrict to simply the Tripura tribal council areas. It extends to include 'Tiprasa' of Tripuris spread across different states of India like Assam, Mizoram etc. as well, even those living in Bandarban, Chittagong, Khagrachari and other bordering **areas of neighbouring Bangladesh.**

Rise of Ethnic-Politics: A Reason

- Tripura saw turbulent violent struggles by different outlawed insurgent outfits like the Tripura National Volunteers (TNV), United Bengali Liberation Front (UBLF), National Liberation Front of Tripura (NLFT), All Tripura Tiger Force (ATTF) etc.

- All these organisations demanded self-determination and sovereignty, albeit on different ethnic and community lines.

- In 2009, Indigenous Peoples Front of Tripura (IPFT) emerged under veteran tribal ideologue NC Debbarma (who is now revenue Minister in the current government). This party reiterated the demand of a separate land for tribals, but in a democratic manner.

- It claimed a separate state could alone alleviate problems faced by Tripuri tribes and fought the 2018 assembly polls on these lines.

- Pradyot's new demand of **Greater Tipraland is a major step forward after IPFT's statehood demand**. It is the latest in the line of **his ethnic agitations** after '*Puila Jati Ulo Party', (first community, then party)*, a slogan he raised to unite people from both tribal and non-tribal behind ethnic identity in 2019.

The Bihar Police Bill

- The Bihar Assembly passed the **Bihar Special Armed Police Bill, 2021** amid protests by the Opposition.

- The opposition parties in Bihar have called the Bill "draconian", objecting, among others, to its provisions empowering Special Armed Police officers to **carry out searches and arrests without warrant.**

Rationale Behind This Bill

- It aims to **develop the Bihar Military Police into a well-trained and fully equipped** armed police force with multi-domain expertise to cater to the development needs and the larger interest of the state.

- At present, the Bihar Military Police is entrusted with the security of the Mahabodhi Temple in Gaya, the Darbhanga airport, and other industrial and commercial establishments.

- The new Bill renames **the Bihar Military Police as the Bihar Special Armed Police**, and **gives the force more teeth, on the lines of the Central Industrial Security Force** (CISF), so it can better secure the commercial and industrial assets of the state.

- The **mandate of the force** will be the "maintenance of public order, combating extremism, ensuring the better protection and security of specified establishments in such manner as may be notified and perform such other duties, as may be notified.

- Over the past decade, Bihar's dependence on Central forces has grown, and an organised armed police force of its own will save government expenses and create more jobs for locals.

Why Bill is Facing Opposition?

- The Bill allows the Special Armed Police officers to carry out **searches and arrests without a warrant**.

- This is on par with CISF, which can arrest people, including on suspicion, "without any order from a magistrate and without a warrant", according to The Central Industrial Security Force Act, 1968.

Wrongful Prosecution

The Supreme Court has sought the Centre's reply on two separate pleas seeking directions to the government to frame guidelines for compensation to victims of wrongful prosecution and to ensure strict action against fake complainants in criminal cases.

Why Such Mechanism is needed?

- In the absence of such a mechanism, there has been a surge in filing of false and vexatious cases against innocent people. Such guidelines would act as a deterrent against false prosecution.

- In many cases, the innocents are acquitted only after a protracted trial and have to live with ignominy for the rest of their lives, jeopardising their chances of rehabilitation in society.

- Citizens' rights are being eroded in a careless manner without any concomitant pressure on the state, or the erring officials, to make up for the legal wrong.

- Such mechanism will also release pressure from the over-burdened judiciary with alarming pendency of over 40 million cases.

Background

- The petitions were filed in the apex court in the backdrop of a case in which the Allahabad High Court had in January declared a man, earlier convicted in a rape case and jailed for around 20 years, innocent.

- The court observed that the motive behind the FIR was related to a land dispute.

Stand of Law Commission On This Issue:

- **Law Commission Report No-277** on **miscarriage of justice** had recommended **compensation for such act**.

- It had framed the recommendation on the basis of a ***Delhi High Court order in the Babloo Chauhan case*** in November 2017.

- However, Central Government had done nothing so far to implement this.

India Thwarted China's Cyber-Attacks On Power Sector

- "**State-sponsored" Chinese hacker groups** carried out cyber-attacks on Indian power and ports sectors when troops were engaged at the borders along the LAC.

- However, as per the government report, there was "no impact" on critical infrastructure.

- As per the report, **21 IP addresses** resolving to 10 distinct Indian organisations in the power generation and transmission sector were targeted, with a further two organisations in the maritime sector.

- They were targeted through a **malware called Shadow Pad**.

Cyber Crime Volunteer Programme

Indian Cyber Crime Coordination Centre (I4C), under MHA, has envisaged the **Cyber Crime Volunteers Program** to bring *together citizens with passion to serve the nation on a single platform and contribute in fight against cybercrime in the country*.

Key Highlights

- The programme targets to rope in Good Samaritans to flag unlawful content on the Internet.

- Any citizen can register himself/herself under one of **three categories**: 'Cyber Volunteer Unlawful Content Flagger', 'Cyber Awareness Promoter', and 'Cyber Expert'.

- Post-registration, the **individual can directly report "unlawful content"** being circulated over the Internet.

- Volunteers have been **advised to study Article 19** of the Indian Constitution, which deals with freedom of expression.

Criticism

- The **Internet Freedom Foundation (IFF),** a digital liberties organisation, has written to the Ministry of Home Affairs (MHA) that the Cyber Crime Volunteers Programme will lead to a culture of surveillance and constant suspicion in society creating potential social distrust.

- The IFF said that there is no information available on how the Ministry will ensure that the programme is not misused by certain elements to extract misguided personal or political vendettas.

- It is feared that such programme would lead to **Cyber-Vigilantism**. It would lead to peers turning against their peers to snitch on them.

- The Ministry has failed to clearly define **unlawful content and content which would relate to "anti-national" activities**.

- Such a program is feared to be in direct violation of the decision of the SC in **Shreya Singhal v Union of India.**

- In this case SC highlighted the need to ensure that overbroad restrictions on online speech are not used as a tool by the State to **criminalise free speech on the internet**.

Double Mutant Coronavirus Variant

- A unique **"double mutant" coronavirus variant** — with a combination of mutations not seen anywhere else in the world — has been found in India.

- Genome sequencing of a section of virus samples by a consortium of 10 labs across the country, called the **Indian SARS-CoV-2 Consortium on Genomics (INSACOG)**, revealed the presence of two mutations, **E484Q and L452R together,** in at least 200 virus samples from Maharashtra, as well as a handful in Delhi, Punjab and Gujarat.

- INSACOG will submit details of this variant to a global repository called GISAID and, if it merits, classifies it as a **"Variant of Concern" (VOC)**.

- So far, only **three global VOCs** have been identified: the **U.K. variant (B.1.1.7),** the **South African (B.1.351)** and the **Brazilian (P.1) lineage.**

To read more about Mutated Novel Coronavirus, please refer to The Recitals- December 2020 and January 2021.

World Tuberculosis Day

- **World Tuberculosis Day,** observed on **24 March** each year, is designed to build public awareness about the global epidemic of **tuberculosis (TB)** and efforts to eliminate the disease.

- In 2018, 10 million people fell ill with TB, and 1.5 million died from the disease, mostly in low and middle-income countries. This also makes it the leading cause of death from an infectious disease.

- **Theme 2021: The Clock is Ticking**

- The date marks the day in **1882 when Dr Robert Koch** announced that he had discovered the **bacterium that causes TB,** which opened the way towards diagnosing and curing this disease.

- **World TB Day** is **one of eleven official global public health campaigns** marked by the World Health Organization (WHO), along with World Health Day, World Chagas Disease Day, World Blood Donor Day, World Antimicrobial Awareness Week, World Immunization Week, World Malaria Day, World No Tobacco Day, World Hepatitis Day, World Patient Safety Day and World AIDS Day.

- Tuberculosis is an **infectious disease** that **affects the lungs** and spreads to people when an infected person sneezes or coughs which is the reason why timely diagnosis and medical attention is the key to fighting the disease.

India TB Report

- India reported a **24% year-on-year fall** in **tuberculosis registrations** last year, to an estimated 18.05 lakh, due to the pandemic-led disruptions and lockdowns, as per the India **TB Report 2021.**

- India has 30% of the world's TB cases.

- The report said between **January and February 2020**, the notifications were on an upward trajectory, with 6% more cases reported in the same period in 2019.

- India has **committed to end TB by 2025**, five years ahead of the global targets.

- The report also found that **between January and February 2020,** registrations rose 6% on year. And by December, the **National Tuberculosis Elimination Programme** had closed the gap on **'missing TB cases', reporting 11%** more cases as projected in April.

- India's **National Strategic Plan for TB Elimination 2017-2025** outlines the agenda and targets which exceed even the aspirational ones set by WHO's End TB Strategy for the world.

- Several dedicated Infectious Disease Hospitals have come up as a part of pandemic response measures which would contribute in a major way towards TB care and management.

- The molecular diagnostic capacity of the country has increased multi-fold. These multi-platform devices can decentralize TB diagnosis.

Methylobacterium Ajmalii

- Four species of bacteria have been discovered on board the **International Space Station (ISS),** one of which has been named after Indian biodiversity scientist **Seyed Ajmal Khan**.

- Researchers from the **University of Hyderabad**, working with **NASA**, have described the discovery and isolation of four strains of bacteria belonging to the family *Methylobacteriaceae*

- These **rod-shaped bacteria** found in ISS are involved in **nitrogen fixation, plant growth and biocontrol activity** against plant pathogens.

- According to the researchers, these bacteria may hold the key to **growing crops** in space. They can help to promote plant growth under stressful conditions.

Methylobacteriaceae

- Most are facultative **methylotrophs** i.e. able to grow on methanol and other **one-carbon compounds** as sources of energy and carbon.

- Some **induce plant leaf and root nodule formation** and can promote plant growth by the production of auxins.

- Some species are **opportunistic human pathogens**; others have been found in insect tissues. Opportunistic microorganisms are typically non-pathogenic microorganisms that act as a pathogen in certain circumstances. They lay dormant for long periods of time until the hosts' immune system is suppressed and then they seize the opportunity to attack.

- Some are important for their role in the **degradation of pollutants**, and they may also cause commercial problems such as the fouling of aircraft fuels.

SIPRI Report

Arms Import Statistics

- **Asia and Oceania** was the **largest importing region** for major arms, receiving 42 per cent of global arms transfers in 2016–20. For many states in Asia and Oceania, a growing perception of China as a threat is the main reason for an increase in arms imports.

- **India, Australia, China, South Korea and Pakistan** were the biggest importers in the region.

- The biggest growth in arms imports was seen in the Middle East. Middle Eastern states imported 25 per cent more major arms in 2016–20 than they did in 2011–15.

- India's arms **imports decreased by 33%** between 2011–15 and 2016–20, according to a report published by Swedish think tank Stockholm International Peace Research Institute (SIPRI).

- Still, **India** continues to remain the **second-largest arms importer** after **Saudi Arabia.**

- India's arms imports are **expected to increase** over the **coming five years** based on its outstanding deliveries of combat aircraft, air defence systems, ships and submarines.

- **Reasons For Decline In Arms Import To India**

  - The overall drop in arms imports between 2011–15 and 2016–20 seems to be mainly due to its **complex and lengthy procurement processes**, combined with its attempts to **reduce its dependence on Russian arms** by diversifying its network of arms suppliers.

  - As part of efforts to curb defence imports and promote domestic manufacturing, the Defence Ministry had last year notified a list of **101 items on the negative import list.**

  - In addition, the Ministry has **reserved a part of the capital budget** for **procurement from domestic industry.**

Arms Exports Statistics

- The report said **Russia was the largest arms supplier** to India in both years. However, Russia's deliveries dropped by 53% between the two periods and its share of Indian arms imports fell from **70% to 49%.**

- **France, Israel, and US** were the **2nd, 3rd, and 4th largest** arms suppliers to India in 2016–20. The U.S. was the second-largest arms supplier to India in 2011–15 but in 2016–20 India's arms imports from the U.S. were 46% lower than in the previous five-year period.

- Globally, **United States remains the largest arms exporter**, increasing its global share of arms exports from 32 to 37 % between 2011–15 and 2016–20. Almost half (47 per cent) of US arms transfers went to the Middle East, and Saudi Arabia alone accounted for 24 per cent of total US arms exports.

  - **Russia, France, Germany and China** formed the top five list of arms exporters, in descending order.

  - Russia and China both saw a decline in their arms exports. The bulk (around 90 per cent) of the decrease in Russia's exports was due to a 53 per cent fall in its arms exports to India.

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 to policymakers, researchers and media.

- It has a vision of a world, in which sources of insecurity are identified and understood, conflicts are prevented or resolved, and peace is sustained.

- Based in Stockholm, SIPRI is regularly ranked among the most respected think tanks worldwide.

No-Permission-No-Takeoff (NPNT) Compliant Drone Operations

- The Ministry of Civil Aviation has granted permits to **"No-Permission-No-Takeoff" (NPNT)** compliant drone operations at 34 additional green zones to facilitate, smoothen, and promote drone operations in the country.

- As per DGCA, **NPNT compliance enables** every Remotely Piloted Aircraft (except Nano) to obtain valid permission through the **Digital Sky platform** before operating in India.

- Flying in these approved green zones will **require only intimation** of the time and location of the flights **via the Digital Sky portal or the app.**

- The framework mandates users **to register** on an online portal that acts as the **national unmanned traffic management system** for remotely piloted aircraft.

- Drone flights in the green zone sites shall be compliant with the applicable conditions of **Unmanned Aircraft System (UAS) Rules, 2021.**

- The concerned **State Governments and Local Administrations** are **to facilitate operations of NPNT-compliant drones in the mentioned sites.**

Digital Sky Platform

- In August 2018**,** India had announced the release of its **Civil Aviation Regulations (CAR)** to enable the safe flying of Remotely Piloted Aerial Systems (RPAS) in India.

- It also announced **Digital Sky Platform,** a first of its kind that **implements 'no permission, no take-off' (NPNT) –** a novel system of **software-based self-enforcement** to minimize deviations from the CAR.

- **For micro and above categories,** operators and pilots are required to register on the Digital Sky Portal.

Unmanned Aircraft System Rules, 2021

- The Rules categorizes unmanned aircraft systems into three**: aeroplane, rotorcraft and hybrid unmanned aircraft system.**

- They are also classified based upon the maximum **all-up weight** including its payload.

- The Rules provide that a person shall be **eligible for grant of authorisation** as an importer, manufacturer, trader, owner or operator, if –

  ○ In case of an individual, he is a **citizen of India**, and 18 years of age or more; or

  ○ In case of a **company or a body corporate** provided that, –

    i.   it is registered and has its **principal place of business within India**, and

    ii.   the Chairman and at least two-thirds of its directors are citizens of India

  ○ In case of arm or an association of persons or body of individuals or a local authority or any legal entity **has its principal place of business within India,** whether incorporated or not, Central Government and State Government or an agency thereof

- The Rules **also define the Role and Responsibility** of an Authorised Unmanned Aircraft System Operator.

Vajra Prahar

- The **11th edition** of **Indo-US Joint Special Forces Exercise VAJRA PRAHAR 2021** was conducted at Special Forces Training School located at **Bakloh, Himachal Pradesh.**

- The joint exercise by the Special Forces of both the countries is **conducted alternatively** between India and the United States

- To share the best practices and experiences in areas such as joint mission planning and operational tactics as also to improve interoperability between the Special Forces of both nations

- The **10th edition** of VAJRA PRAHAR was **held in 2019 in Seattle, USA.**

Other Exercises of India with the USA

- Exercise Yudh Abhyas (Army)

- Cope India (Air Force)

- Red Flag (USA's multilateral air exercise)

- Malabar Exercise (trilateral naval exercise of India, USA and Japan)

● Passage Exercise (PASSEX) (Navy)

Aluminium-air Technology-Based Battery Systems

● **State-owned Indian Oil Corporation Ltd.** has entered into a joint venture with Israel-based battery technology start-up **Phinergy** to develop aluminium-air batteries.

● Aluminium-air batteries are said to be a **lower cost** and **more energy-dense** alternative to lithium-ion batteries.

● They **utilise oxygen in the air** which reacts with an aluminium hydroxide solution to oxidise the aluminium and produce electricity.

● These batteries also offer **a much greater range of 400 km** or more per battery compared to lithium-ion batteries which currently **offer a range of 150-200 kilometres per full charge**

● Another added advantage is that the aluminium plate in an aluminium-air battery is converted into aluminium trihydroxide over time and that aluminium can be reclaimed from aluminium trihydroxide or even traded directly for industrial uses.

● The metal-air technology could give a **boost to electric vehicle adoption** in India.

● However, the issue with it is that aluminium-air batteries **cannot be recharged** like lithium-ion batteries. Therefore, large scale use of aluminium-air battery-based vehicles would require the **wide availability of battery swapping stations**.

Metal-Air Battery

● Metal–air batteries are a mature family of **primary and secondary cells**

● In metal–air batteries the positive electrode is carbon–based covering with some precious metals for reacting with oxygen.

● The other electrode is made of a metal such as **zinc, aluminum, magnesium, and lithium.**

● Since in these batteries, the air is flowing through the cell, they are sometimes categorized as **fuel cells.**

National Cyclone Risk Mitigation Project (NCRMP)

● The Government of India has initiated the **National Cyclone Risk Mitigation Project (NCRMP)** with a view to address cyclone risks in the country.

● The overall objective of the project is to undertake suitable **structural and non-structural measures** to mitigate the effects of cyclones in the coastal states and UTs of India.

● **Components of NCRMP-** The project aims to reduce vulnerability of coastal communities to cyclone and other hydro meteorological hazards through:
   ○ Early warning dissemination systems
   ○ Capacity building of local communities to respond to disasters
   ○ Improving access to emergency shelter, evacuation, and protection against wind storms, flooding and storm surge in high areas

- ○ Strengthening DRM (Disaster Risk Management) capacity at central, state and local levels in order to enable mainstreaming of risk mitigation measures
- **National Disaster Management Authority (NDMA)** under the aegis of **Ministry of Home Affairs (MHA)** is implementing the project in coordination with participating State Governments and the **National Institute for Disaster Management (NIDM).**
- Currently 13 cyclone prone States and Union Territories (UTs), with varying levels of vulnerability, have been identified under the Project. According to vulnerability, states have been divided in 2 categories-
  - ○ **Category I: Higher vulnerability States** i.e. Andhra Pradesh, Gujarat, Odisha, Tamil Nadu and West Bengal.
  - ○ **Category II: Lower vulnerability States** i.e. Maharashtra, Karnataka, Kerala, Goa, Pondicherry, Lakshadweep, Daman and Diu, Andaman and Nicobar Islands
- The project will be **funded by the World Bank as an Adaptable Programme Loan (APL)** with an International Development Association (IDA) credit.

High Electron Mobility Transistors (HEMTs)

- Researchers from **Indian Institute of Science Bangalore (IISc)** have developed the **High Electron Mobility Transistors (HEMTs) from gallium nitride (GaN)** under the 'Make in India' initiative.
- HEMT is a form of **field effect transistor** that utilises an unusual property of a very narrow channel enabling it to **operate at exceedingly high frequencies** and also offers a very **attractive low noise performance.**
- **Functioning**
  - ○ HEMT is a normally OFF device and can **switch currents up to 4A and operates at 600 V.** Thus, they are used in integrated circuits as digital on-off switches.
  - ○ Power electronic systems demand high blocking voltage in OFF-state and high current in ON-state for efficient switching performance.
  - ○ Specific transistors called HEMTs made of aluminium gallium nitride/ gallium nitride (AlGaN/GaN) **provides an edge over silicon-based transistors** as they allow the systems to operate at **very high voltages,** switch ON and OFF faster, and occupy less space.
- These devices are commonly used in aspects of radiofrequency designs that require high performance at high-frequency levels.
- **Applications**
  - ○ Able to operate at higher frequencies than ordinary transistors, up to millimetre-wave frequencies and can be used in high-frequency products such as **cell phones, satellite television receivers and radar equipment.**
  - ○ Useful in **low power amplifiers** as it can switch speeds very rapidly and is also applicable in the **defense industry.**
  - ○ They are also used for **radar, imaging, as well as radio astronomy** and in **voltage converter applications.**

Digital Green Certificate

- The **European Commission** proposed to create a **Digital Green Certificate** to facilitate the **safe and free movement of citizens within the European Union (EU)** amid the COVID-19 pandemic

- It is a proof that a person has either been vaccinated against COVID-19, has received a negative test result or has recovered from COVID-19.

- It will be in **digital or paper format complete with a QR code** and will be free of charge

- It can be issued by authorities, including hospitals, testing centres and health authorities.

- EU citizens or third-country nationals who are **legally staying in the EU** will be able to use these digital certificates.

- The **need** for issuing digital green certificates has **risen in the wake of a huge negative impact on the tourism industry.** In the EU and across the world, the tourism industry has been severely impacted due to the spread of the disease. Many countries have, therefore, been contemplating digital certificates or passports that will be proof that a person has been vaccinated or has recovered from COVID-19.

- In February, **Israel** became the **first country** to issue certificates called **"vaccine passports"** that will allow vaccinated individuals to use some facilities and attend events. It functions as proof that the **holder has been vaccinated against Covid-19** and is safe to travel.

- The **World Health Organisation (WHO)** had advised against using such certificates because of lack of evidence that a person infected with Covid-19 could not get the infection again. However, according to a **Lancet research,** the re-infection rate is 0.65%.

Moving Blackhole Within the Host Galaxy

- Scientists have discovered the **first moving supermassive black hole** whose mass is about three million times that of our Sun. Spotting a black hole in motion was surprising even though the phenomenon always existed in theory. The majority of supermassive black holes are not expected to be moving; **they're usually content to just sit around.**

- The black hole was travelling within its own galaxy, **J0437+2456**, which is around **228 million light-years away from Earth.**

- The main question before the scientists is whether the velocities of black holes are the same as that of the galaxies they reside in?

- Researchers studied 10 faraway galaxies with supermassive black holes in the centre. They expect them to have the same velocity. If they don't, that implies the black hole has been disturbed.

- Researchers **used radio antennas** placed at great distances from each other **to form a giant reception net** for masers emitting from the moving black hole. Then, using a technique, called **very long baseline interferometry (VLBI),** they calculated the velocities of the 10 black holes under survey.

- **Only one, whose velocities didn't match** with the other objects in the host galaxy, stood out.

- The supermassive black hole is **moving with a speed of about 110,000 miles per hour** (177,027.84 kilometres per hour) inside the **galaxy J0437+2456,** the study noted.

● The scientists are **not sure what is causing this motion** but they have narrowed down **two possibilities: Two black holes merging and a binary system of black holes.**

● Researchers might have spotted the resulting black hole **moving in a rearward motion** after the merger before settling down in a position.

● The second, more exciting theory is that of a **binary black hole system** where not one but **two supermassive black holes might exist within the host galaxy** held together by a shared centre of gravity, which they might be orbiting.

● The team said that the **twin of the newly-discovered wandering black hole might not be emitting masers**, keeping it from being detected by the radio antenna network.

Very long baseline interferometry (VLBI) Technique

● It is a type of **astronomical interferometry** used in **radio astronomy.**

● In VLBI, a **signal from** an astronomical **radio source, such as a quasar**, is **collected** at multiple **radio telescopes on Earth** or in space.

● The **distance** between the radio telescopes is then c**alculated using the time difference between the arrivals of the radio signal at** different telescopes.

● **This allows observations of an object** that are made simultaneously by many radio telescopes to be combined, emulating a telescope with a size equal to the maximum separation between the telescopes.

● VLBI is best known for **imaging distant cosmic radio sources, spacecraft tracking, and applications in astrometry.**

● **An astrophysical maser is a naturally occurring source of stimulated spectral line emission, typically in the microwave portion of the electromagnetic spectrum. This emission may arise in molecular clouds, comets, planetary atmospheres, stellar atmospheres, or various other conditions in interstellar space.**

Giga Mesh

● **Astrome**, a women-led start-up, has developed an innovative **wireless product** called **Giga Mesh.**

● It gives **fibre-like bandwidth** at fraction of the cost of fibre.

● It will help telecom operators deliver **reliable low-cost internet services** to suburban and rural areas.

● It is a multi-beam **E-band product** that packs **6 point-to-point E-band** radios in one.

● This distributes the cost of the device over multiple links and hence reduces capital expenditure

● The radio provides **long-range and multi-Gbps data** throughput at each link.

Astrome

● It is incubated at the **Indian Institute of Science (IISc), Bangalore and** supported by **the DST-ABI** women startup programme of the department of science and technology (DST).

● It has received the **ITU SME Award** for the Most Promising Innovative Solution in Connectivity and also got selected by a prestigious 5G accelerator program called **Evo Nexus** (sponsored by Qualcomm) which will help them launch their product in the global market.

Quantum Communication

● The Indian Space Research Organisation (ISRO) demonstrated **free-space quantum communication** over a distance of 300 m for the first time.

● This is a major achievement for **unconditionally secured satellite** data communication using quantum technologies.

● The **Quantum Key Distribution (QKD)** technology underpins quantum communication technology that ensures unconditional data security by virtue of the principles of quantum mechanics, which is not possible with conventional encryption systems.

● The **conventional cryptosystems** used for **data-encryption** rely on the complexity of **mathematical** algorithms, whereas the security offered by quantum communication is based on the laws of Physics.

● Therefore, quantum cryptography is considered as **'future-proof',** since no future advancements in computational power can break the quantum-cryptosystem.

Satellite Micius

● The **world's first satellite** that was the first quantum enabled one was launched by China in 2016. It is also called **Quantum Experiments at Space Scale or QUESS.**

● The satellite is named after the ancient Chinese scientist and philosopher **Micius**.

Energy Swaraj Yatra Bus

● The **Union Education Minister** took a ride in the **'Energy Swaraj Yatra'** bus built by Dr Chetan Singh Solanki, Professor, Indian Institute of Technology (IIT) Bombay.

● The bus **runs on solar energy** and has a **complete work-cum-residential unit** and Solanki has been travelling on it to raise awareness about the use of solar power.

● The bus has facilities to **allow the occupant** to perform **all daily activities** including sleeping, working, cooking, bathing, meeting and training. The bus is fitted with 3.2 kW solar panels and 6 kWh of battery storage.

● The **Energy Swaraj Yatra** began in 2020 and will **continue till 2030**.

● Dr Solanki has taken up a mission to **create awareness** regarding adoption of solar energy. He has **pledged** to not go home until 2030 and said that he would live and travel in the **solar bus**. He has been recently conferred with the **Brand Ambassador of Solar Energy of Madhya Pradesh.**

Diatom Test

● Maharashtra (ATS) relied on a **forensic test known as diatom tests** for leads in the alleged murder case of Mansukh Hiran.

- A **number of tests** have been developed to confirm the cause of such deaths with the diatom test emerging as one of the most important tests. The **test entails findings** if there are **diatoms** in the body being tested.

- Diatoms are **photosynthesizing algae** that are found in almost **every aquatic environment** including fresh and marine waters, soils, in fact, almost anywhere moist.

Science Behind the Diatom Test

- A **body recovered from a water** body does not necessarily imply that the death was due to drowning.

- If the **person is alive** when he enters the water, the diatoms will enter the lungs when the person inhales water while drowning. These diatoms then get carried to various parts of the body, including the brain, kidneys, lungs and bone marrow by blood circulation.

- If a **person is dead** when is thrown in the water, then there is no circulation and there is no transport of diatom cells to various organs.

- Diatom analysis is considered **positive only when the number of diatoms** recovered from the body is more than a minimal established limit.

Asteroid Apophis

- NASA space agency has ruled out the possibility of the dreaded **asteroid Apophis** causing any damage to the Earth for the next 100 years.

- It is named after the ancient **Egyptian god of chaos and darkness** and was discovered in 2004.

- It measures 340 metres across– comparable to the size of the huge ship that had **blocked the Suez Canal.**

- Earlier NASA had said that it was one of the asteroids that posed the greatest threat to Earth.

- The asteroid flew past Earth on **March 5, 2021, coming within 17 million km** of our planet.

- Deep Space Network's **Goldstone Deep Space Communications Complex** ~~near Barstow,~~ California and **100-metre Green Bank Telescope** in West Virginia were used to track its movement.

- Based on this Apophis has been removed from the **risk list.**

- It will now **approach Earth again in 2029.**

Risk List

- The **risk list** refers to the **Sentry Impact Risk Table** maintained by the Center for Near-Earth Object Studies (**CNEOS).**

- It includes all the asteroids with orbits close to Earth.

Asteroids

- Asteroids are **rocky objects that orbit the Sun,** much smaller than planets and are also called **minor planets.**

- Many are the remnants from the formation of the solar system over 4.6 billion years ago.

- Asteroids are divided into **three classes.**

- ○ **First Group:** Those found in the main **asteroid belt between Mars and Jupiter,** which is estimated to contain somewhere between 1.1-1.9 million asteroids.
  - ○ **Second Group:** It is that of **trojans**, which are asteroids that share an orbit with a larger planet. NASA reports the presence of Jupiter, Neptune and Mars trojans. In 2011, they reported an Earth trojan as well.
  - ○ **Third Group:** It is **Near-Earth Asteroids (NEA),** which have orbits that pass close by the Earth. Those that cross the Earth's orbit are called Earth-crossers.
- More than 10,000 such asteroids are known in the third group, out of which over 1,400 are classified as Potentially Hazardous Asteroids (PHAs).

Potentially Hazardous Asteroids

- These are asteroids, which have the **potential to make threatening** close approaches to the Earth.
- All asteroids with a **Minimum Orbit Intersection Distance** (MOID) of 0.05 AU (which is about 7,480,000 Km) or less and an Absolute Magnitude (H) of 22.0 (about 150 mt in diameter) or less are considered PHAs.

Center for Near-Earth Object Studies (CNEOS)

- CNEOS is the **Jet Propulsion Laboratory (JPL) center** for computing asteroid and comet orbits and their probability of Earth impact.
- CNEOS is located at Caltech in **Pasadena, California.**

CALM2

- Leading scientists and medical experts are calling for the **pardon of convicted child killer Kathleen Folbigg** after a recent study showed that her victims — four of her children — may have died of natural causes.
- Medical experts have argued that her children died due to a **rare genetic defect.** They inherited a genetic mutation from their mother called CALM2.
- CALM2 (Calmodulin 2) is a **Protein Coding gene.** Diseases associated with CALM2 include **Long Qt Syndrome 15** and **Long Qt Syndrome 1**.
- CALM-2 mutations are known to cause sudden death due to cardiac arrest.
- Rare diseases or orphan diseases are defined as those which afflict a minimal fraction of a population. An attempt to identify the parameters that can be used to define a rare disease was made by the 'Rare Disease Terminology & Definitions Used in Outcomes Research Working Group.' The study concluded that a disease with the average global prevalence of 40–50 cases per 100,000 people can be called as a rare disease.
- The Genomics forUnderstanding Rare Diseases: India Alliance Network (GUaRDIAN) stands for providing genomic solutions for rare diseases in India.

Adjuvant Molecule TLR 7/8

- The **Indian Institute of Chemical Technology (IICT)**, a **Council for Scientific and Industrial Research (CSIR)** lab, helped in the development of a key molecule for **Covaxin -** the indigenous vaccine developed by **Bharat Biotech International Limited.**

- The Covaxin is a **highly purified**, whole **virion**, inactivated SARS-CoV2. The vaccine has been formulated with **'Algel-IMDG',** which contains chemically **absorbed TLR7/8** as an agonist or an adjuvant onto **aluminium hydroxide** gel to generate the requisite type of immune responses without damaging the body.

Immunologic Adjuvant

- In immunology, an adjuvant is a **substance that increases** and/or modulates the immune response to a vaccine.

- The word "adjuvant" comes from the **Latin word adiuvare**, meaning to **help or aid.** "An immunologic adjuvant is defined as any substance that **acts to accelerate,** prolong, or enhance antigen-specific immune responses when used in combination with specific **vaccine antigens.**

AEG12

- A **mosquito protein, called AEG12**, strongly inhibits the family of viruses that cause **yellow fever, dengue, West Nile, and Zika**, and also weakly inhibits coronaviruses according to scientists at the US National Institutes of Health (NIH) and their collaborators.

- **AEG12** works by **destabilising the viral envelope,** breaking its protective covering.

- The protein does not **affect viruses** that do not have an envelope. The findings, however, could lead to **therapeutics against** viruses that affect millions of people around the world.

- The researchers used **X-ray crystallography** to solve the structure of the protein. It was found that the **protein rips** out the **lipids**, that is **fat-like portions** of the membrane which **hold the virus** together, at the molecular level.

- It shows that the protein is **hungry** for lipids that are present in the membrane of the **virus** so it gets rid of some of its **lipids**. It then exchanges those lipids with the one it prefers.

Retinal Scan Technology

A Hong Kong scientist has developed **a method to use machine learning** and **artificial intelligence** to scan retinas of **children as young as six** to detect **early autism** or the risk of autism and hopes to develop a commercial product this year.

About Retinal Scan Technology

- Developed in the 1980s, retinal scanning is one of the **most well-known biometric** technologies, but it is also one of the least deployed.

- Retinal scans map the **unique patterns** of a person's retina. The blood vessels within the **retina absorb light more readily** than the surrounding tissue and are easily identified with appropriate lighting.

- Retinal scan is a **highly dependable** technology because it is **highly accurate and difficult to spoof**, in terms of identification.

- The technology, however, has **notable disadvantages** including difficult image acquisition and limited user applications. Often enrolment in a retinal scan biometric system is lengthy due to requirement of multiple image capture, which can cause user **discomfort**.

- Retinal scans should therefore **not be confused** with another ocular-based technology, **iris recognition,** which is described as the process of recognizing a person by analyzing the random pattern of the iris.

- As with fingerprints and iris patterns, **genetic factors** do not determine the exact pattern of blood vessels in the retina. This allows **retinal scan technology** to **differentiate between identical twins** and provide robust identification.

Global Bio-India 2021

- The Union Minister for Science & Technology had inaugurated the **second edition of Global Bio-India-2021** through virtual mode.

- The 3-day event showcased the **strength and opportunities of the India's biotechnology sector** at national level and to the global community.

- The theme for 2021 is **"Transforming lives"** with the tagline **"Biosciences to Bio-economy".**

- It is a **mega international congregation** of biotechnology stakeholders, including international bodies, regulatory bodies, Central and State Ministries, SMEs, large industries, bioclusters, research institutes, investors, and the startup ecosystem.

- This event was co-organised by the **Department of Biotechnology, Ministry of Science & Technology,** along with its **Public Sector Undertaking,** and **Biotechnology Industry Research Assistance Council (BIRAC)** in partnership with industry association **Confederation of Indian Industry (CII), Association of Biotechnology Led Enterprises (ABLE)** and **Invest India.**

- The Biotechnology sector has emerged as an integral part of the Indian economy over the past few decades, and the Government of India is playing a transformative and catalytic role in **building a USD 150 billion bio-economy by 2025.** The sector is recognized as one of the key drivers for India to achieve its USD 5 trillion target.

India Science and Research Fellowship (ISRF) 2021

- Forty scholars from six countries have been awarded **India Science and Research Fellowship (ISRF) 2021** to carry out their research in Indian Institutes and Universities.

- The **Department of Science and Technology (DST)** had launched ISRF Programme as a part of **India's initiatives to engage with neighbouring countries** to develop S&T partnerships.

- The project allows researchers from **Afghanistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Sri Lanka, Thailand** to work in Indian Universities and Research Institutions.

- It has been implemented since 2015 and has provided an opportunity to the young researchers from neighbouring countries to **get access to the state of art facilities** available in the Indian institutes/universities.

- The International Cooperation Division of DST has the **mandated responsibility of**

  ○ negotiating, concluding and implementing Science, Technology and Innovation (STI) Agreements between India and other countries

  ○ providing interventions on STI aspects in international forums

- Under Thematic Cooperation, IC Division is partnering in the **following International programs-**

  ○ International Solar Alliance

  ○ Mission Innovation

  ○ International AIDS Vaccine Initiative

  ○ Laser Interferometer Gravitational-Wave Observatory (LIGO)

AsterX

- France has launched its **first ever military exercise in space** in order to "stress test" its defence systems against potential adversaries, in a sign of the growing competition between world powers in Earth's orbit.

- **Codenamed AsterX** in a nod to the first French satellite Asterix from 1965, it is the **first ever military space exercise in Europe** and is part of France's ambitions to become the world's third-largest space power.

- The drills will simulate the **monitoring of a potentially dangerous space object,** as well as a threat to a satellite.

- The new **US Space Force** and **German space agencies** are taking part in the French exercises.

Spectrum Auctions

- The government had received bids worth ₹77,146 crore on the first day of the auction for telecom airwaves, exceeding its own pre-bid estimates of about ₹45,000 crore.

- The **Department of Telecommunications (DoT)** aims to raise **at least ₹3.92 trillion in the auction of 2,308.8MHz of spectrum.**

- Devices such as cellphones and wireline telephones require signals to connect from one end to another. These **signals are carried on airwaves,** which must be sent at designated frequencies to avoid any kind of interference.

- The **Union government owns all the publicly available assets** within the geographical boundaries of the country, which also **include airwaves.** With the expansion in the number of cellphone, wireline telephone and internet users, the need to provide more space for the signals arises from time to time.

- To sell these assets to companies willing to set up the required infrastructure to transport these waves from one end to another, the **central government through the DoT auctions these airwaves from time to time.**

- These **airwaves are called spectrum, which is subdivided into bands which have varying frequencies.** All these airwaves are sold for a certain period of time, after which their validity lapses, which is generally set at 20 years.

Technical Education Quality Improvement Programme (TEQIP)

- The **Ministry of Human Resource Development (now the Ministry of Education)** has launched TEQIP under assistance from the World Bank in 2002.

- TEQIP will end in March 2021, leaving more than 1,200 assistant professors out of a job and some rural colleges bereft of half their faculty.

- The Centre is preparing its own **MERITE project** with some similar objectives to improve technical education.

- TEQIP is aimed to **upscale and support ongoing efforts in improving quality of technical education** and enhancing existing capacities of the institutions. This would help them to become dynamic, demand-driven, quality conscious, efficient and forward looking, responsive to rapid economic and technological developments occurring both at national and international levels.

- The third phase of TEQIP worked for improving the quality of Engineering Education in existing institutions with a **special consideration for Low Income States and Special Category States (SCS).**

PSLV-C51

- The **Indian Space Research Organisation (ISRO)** has successfully launched **PSLV-C51.** This is the **53rd flight** of India's workhorse launch vehicle and the **first dedicated mission for New Space India Ltd (NSIL),** the commercial arm of ISRO.

- PSLV-C51 is **using the 'DL' variant of PSLV** equipped with two solid strap-on boosters.

- The NSIL is undertaking this mission under a **commercial arrangement with Spaceflight Inc. USA.**

- PSLV-C51 carried 19 satellites onboard including **Brazil's Amazonia-1,** and 18 co-passenger satellites from **India (5) and the U.S.A. (13).**

- The satellites were launched from the Satish Dhawan Space Centre (SHAR) at Sriharikota.

- **Brazil's Amazonia-1**

  ○ The 637-kg Amazonia-1 is the **optical earth observation satellite** of the Brazilian National Institute for Space Research (INPE).

  ○ This satellite would further strengthen the existing structure by providing remote sensing data to users for **monitoring deforestation in the Amazon region** and *analysis of diversified agriculture across the Brazilian territory.*

- **Satellites from India**

  ○ The **Satish Dhawan SAT (SDSAT)** built by Space Kidz India. It has an engraving of Prime Minister Narendra Modi on the top panel of the satellite.

  ○ A **nano-satellite intended to study the radiation levels,** space weather and demonstrate long range communication technologies.

  ○ The **UNITYsat,** a combination of three satellites intended for **providing radio relay services.**

  ○ The **Bhagavad Gita was also sent on-board** an SD card to give the scripture, which teaches oneness as the highest form of humanity, the highest honour.

Polar Satellite Launch Vehicle (PSLV)

- Polar Satellite Launch Vehicle (PSLV) is the **third generation launch vehicle** of India. It is the first Indian launch vehicle to be **equipped with liquid stages.**

- PSLV successfully launched two spacecraft – **Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013.**

- PSLV earned its title **'the Workhorse of ISRO'** through consistently delivering various satellites to Low Earth Orbits, particularly the IRS series of satellites. It can **take up to 1,750 kg of payload to Sun-Synchronous Polar Orbits** of 600 km altitude.

- PSLV has three variants: **PSLV-Core alone (PSLV-CA)** without the solid strap-on motors; a **PSLV with six solid strap-on boosters;** and **PSLV-XL,** the top model, with six extended solid strap-on boosters.

- The biggest advantage of PSLV is that it is **capable of placing multiple payloads into orbit** with multi-payload adaptors used in the payload fairing.

- PSLV has also been used to launch various satellites into **geosynchronous and geostationary orbits,** such as satellites from the **IRNSS constellation.**

Technology and Innovation Report 2021

- The **United Nations Conference on Trade and Development (UNCTAD)** has released the Technology and Innovation Report 2021.

- The report critically examines the **possibility of frontier technologies widening existing inequalities and creating new ones.**

  ○ **Frontier technologies** are the ones that take advantage of digitalisation and connectivity.

  ○ It includes **artificial intelligence, the internet of things, big data, blockchain, fifth-generation mobile telephony,** three-dimensional printing, robotics, drones (remotely controlled flights), gene-editing, nanotechnology and solar power.

  ○ These technologies are essential for sustainable development, but they also could accentuate initial inequalities.

- To assess national capabilities to equitably use, adopt and adapt these technologies the report has developed a **'readiness index.'** The index comprises five building blocks: **ICT deployment, skills, R&D activity, industry activity and access to finance.**

- The index analysed progress of countries in using frontier technologies, considering their national capacities related to **physical investment, human capital and technological effort.**

- **Highlights Of The Report**

  ○ **India was the biggest 'overperformer' in frontier technologies** than the country's per capita gross domestic products (GDP) would suggest.

  ○ **India's actual index ranking was 43,** while the estimated one based on per capita income was 108. This meant that India overperformed other countries by 65 ranking positions.

- ○ **China was at position 25;** both India and China performed well in research and development. This was **reflective of their abundant supplies of qualified and highly skilled human resources** available at a comparatively low cost.
  - ○ Several developing countries showed stronger capabilities to use and adapt frontier technologies above their GDPs.
  - ○ The **United States, Switzerland** and **the United Kingdom were "best prepared"** for frontier technologies.
- ● **Recommendations**
  - ○ Developing countries should **align science, technology, and innovation policies with industrial policies.**
  - ○ It is up to policymakers to reduce this risk and make frontier technologies contribute to increasing equality.
  - ○ Low-and middle-income developing countries and the least developing countries cannot afford to miss the new wave of rapid technological change.

Solid Fuel Ducted Ramjet (SFDR) Technology

- ● The **Defence Research and Development Organisation (DRDO)** had successfully carried out a flight demonstration based on **Solid Fuel Ducted Ramjet (SFDR) technology** from Integrated Test Range Chandipur off the coast of Odisha.
- ● A ramjet is a **form of air-breathing jet engine** that uses the vehicle's forward motion to **compress incoming air for combustion without a rotating compressor.** Ramjets work most efficiently at supersonic speeds; however, its efficiency starts to drop when the vehicle reaches hypersonic speeds.
- ● Air-to-air missiles which use SFDR technology can achieve longer ranges as they **do not require oxidisers,** among other reasons. Thus, successful demonstration of SFDR technology has provided DRDO with a **technological advantage which will enable it to develop long range air-to-air missiles.** At present, such technology is available only with a handful of countries in the world.
- ● A **scramjet engine is an improvement over the ramjet engine** as it efficiently operates at hypersonic speeds and allows supersonic combustion.

International Lunar Research Station (ILRS)

- ● China and Russia have announced plans to build a **lunar research station, possibly on the moon's surface,** marking the start of a new era in space cooperation between the two countries.
- ● The **International Lunar Research Station (ILRS)** would also be open to use by other countries,
- ● The station would be built on the **lunar surface and/or on the lunar orbit** that will carry out scientific research activities such as the **lunar exploration and utilization, lunar-based observation,** basic scientific experiment and technical verification.

- Russia and China will adhere to the principle of co-consultation, joint construction, and shared benefits. They will facilitate extensive cooperation in the ILRS, open to all interested countries and international partners.

- The ILRS would strengthen **scientific research exchanges,** and promote humanity's exploration and **use of outer space for peaceful purposes.**

INS Karanj

- The Indian Navy had inducted its **third Scorpene-class conventional diesel electric submarine, INS Karanj,** into service.

- Karanj has been equipped with the **best sensors in the world** and is fitted with an integrated platform management system to provide centralised propulsion and machinery control.

- The powerful diesel engines can quickly charge batteries for a stealthy mission profile. Its modular construction enables upgradation to air independent propulsion in future.

- It is fitted with a **permanent magnetic synchronous motor,** making it one of the **quietest submarines in the world.**

- **2021** is being celebrated as the **'Swarnim Vijay Varsh'** which marks **50 years of 1971 Indo – Pak war.**

Scorpene Class Submarines

- Six Scorpene Class submarines are being built in India by the **Mazagon Dock Shipbuilders Limited (MDL) Mumbai,** under collaboration with **M/s Naval Group, France.**
  - The first submarine of the class, **INS Kalvari,** was commissioned in 2017 and the second, **INS Khanderi,** in 2019.
  - A fourth submarine, **Vela,** was launched into the water in 2019 and the fifth, **Vagir,** in 2020, and both are undergoing sea trials.
  - The sixth, **INS Vagsheer,** is in an advanced stage of outfitting.

- The Scorpene Submarines are one of the **most advanced conventional submarines** in the world.

- They are equipped with potent weapons and **sensors to neutralise any threat above or below the sea surface.** The submarine has **superior stealth features,** such as advanced acoustic silencing techniques, **low radiated noise levels** and ability to attack with precision-guided weapons on board.

- The Indian Navy intends to use the submarines for missions such as **area surveillance, intelligence gathering, anti-submarine warfare, anti-surface warfare and minelaying operations.** It can launch crippling attacks on surface and underwater enemy targets.

- Moreover, the attack submarines can travel at a maximum submerged speed of approximately 20 knots and have the **ability to remain submerged for 21 days.** It has a diving depth of more than 350m.

- The Scorpene class of submarines were designed by French naval shipbuilding firm DCNS in partnership with Spanish shipbuilding firm Navantia.

Project 75I

- Project 75 India (P75I) envisages the construction of **six conventional submarines with better sensors and weapons** and the Air Independent Propulsion System (AIP).

- The project has been cleared under the **strategic partnership model.** Under the strategic partnership model, an Indian shipyard will be selected by the government, which will also nominate the foreign original equipment manufacturer (OEM) under the overall arch of 'Make in India'.

- India's current arsenal consists of **14 conventional submarines and two nuclear-powered submarines.**

Air Independent Propulsion

- The strategically important **Air Independent Propulsion (AIP)** crucial for diesel-electric submarines, being developed by the **Defence Research and Development Organisation (DRDO)**, achieved a key milestone by undergoing further **land-based tests** in tune with requirements of the Indian Navy.

- The technology has reached **'maturity'** to be fitted on submarines.

- Indian Navy has **both conventional and nuclear submarines** in its arsenal. The fleet of conventional submarines uses **diesel-electric engines,** which require them to surface almost daily to get atmospheric oxygen for fuel combustion. With the Air Independent Propulsion (AIP) system onboard, these submarines will be required to surface **much less frequently,** thus increasing their **lethality and stealth** multifold.

- While **nuclear-powered** submarines are considered as key assets for deep-sea operations, the **conventional diesel-electric** ones are vital for **coastal defence** and operations close to the shore.

- The project **aims** at fitting the technology on **India's Scorpene-class submarine INS Kalvari** around 2023.

Amendment to Telecom Licensing Conditions

- The **Department of Telecom** has amended **licence conditions for equipment procurement** for telecom companies. The move comes into effect from 15th June 2021.

- Telecom service providers will be able to procure equipment only from **'trusted sources'** as defined by the government.

- It would require service providers to take permission from the **National Cyber Security Coordinator (NCSC)** for upgradation of existing networks utilising equipment not designated as trusted products.

- The government through the Designated Authority (NCSC) will have the right to impose conditions for procurement of telecommunication equipment on **grounds of defence of India, or matters directly or indirectly related thereto, for national security.**

- These directions would **not affect ongoing annual maintenance contracts (AMCs)** or updates to existing equipment already inducted in the network as on the date of effect.

- The NCSC will notify the categories of equipment for which the security requirements related to 'trusted sources' are applicable and may also notify a list of designated sources from whom no procurement can be done.

- NCSC's decisions will be made based on approval of a **committee** headed by the **Deputy National Security Advisor (NSA).**

- NCSC under the **National Security Council Secretariat (NSCS)** coordinates with different agencies at the national level for cyber security matters.

Marine Spatial Planning

- **India and Norway** will work jointly in the area of **marine spatial planning** for the next five years. This is a part of the **Indo-Norway Integrated Ocean Initiative** under the Memorandum of Understanding signed between the two countries in 2019.

- The initiative, known as **Marine Spatial Planning (MSP),** will be implemented by the **Ministry of Earth Sciences (MoES)** through the **National Centre for Coastal Research (NCCR)** for India and the Norwegian Environment Agency through the Ministry of Foreign Affairs, Norway.

- They have identified **Lakshadweep** and **Puducherry** as pilot sites for the project. These sites have been chosen for the pilot project in view of their setups with unique opportunities for multiple sectors (such as industries, fisheries, and tourism) to flourish.

- In the future, marine spatial planning framework of these two environmentally critical areas can be replicated to other coastal regions of the country.

- The project aims to ensure that **human activities at sea take place in an efficient, safe, and sustainable manner** in areas such as energy, transportation, fisheries, aquaculture, tourism across multiple sectors.

- The two countries have decided to **extend support for sustainable ocean resources utilisation** to advance economic and social development in coastal areas.

- It will aid **development of multiple economic sectors** and stakeholders in a greater number of coastal areas of the country.

Space Hurricane

- For the first time, astronomers have detected **a powerful, 600-mile-wide** (1,000 kilometres) hurricane of plasma in **Earth's upper atmosphere** — a phenomenon they're calling a **"space hurricane."**

- Large, swirling **storms called hurricanes** hit frequently in the **Earth's low atmosphere**, but they were **not known to occur in the upper atmosphere.**

- A **space hurricane** is a **huge, funnel-like, spiral geomagnetic** storm that occurs above the **polar Ionosphere** of Earth, during extremely quiet conditions.

- They are related to the **aurora borealis** phenomenon, as the electron precipitation from the storm's funnel produces gigantic, cyclone-shaped auroras.

- Scientists believe that they occur in the polar regions of **planets with magnetic fields.**
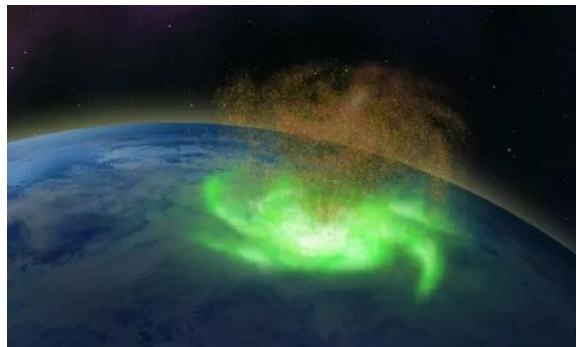
- Space hurricanes are made up of **plasmas, consisting of extremely hot ionized gases** that rotate at extremely high speeds, with rotational speeds reaching up to 7,560 kilometres per hour (4,700 mph).

- In 2020, using observations that had been made on **20 August 2014**, researchers identified a large **space hurricane** that had occurred over the Arctic, that was only uncovered during **retrospective** analysis by scientists.

- The analysis allowed a **3D image** to be created of the **1,000km-wide swirling** mass of **plasma** several hundred kilometres above the North Pole, raining electrons instead of water.

- The space hurricane analysed by the team in Earth's ionosphere was **spinning** in an **anticlockwise direction,** had **multiple spiral arms,** and lasted **almost eight hours** before gradually breaking down.

- The study of space hurricanes will help the scientists to understand the important space weather effects like disturbances in **high-frequency radio communication,** satellite drag, satellite navigation, errors in over-the-horizon radar location and communication systems.

AI Gamechangers Program

- The **National Association of Software and Services Companies (NASSCOM)** has partnered with **Microsoft India** to launch the **'AI Gamechangers' program.**

- Microsoft is the **'Innovation Partner'** for the program.

- As part of NASSCOM's **ÁI for India mission,** the program seeks to recognize impactful and scalable AI-based innovation in the country.

- The program will recognize innovators for their **successful AI implementation at NASSCOM's Xperience AI Summit**, one of the largest AI Summits in India.

- This will serve as a **platform** for startups, enterprises, academia, governments and NGOs to showcase their AI-based products and solutions, providing reach and impetus to drive AI innovation for the country.

National Association of Software and Service Companies (NASSCOM)

- NASSCOM is an Indian **non-governmental** trade association and advocacy group focused mainly on Information Technology (IT) and Business Process Outsourcing (BPO) industry.

- Established in **1988**, **Headquarters** is at New Delhi, India.

- NASSCOM initiated a program called **'10,000 Startups' in 2013**. The purpose of 10000 Startups is to support and impact 10,000 startups in India by 2023.

Udupi Ramachandra Rao

- Google on **10th March 2021** celebrated the 89th birthday of renowned Indian professor and scientist Udupi Ramachandra Rao, remembered by many as **"India's Satellite Man."**

- **Rao (10 March 1932 – 24 July 2017**) was an Indian **space scientist** and **chairman** of the **Indian Space Research Organisation.**

- He was the **first Indian** to be inducted into the **Satellite Hall of Fame**, Washington, in 2013 at a ceremony organised by the Society of Satellite Professionals International.

- He was also the **first Indian** to be inducted into the **International Astronautics Federation (IAF)** in 2016.

- **Born** in a remote village of Karnataka on this day in 1932, Prof Rao began his career as a **cosmic-ray physicist** and **protege of Dr Vikram Sarabhai,** a scientist widely regarded as the father of India's space program.

- After completing his doctorate, Prof Rao brought his talents to the US, where he worked as a professor and conducted experiments on **NASA's Pioneer and Explorer space probes.**

- On his **return to India in 1966**, Prof. Rao initiated an extensive **high-energy astronomy program** at the Physical Research Laboratory, India's premier institution for space sciences, before spearheading his **country's satellite program in 1972.**

- From 1984 to 1994, Prof. Rao continued to propel his nation's space program to stratospheric heights as **chairman of India's Space Research Organization.**

- He **supervised the 1975** launch of India's **first satellite -"Aryabhata"-**one of over 20 satellites he developed that transformed much of rural India by advancing communication and meteorological services.

- He developed rocket technology such as the **Polar Satellite Launch Vehicle (PSLV),** which has launched over 250 satellites.

Space Situational Awareness And Professional Exchange Programme

- **Indian and Japanese space agencies reviewed cooperation** in **earth observation, lunar cooperation** and **satellite navigation**, and also agreed to explore opportunities for cooperation in "**Space Situational Awareness And Professional Exchange Programme**".

- This was agreed upon during a bilateral meeting between the **Indian Space Research Organisation (ISRO)** and the **Japan Aerospace Exploration Agency (JAXA)** held virtually.

- Both agencies signed an **Implementing Arrangement** for collaborative activities on **rice crop area** and **air quality monitoring** using satellite data.

- India and Japan are already working on a joint **lunar polar exploration (LUPEX)** mission and the two space agencies have been working on the mission that aims to send a lander and rover to the **Moon's south pole around 2024.**

- **Cooperation possibilities** in **future space science missions,** utilising **ISRO's PS4-orbital platform (PS4-OP)** space weather studies etc. were discussed. PS4-OP refers to a novel idea formulated by ISRO to use the spent **PS4stage (fourth stage of PSLV)** to carry out in-orbit scientific experiments for an extended duration of one to six months.

- On March 4, 2021, **India and Italy** decided to explore opportunities in earth observation, space science and robotic and human exploration.
- Last month, **India and Australia** signed an amendment to the MoU which will build on the **Comprehensive Strategic Partnership.** Both countries are also in discussions for Australia to host a vital tracking infrastructure to support the **Gaganyaan manned space** flight mission.

Cloud-based 5G Radio Solutions

Finnish telecom equipment maker **Nokia** announced it has partnered with **Microsoft, Amazon Web Services** and **Google** to develop new cloud-based 5G radio solutions with its radio access network (RNA) technology.

Radio Access Network (RAN)

- A **radio access network (RAN)** is part of a mobile **telecommunication system**. It implements radio access technology.
- Conceptually, it resides between a device such as **a mobile phone,** a computer, or any **remotely controlled machine** and provides a connection with its core network (CN).
- Depending on the standard, mobile phones and other **wireless connected devices are varyingly known as user equipment (UE)**, terminal equipment, the mobile station (MS), etc.
- RAN functionality is **typically provided** by a **silicon chip** residing in both the core network as well as the user equipment.

Examples of radio access network types are:

- **GRAN: GSM** radio access network
- **GERAN:** essentially the same as GRAN but specifying the inclusion of **EDGE packet** radio services
- **UTRAN: UMTS** radio access network
- **E-UTRAN:** The **Long-Term Evolution (LTE)** high speed and low latency radio access network

Seabuckthorn Plantations

The Himachal Pradesh government has decided to start planting seabuckthorn in the cold desert areas of the state this year.

What Is Seabuckthorn?

- It's a **shrub** which produces an orange-yellow coloured edible berry. In India, it is **found above the tree line in the Himalayan region,** generally in **dry areas** such as the cold deserts of Ladakh and Spiti.
- It is a salt tolerant plant, but demands full sunlight for good growth and does not tolerate shady conditions near larger trees. It typically grows in dry, sandy areas.

- In Himachal Pradesh, it is **locally called chharma** and grows in the wild in **Lahaul and Spiti and parts of Kinnaur.**

- According to the Seabuckthorn Association of India, around 15,000 hectares in Himachal, Ladakh, Uttarakhand, Sikkim and Arunachal Pradesh are covered by this plant.

- More than 90% of the world's natural sea buckthorn habitat is found in China, Mongolia, Russia, northern Europe, and Canada.

Benefits of Seabuckthorn

- **Medicinal:** As a folk medicine, seabuckthorn has been widely used for treating stomach, heart and skin problems. Its fruit and leaves are **rich in vitamins, carotenoids and omega fatty acids,** among other substances, and it can help troops in acclimatising to high-altitude.

- **Ecological**: Besides being an important source of fuelwood and fodder, seabuckthorn is a soil-binding plant which **prevents soil-erosion**, checks siltation in rivers and helps preserve floral biodiversity.

   In the Lahaul valley, where willow trees are dying in large numbers due to pest attack, this hardy shrub is a good alternative for protecting the local ecology.

- **Economical:** Seabuckthorn also has **commercial value, as it is used in making juices, jams**, nutritional capsules etc. But wild seabuckthorn cannot sustainably supply raw material to the industry, and the plant needs to be cultivated on a large scale as is being done in China.

What Is The Latest Project

- The seabuckthorn association wants the forest departments of various Himalayan states/UTs to plant seabuckthorn on arid and marginal lands using **compensatory afforestation or CAMPA funds.**

- Recently, the Union Ministry Of Environment, Forest And Climate Change asked these states to submit proposals for taking up such plantations, "especially in the light of reduced water flow from Himalayan glaciers and its impact on ecology".

Inert Waste In Asola Sanctuary

- Members of the Ridge Management Board (RMB), constituted an expert committee to look into South Delhi Municipal Corporation's (SDMC) application seeking permission to "dump inert (non-reactive) waste from bio-mining of three landfills in the mines of **Asola Bhatti Wildlife Sanctuary.**

- It has been claimed this inert material is waste in the f**orm of soil and is not chemically active,** the committee will study the impact it can have if it is dumped in the mines.

Ridge Management Board (RMB)

- The RMB, **headed by the chief secretary**, was formed in 1995 on the directions of the apex court, to **preserve the Ridge.**

- The **Ridge is the northern extension of the Aravalli Range**, extending from Tughlaqabad in south-east to the north near Wazirabad, covering a distance of about 35km.

- The Delhi Ridge acts as the **green lungs of the capital** and, through various government orders over the years, all **construction has been banned in the Ridge** in an effort to preserve it.

- While **six of the eight members of the RMB are permanent**, two are nominated environment experts who represent the public interest and ensure transparency in the functioning of the board.

Asola-Bhatti Wildlife Sanctuary

- Asola-Bhatti Wildlife Sanctuary lies at the far southern edge of the city of Delhi, at Asola near Tughlaqabad in the **Delhi National Capital Territory of India.**

- It is located on Southern Ridge, the **northern terminal of Aravalli Hill Range**, one of the oldest mountain system of the world. Biodiversity significance of Ridge lies in its **merger with Indo-Gangetic plains.**

- This protected area contains one of the **last surviving remnants of Delhi Ridge hill range** and **it's semi arid forest** habitat and its dependent wildlife, the northernmost extension of the Aravalli mountains that begin in the state of Rajasthan.

NDC Synthesis Report

UNFCCC in its NDC synthesis report said that the **United Kingdom and the European Union** are the only regions among 18 of the world's biggest emitters that have **significantly increased their greenhouse gas reduction targets.**

Highlights Of The Report

- Of the 197 Parties to the United Nations Framework Convention on Climate Change (UNFCCC), **only 75 have submitted new or updated nationally determined contributions (NDC)** till December 31, 2020. These Parties account for 30 per cent of the global greenhouse emissions.

- Other major emitters either **submitted NDCs presenting a very low increase in their ambition level** or have not presented NDCs yet.

- **UNFCCC called for more ambitious climate action plans** by the countries in order to achieve the Paris Agreement target of containing global temperature rise to two degrees Celsius (ideally 1.5°C) by the end of the century.

- While a majority of countries increased their individual levels of ambition to reduce emissions, their combined impact will help achieve only a 1 per cent reduction by 2030 compared to 2010 levels.

- **Global emissions need to reduce by 45 per cent** in order to meet the 1.5°C goal, according to Intergovernmental Panel on Climate Change.

- An increase in ambition must be accompanied by a significant increase in support for climate action in developing nations.

World Wildlife Day

- On 20 December 2013, the Sixty-eighth session of the **United Nations General Assembly** decided to proclaim **3rd March as World Wildlife Day** to celebrate and raise awareness of the world's wild fauna and flora.

- The date is the day of the adoption of the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)** in 1973, which plays an important role in ensuring that international trade does not threaten the species' survival.

- The Secretariat of the CITES, in collaboration with other relevant United Nations organizations, facilitates the implementation of World Wildlife Day.
- World Wildlife Day will be celebrated in 2021 under the theme "**Forests and Livelihoods: Sustaining People and Planet".**

About CITES

- **CITES is an international treaty** to prevent species from becoming endangered or extinct because of international trade.
- Under this treaty, countries work together to **regulate the international trade of animal and plant species** and ensure that this trade is not detrimental to the survival of wild populations.
- CITES was drafted as the result of a resolution adopted in 1963 at a meeting of the **International Union for the Conservation of Nature (IUCN)** in Nairobi, Kenya.
- Any trade in protected plant and animal species should be sustainable, based on sound biological understanding and principles.
- With 183 Member States, CITES remains one of the world's most powerful tools for biodiversity conservation through the regulation of trade in wild fauna and flora.

Whale Sharks

- A recent study published in Nature, one of the world's leading science journals, states that the **global population of sharks and rays have crashed by over 70% i**n the past five decades.
- According to a report by the Central Marine Fisheries Research Institute**, India** is now the **second largest shark fishing nation** in the world, following Indonesia.

About Whale Sharks

- Whale sharks are **the largest shark,** and indeed largest of any fishes alive today.
- **Habitat**: Whale sharks are found in all the tropical oceans of the world.
- **Characteristics**
  - The maximum size of whale sharks is not known, but could be as large as 20m.
  - They feed on plankton and travel large distances to find enough food to sustain their huge size, and to reproduce. The distribution of whale sharks indicates the presence of plankton and the overall health of our oceans.
  - Their white spotted colouration makes these gentle giants easy to distinguish.
- **Threats**
  - Whale sharks are highly valued on international markets. **Demand for their meat, fins and oil** remains a threat to the species, particularly by unregulated fisheries.
  - They are **victims of bycatch**, the accidental capture of non-target species in fishing gear.

○ **Whale shark tourism** presents a threat to the species as it can interrupt their feeding and sharks can be injured by boat propellers.

- **Conservation**:
  ○ Whale sharks were included in **Schedule I of the Wildlife (Protection) Act of India,** 1972. It was the first-ever species to be protected under this Act, after which the Ganges shark (Glyphis gangeticus) and speartooth shark (Glyphis glyphis) were added to it.
  ○ **IUCN Status:** Endangered.
  ○ **CITES**: Appendix II.

Black-browed Babbler

- Black-browed babbler was **found in Borneo**, 180 years after last sighting. More than 150 species of birds around the world are considered "lost" with no confirmed sightings in the past decade.

- Discoveries like this are incredible and give so much hope that it's possible to find other species that have been lost to science for decades or longer.

- This bird is often called **'the biggest enigma in Indonesian ornithology**.'

- Right now, **nothing is known about the species' population** or whether it is currently threatened with extinction.

- **Habitat**: Subtropical/Tropical Moist Lowland.

- **IUCN Red list Catagory**: Data Deficient.

New Method For Efficient Removal Of Heavy Metals From Water

A research team at the Indian Institute of Technology (IIT) Mandi has developed a fibrous membrane filter for the efficient removal of heavy metals from water.

How It Works?

- The fibrous membrane filter is using a **biopolymer-based material** that helps to separate out the heavy metals from water samples.

- These membranes contain **adsorbents** — materials that attract and hold the metals. One specialty of these adsorbents is that they contain a large amount of a **biopolymer, Chitosan, derived from crab shells** that is mixed with a well-known polymer, Nylon.

- The researchers tested their membrane with copper laden water, to establish proof of principle. According to the researchers' hypothesis, for copper, for example, almost 302 mg of metal ions could be adsorbed per 1 g of adsorbent.

- The **membranes could be reused at least eight times** before there was considerable reduction in the efficiency of metal adsorption. Recovery of the adsorbed metal in a metal-hydroxyl nitrate form was also easy, which is a value-addition to the membrane filter.

Solution Blowing Technique

- While normally, the fibres used to make regular cartridge filter-assemblies are processed by a method called **melt blowing**, the IIT Mandi researchers have used a process called "**solution blowing".**

- Solution blowing produces **fibres that are nanometres in diameter** — a hundred thousand times thinner than a single human hair. When the fibres get finer, their **surface area increases tremendously**, which results in better adsorption of heavy metals.

- Apart from producing nanofibres, solution blowing processes can enable **blending of natural polymers like chitosan and lignin with synthetic polymers** like Nylon.

- Using the solution blowing technique, the IIT Mandi team could **replace 40 % of the nylon with chitosan**, which means 40 per cent less fossil-fuel-derived, polluting plastics.

- The researchers have also observed that while normally absorbent fibres bind to the target metal only at their surface, in their nanofibre membranes, the **adsorption was seen to happen at the sub-surface scale** as well, which translates to higher metal removal efficiency.

Significance

- Heavy metal pollution of water is a serious concern. The problems of arsenic pollution in the Ganga basin are well known in India.

- Groundwater pollution by uranium is prevalent in 16 states of India. Exposure to uranium may lead to numerous adverse health impacts including bone toxicity and impaired renal function.

- Major hazardous metals of concern for India in terms of their environmental load and health effects are lead, mercury, chromium, cadmium, copper, and aluminium, that are released into the water through anthropogenic activities such as mining, manufacturing, electroplating, electronics, and fertilizer production, among others.

Van Dhan Yojana

A total of 1770 Van Dhan Vikas Kendras (VDVKs) have so far been sanctioned in 22 States & one Union Territory for promotion of tribal entrepreneurship and livelihood generations.

About The Scheme

- Pradhan Mantri Van Dhan Yojana (PMVDY) is a **retail marketing led value addition plan for Minor Forest Produce (MFP),** meant for forest-based tribes to optimize the tribal income, locally.

- Under the program, MFP-based tribal groups / enterprises of around 300 members are formed for collection, value addition, packaging & marketing of Minor Forest Produces (MFPs).

- Launched on 14th April, 2018, it is an initiative of the **Ministry of Tribal Affairs and TRIFED**. The scheme will be implemented through Ministry of Tribal Affairs as Nodal Department at the Central Level and TRIFED as Nodal Agency at the National Level.

- Under Van Dhan, 10 Self Help Groups of 30 Tribal gatherers is constituted. The establishment of **"Van Dhan Vikas Kendra" is for providing skill upgradation and capacity building training** and setting up of primary processing and value addition facility. They are then trained and provided with working capital to add value to the products, which they collect from the jungle.

Independent Environment Regulator

The Supreme Court has asked the government to explain why it had not set up an **"independent environment regulator"** to oversee green clearances.

Background

- In 2011, the court had asked the Centre to appoint a national regulator for appraising projects, **enforcing environmental conditions for approvals** and to impose penalties on polluters. While exercising such powers, the regulator will ensure the N**ational Forest Policy, 1988** is duly implemented.

    The court had ordered the setting up of a national environment regulatory body in **Lafarge Umiam Mining Private Limited v. Union of India, 2011** commonly known as the '**Lafarge mining case'.**

- In that order, the court had explained the **need for an independent regulatory mechanism,** saying the "identification of an area as forest area is solely based on the declaration to be filed by the user agency [project proponent]. The project proponent under the existing dispensation is required to undertake EIA (Environmental impact assessment) by an expert body/institution".

- The court had made it clear that till such mechanism was put in place, the Environment Ministry (MoEF) "should prepare a **panel of accredited institutions** from which alone the project proponent should obtain the Rapid Environmental Impact Assessment (EIA) and, that too, on the Terms of Reference to be formulated by the MoEF".

Lafarge Mining case

- Lafarge Umiam Mining Pvt. Ltd. started commercially operating a 100-hectare limestone mine in October 2006 at Phlangkaruh, Nongtrai, **East Khasi Hills district in Meghalaya.**

- It sent the limestone across the India-Bangladesh border on a conveyor belt as raw material for its 2-million-tonne a year capacity cement plant at Chhatak in the neighbouring country.

- The matter reached the Supreme Court when a group of 21 tribal activists under the banner of the **Shella Action Committee** filed a petition alleging **that Lafarge was mining on forest land,** and did not have the required clearances.

Committee To Study Air Pollution In Kerala

- A joint committee appointed by the National Green Tribunal (NGT) to study air pollution in Kerala has recommended the installation of **vapour recovery system at fuelling stations** and **retrofitting of diesel vehicles with particulate filters** to improve air quality.

- The report pointed out that **petrol refuelling stations** were a major source of benzene emissions**,** volatile organic compounds, and particulate matter 2.5 concentration.

- Therefore, installation of vapour recovery system is an important step in improving air quality. This is to be implemented in coordination with the Petroleum and Explosives Safety Organization [PESO].

- The Pollution Control Board has already suggested retrofitting of emission control devices of generators and **replacing diesel generators with gas-based ones.**

- **The short term measures** recommended include

- o Strict action against visibly polluting vehicles (to be initiated by the <u>Motorigzth</u>.. Vehicles Department).
- o Stringent action against industrial units that do not comply with emission norms.
- o Introduction of wet / mechanised vacuum sweeping of roads.
- o controlling dust pollution at construction sites, and
- o ensuring transport of construction materials in covered vehicles.
- **Other recommendations** include promoting battery-operated vehicles and banning old diesel vehicles in a phased manner, greening of open areas, and creation of green buffers along traffic corridors.

Framework For Water Quality Testing, Monitoring

- The **Ministry of Jal Shakti** launched a framework and guidelines for testing, monitoring and surveillance of drinking water quality as well as a **Water Quality Information Management System (WQMIS),** an online portal that provides detailed information on laboratories for this purpose.
- The guidelines have been prepared in consultation with the Indian Council of Medical Research (ICMR).

Guidelines

- The guidelines specify work to be done in terms of surveillance and monitoring at the state, district, block/tehsil and village levels.
- It mandates a network of National Accreditation Board for Testing and Calibration Laboratories **(NABL) accredited labs** to be set up in **every State, district and block** over the next year.
- At the panchayat level, **teams of women in the village water and sanitation committees** will be given field testing kits. Of the ₹3.6 lakh crore Jal Jeevan budget, 2% has been earmarked for quality monitoring.
- **Detailed testing protocols and standards** have been laid out to check for chemical and biological contaminants, which are present in more than half of all blocks, according to a 2018 assessment by the Central Groundwater Board.
- State governments can **include private players as part of the network**, but the Centre has capped tariffs to ensure that they remain within the reach of the common man.
- Apart from voluntary tests by members of the public, **officials have been mandated to do regular inspections.** All results of testing will be fed into the Water Quality Information Management System.
- **The basic water quality parameters** prescribed under the guidelines are pH value, total dissolved solids, turbidity, chloride, total alkalinity, total hardness, sulphate, iron, total arsenic, fluoride, nitrate, total coliform bacteria, e.coil or thermo-tolerant coliform bacteria.

Himachal Pradesh Water Crisis

Himachal Pradesh is likely to face an acute water scarcity this summer, State Water Minister warned the Legislative Assembly this week. It is important to know that why the state with perennial sources of water such as Sutlej and Beas rivers is staring at a water crisis? The reasons are --

- Himachal Pradesh has **received less snow and rain this winter.** After winter, melt-water from glaciers and the snow cover regularly feeds the groundwater as well as other downhill water sources such as springs, wells, bawries, lakes, rivulets, streams and rivers.

- But water sources have already started drying up this year due to deficient snowfall. According to the Indian Meteorological Department, the state received only 59 millimetres of precipitation this winter (January 1 to February 28), which **was 69 per cent less than normal.**

- Generally, over the decades, demand for water has been growing due to **increasing population in the state**, with people now relying more on piped water supply schemes rather than traditional sources such as springs and bawries.

- Rainfall patterns, too, have become erratic. During dry periods, water sources dry up quickly in some areas, especially in the **Shiwalik hills where the water-holding capacity of the soil is low.**

Proposed Solutions

- **Installation of hand-pumps and borewells** was stopped last year in view of depleting water table. But it has to be resumed now wherever necessary.

- **Water harvesting tanks** will be built throughout the state and all MLAs has to start building rainwater harvesting structures in their constituencies.

- A large number of habitations in Himachal Pradesh are not connected by road, but the connected villages will be provided **water tankers during periods of shortage**.

- In future, the Jal Shakti department will try to explore the option of "**snow harvesting**" in the higher reaches.

Inter-State Tiger Relocation Project

Sundari — a tigress shifted as part of India's first inter-state translocation project in 2018 from Madhya Pradesh to Odisha — returned home.

What Was The Tiger Relocation Project

- The tiger relocation project was **initiated in 2018** wherein two big cats, a male (Mahavir) from Kanha Tiger Reserve and a female (Sundari) from Bandhavgarh from Madhya Pradesh were **relocated to Satkosia Tiger Reserve in Odisha**, to shore up the tiger population in the state.

- The relocation was meant to **serve two purposes**

  o Reducing tiger population in areas with excess tigers to majorly reduce territorial disputes.

  o To reintroduce tigers in areas where the population has considerably reduced due to various reasons.

- The project was estimated with a budget of Rs 19 crore and was started under the project of "augmentation and recovery of tiger population in Satkosia tiger reserve". Six tigers (three pairs) from different reserves of Madhya Pradesh were to be sent to Odisha under the project.

Outcome Of The Project

- After a few weeks of project initiation, there were **severe objections by villagers** living on the sidelines of the forest, which eventually turned out to be a poll-bound issue for general elections to be held in 2019.

- **Villagers reportedly burned down forest department offices** and attacked the officials due to the danger of having big cats in the neighbourhood. They felt that their **lives and livestocks were endangered** and alleged that their **consultation was not taken in account** and neither any information was given to them prior to relocation.

- After a few months, Mahavir was found dead and a field inspection report claimed poaching as the cause of death. Then some reports of a woman's death along with the killing of another person surfaced and Sundari was alleged as the cause of death. Sundari was then tranquilised and was shifted to an enclosure at Raigoda. Following this, the **NTCA project was suspended.**

Factors Contributed To The Likely Failure Of The Project

- The major reason which contributed to the failure of the project was the **lack of confidence and trust building** between the forest department and the villagers.

- **Protection was not up to the mark** and the only undisturbed, prey rich habitat was already occupied by the old resident tigress causing Sundari to occupy human dominated, disturbed areas.

- **The translocation was done in haste.** The field staff and tiger reserve management were not prepared. Capacity for tiger monitoring was poor.

Earth Hour

- This year Earth Hour will be held on March 27, 2021. It is held annually on the last Saturday of March.

- Earth Hour is a global movement **started by the World Wide Fund for Nature** or the WWF in March 2007 at Sydney.

- WWF had encouraged 2.2 million people to turn off their lights for one hour. This hour showcases the need to take action on the pressing issue of global climate change. Earth Hour promotes awareness about environmental issues on a public platform.

About 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 the 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.

International Day of Forests

- The **United Nations** observes March 21 as the International Day of Forests, commemorating the green cover around the world and reiterating its importance.

- Theme for 2021: "**Forest Restoration: A Path To Recovery And Well-Being".**

- This year's theme fits into the **UN Decade on Ecosystem Restoration (2021-2030),** a call for the protection and revival of ecosystems around the world.

Why is International Day of Forests Celebrated

- The **United Nations General Assembly** proclaimed March 21 as the International Day of Forests (IDF) in 2012.

● The Day is celebrated by the **United Nations Forum on Forests and the Food and Agriculture Organization of the United Nations (FAO),** in collaboration with governments, the Collaborative Partnership on Forests and other relevant organisations in the field.

Forest Cover In India

● Since Independence, a **fifth of India's land has consistently been under forests,** despite the population increasing more than three times.

● As per the biennial State of Forest Report, 2019, **India's forest cover has increased by 3,976 sq km or 0.56% since 2017**. **The Total Forest and Tree cover is 24.56% of the geographical area** of the country. For the second consecutive time since 2007, the report recorded a gain — an impressive 1,275 sq km — in dense forest (including very dense forest with a canopy density of over 70%, and moderately dense forest with a canopy density of 40-70%).

New Red Algal Seaweed Species

● A group of marine botanists have discovered two new seaweed species along India's coastline.

● Two new red algal seaweed species (Hypnea Indica and Hypnea Bullata), which can be a potential raw material for those involved in jelly and ice cream production, have been discovered along the coasts of Kanyakumari in Tamil Nadu and in Gujarat and Daman Diu.

● The researchers said that the seaweeds thrived on rocks that submerged during high tides and remain exposed during low tides at these locations.

Hypnea indica sp. nov.   *Hypnea bullata* sp. nov.

● These species were **not abundantly found** but were growing in isolated patches, mainly in the intertidal regions of the sea.

● Commercially, **Hypnea variants of seaweeds can fetch good monetary value** if commercial-scale cultivation is taken up. Hypnea contains **Carrageenan**, a biomolecule commonly used in the food industry. But, seaweed cultivation in India remains unpopular.
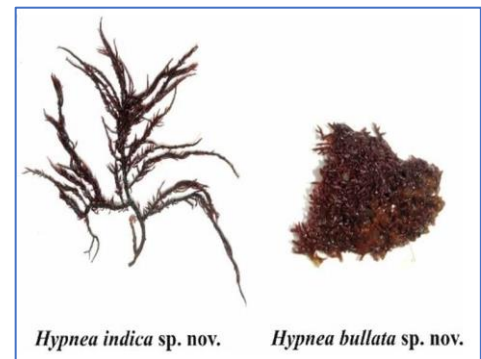
African Elephants

● Following population declines over several decades due to poaching for ivory and loss of habitat, the **African forest elephant** is now listed as **Critically Endangered** and the **African savanna elephant as Endangered** on the IUCN Red List of Threatened Species.

● Previously IUCN had treated both elephants together which it considered as "**vulnerable**" but opted to separate them following genetic evidence that they are different species.

● The number of **African forest elephants fell by more than 86% o**ver a period of 31 years, while the population of **African savanna elephants decreased by at least 60%** over the last 50 years, according to the assessments.

About African Elephants

- African elephants are the **largest land animals on Earth**.

- Scientists have determined that there are actually two species of African elephants. Savanna elephants are larger animals that roam the plains of sub-Saharan Africa, while forest elephants are smaller animals that live in the forests of Central and West Africa.

- **Type:** Mammals.

- **Diet:** Herbivore.

- **Characteristics:**

  o Elephant ears radiate heat to help keep these large animals cool.

  o Both male and female African elephants have tusks, which are continuously growing teeth. Savanna elephants have curving tusks, while the tusks of forest elephants are straight.

  o Elephants are matriarchal, meaning they live in female-led groups.

- **Threats to survival:** Poaching for the illegal ivory trade is the biggest threat to African elephants' survival. African elephants are also losing their habitat as the human population grows and people convert land for agriculture and development.

Caracal

- The National Board for Wildlife and Union Ministry of Environment, Forest and Climate Change included the **caracal in the list of critically endangered species.**

- Though not under grave threat in its other habitats, the animal is on the verge of extinction in India.

- The recovery programme for critically endangered species in India now includes 22 wildlife species.

About Caracal

- It is a **medium-sized wildcat** found in parts of Rajasthan, Gujarat. Besides India, the caracal is found in several dozen countries across Africa, the Middle East, Central and South Asia.

- The earliest evidence of the caracal in the subcontinent comes from a **fossil** dating back to the **civilisation of the Indus Valley** c. 3000-2000 BC. In India, it is called **siya gosh,** a Persian name that translates as 'black Ear'.

- **Firuz Shah Tughlaq** (1351-88) had siyah-goshdar khana, stables that housed large numbers of coursing caracal. It finds mention in Abul Fazl's Akbarnama, as a **hunting animal in the time of Akbar (1556-1605)**. Descriptions and illustrations of the caracal can be found in medieval texts such as the **Anvar-i-Suhayli, Tutinama, Khamsa-e-Nizami, and Shahnameh.**

- The East India Company's **Robert Clive** is said to have been presented with a caracal after he defeated Siraj-ud-daullah in the Battle of Plassey (1757).

- **Habitat**: Caracals live in the drier savannah and woodland regions of sub-Saharan Africa, and prefer the more scrubby, arid habitats. They will also inhabit evergreen and montane forests but are not found in tropical rain forests.

- **Threats**: The caracal is rarely hunted or killed — in recent years, cases have been detected of the animal being captured to be sold as exotic pets — and the decline of its population is attributable mainly to loss of habitat and increasing urbanisation.

- **Status**:
  - o   IUCN: Least concern;
  - o   CITES: Appendix II.

Greater One-Horned Rhino

Political parties are frequently invoking Assam's world-famous one-horned rhino to connect with the people of the state and the animal has now become a part of poll rhetoric, with promises to save "the pride of Assam".

About Greater One-Horned Rhino

- **Physical Description:** The greater one-horned rhinoceros is the **largest of the three Asian rhinos** and, together with African white rhinos, is the largest of all rhino species. Males can weigh up to 2.7 tonnes.

- **Location**: The Greater one-horned rhino can be found in **India and Nepal, particularly in the foothills of the Himalayas.** In the past, Greater one-horned rhinos roamed freely in the floodplains and forests alongside the Brahmaputra, Ganges and Indus River valley.

- **Habitat**: Greater one-horned rhinos are **semi-aquatic** and often take up residence in swamps, forests and riversides, and anywhere that is near nutritious mineral licks.

- **Threats:** The biggest threat that Greater one-horned rhinos face is human harassment and encroachment. For centuries, rhinos have been hunted for sport and for their horn. In the early 19th century, the Greater one-horned rhino was almost hunted to extinction.

- **Conservation status:**
  - o   **IUCN Red List:** Vulnerable.
  - o   **CITES**: Appendix I.
  - o   **Wildlife Protection Act, 1972**: Schedule I.

Miscellaneous

- Computer maker **HP** made its **first ever consumer PC** using **plastic waste in the ocean,** a move that builds on the company's **sustainability commitment.** Newly launched Pavilion 13, Pavilion 14, and Pavilion 15 Laptops were manufactured using ocean-bound plastics.

- Indian Air Force Chief Marshal RKS Bhadauria visited Colombo to attend the **70th-anniversary celebrations of the Sri Lankan Air Force**.

  o The air show at Colombo also saw participation by an IAF contingent comprising Suryakiran and Sarang aerobatic display teams and Tejas LCA.

  o The participation of Tejas is significant as India is looking at the **fighter jet as a potential export option**.

  o India has **listed out 156 defence equipment** that has been cleared for exports which include the indigenous Light Combat Aircraft Tejas, artillery guns, battle tanks and missiles, anti-tank mines, and explosives.

- The Special Forces Training School of the Indian Army has commenced training of paratroopers from the **Turkmenistan Special Forces** in Combat Free Fall. This training is seen as a precursor to a series of other customised professional courses which will assist in capability enhancement of Turkmenistan Special Forces.

- The Department of Science and Technology has announced that the *Indo-US Science and Technology Forum- IUSSTF* has launched the **US India Artificial Intelligence Initiative**. It will focus on AI cooperation in the critical areas that are priorities for both nations.

- The UN Office of the High commissioner on Human Rights has issued a **short video on gender equalit**y. It was released on the **4ᵗʰ Anniversary of the United Nations Faith for Rights declaration**. This video contains a stanza from Guru Granth Sahib.

- At the United Nations Human Rights Council (UNHRC), **India abstained on one resolution** on the human rights situation in Palestine. However, it **voted in favour of three other resolutions condemning Israel** on the Golan Heights, its expansion of Israeli settlements in the Occupied Territories and **in support of the right to self-determination of the Palestinian people**.