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April (Week 4)

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Prelims

NATIONAL

Hot Springs and Gogra Post

(Source: Indian Express)

Context: *During the 11th round of discussions between the senior military commanders of India and China on April 9, to resolve the over 11-month long standoff in eastern Ladakh,* ***China had refused to vacate two of the four original friction points****. China, according to the source, informed India that it should be "happy" with what has been achieved regarding the disengagement in the Pangong Tso area. At two friction points,* ***Patrolling Point 15 (PP15) in Hot Springs, and PP17A near Gogra Post****, China still has a platoon-level strength each, along with vehicles.*

What had happened here last year?

- In May 2020 when China had diverted its troops who had come to the Tibetan plateau region for their annual exercise, towards the Line of Actual Control (LAC) in eastern Ladakh, creating a standoff with India, PP15 and PP17A were two of the four points where the soldiers were eyeball-to-eyeball.
- The other points of friction at that time were PP14 in Galwan Valley and the north bank of Pangong Tso. Chinese troops had crossed the LAC at all these points and positioned themselves across.
- The maximum ingress was on the north bank of Pangong Tso, where the Chinese troops were at Finger 4, which is 8 km west of Finger 8 where India says the LAC lies.

What are PP15 and 17A?

- Along the Line of Actual Control (LAC) between India in China, Indian Army has been given certain locations that its troops have to access to patrol the area under its control. These points are known as patrolling points, or PPs, and are decided by the China Study Group (CSG).
- CSG was set-up in 1976, when Indira Gandhi was the prime minister, and is the apex decision-making body on China.
- Barring certain areas, like Depsang Plains, these patrolling points are on the LAC, and troops access these points to assert their control over the territory. It is an important exercise since the boundary between India and China is not yet officially demarcated.
- PP15 and PP17A are two of the 65 patrolling points in Ladakh along the LAC. (Some of these 65 also have an additional Alpha PPs, which are further ahead from the original PPs. So PP17A is different from, but close to, PP17.)
- PP15 is located in an area known as the Hot Springs, while PP17A is near an area called the Gogra post.

Where are these two areas?

- Both of these are close to the Chang Chenmo river in the Galwan sub-sector of the LAC in eastern Ladakh. While Hot Springs is just north of the Chang Chenmo river, Gogra Post is east of the point where the river takes a hairpin bend coming southeast from Galwan Valley and turning southwest.
- The area is north of the Karakoram Range of mountains, which lies north of the Pangong Tso lake, and south east of Galwan Valley, which became a major flashpoint and a violent faceoff in June 2020 had left 20 Indian and at least four Chinese troops dead.

What is the importance of this region?

- The area lies close to Kongka Pass, one of the main passes, which, according to China marks the boundary between India and China. India's claim of the international boundary lies significantly east, as it includes the entire Aksai Chin area as well.
- During the official negotiations on the boundary between India and China in 1960, Yang Kung-su, who was the Tibet Bureau of Foreign Affairs in the Chinese Foreign Office, had stated that the Western Sector of the boundary "is divided into two portions, with Kongka Pass as the dividing point" and the portion "north of Kongka Pass is the boundary between Sinkiang (now Xinjiang) and Ladakh, and the portion south of it is that between Tibet and Ladakh".
- Thus, Hot Springs and Gogra Post are close to the boundary between two of the most historically disturbed provinces of China.

Aditya-L1

(Source: The Hindu)

Context: *The Indian programme to study the Sun and the region between the Sun and the Earth from space – Aditya-L1 – is due to be launched next year. It will carry seven payloads which have been developed by various institutions across the country. Once the mission is launched, there will be a need for a ground support centre to monitor and coordinate the work on its various payloads. This role will be played by the ARIES facility (short for Aryabhata Research Institute for observational Sciences) which is situated near Nainital.*

About Aditya L1 Mission

- D The objective of Aditya L1 mission is to study Sun's Corona, Chromosphere and Photosphere. In addition, it will study the particle flux emanating from Sun, and the variation of magnetic field strength.
- It was launched using the Polar Satellite Launch Vehicle (PSLV) XL
- Unlike other missions lead by ISRO, Mission Aditya L1 comprises few moving components which may be a cause of collision in space
- Given below is a list of payloads which have been used for the mission:
    - Visible Emission Line Coronagraph (VELC)
    - Solar Ultraviolet Imaging Telescope (SUIT)
    - Aditya Solar wind Particle Experiment (ASPEX)
    - Plasma Analyser Package for Aditya
    - Solar Low Energy X-ray Spectrometer (SoLEXS)
    - High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)
    - Magnetometer
- The main objective of the Aditya L1 Mission is that it will help in tracking Earth-directed storms and predict its impact through solar observations

Why did ISRO Rename Aditya 1 Mission as Aditya L1 Mission?

- Aditya-1 mission was planned for observing only the Corona of Sun. The reason behind Corona getting heated to very high temperatures is still a mystery in Solar Physics.
- Aditya -1 mission involved placing the satellite in 800 Km low earth orbit. Later ISRO planned to place the satellite in the halo orbit around the Lagrangian Point (L1). L1 is 1.5 Million Km from the Earth.
- This point provides the advantage of observing the Sun continuously without any disturbance. Hence the mission was renamed as Aditya L1 mission.

Which is the Launch Vehicle that will be Used to Launch Aditya L1 Mission?

- The satellite will be launched by PSLV-XL launch vehicle from Sriharikota.

Eudiscopus denticulus

(Source: The Hindu)

Context: *Meghalaya has yielded India's first bamboo-dwelling bat with sticky discs, taking the species count of the flying mammal in the country to 130.*

Details:

- The disc-footed bat (Eudiscopus denticulus) was recorded in the northeastern State's Lailad area near the Nongkhyllem Wildlife Sanctuary, about 1,000 km west of its nearest known habitat in Myanmar.
- A team of scientists from the Zoological Survey of India (ZSI) and a few European natural history museums stumbled upon this "very specialised" small bat with "disc-like pads in the thumb and bright orange colouration" while sampling in a bamboo patch almost a year ago.
- The newly recorded bat was presumed to be a bamboo-dwelling species, but its flattened skull and adhesive pads helped in identifying it as the disc-footed known from specific localities in southern China, Vietnam, Thailand and Myanmar.
- Scientists analysed the very high frequency echolocation calls of the disc-footed bat, which was suitable for orientation in a cluttered environment such as inside bamboo groves.
- The disc-footed bat has raised Meghalaya's bat count to 66, the most for any State in India. It has also helped add a genus and species to the bat fauna of India.

Rafale Fighter Jets

(Source: The Hindu)

Context: *The Chief of the Air Staff (CAS), Air Chief Marshal R.K.S. Bhadauria, will flag off the next batch of Rafale fighter jets to India, according to a defence source.*

Rafales

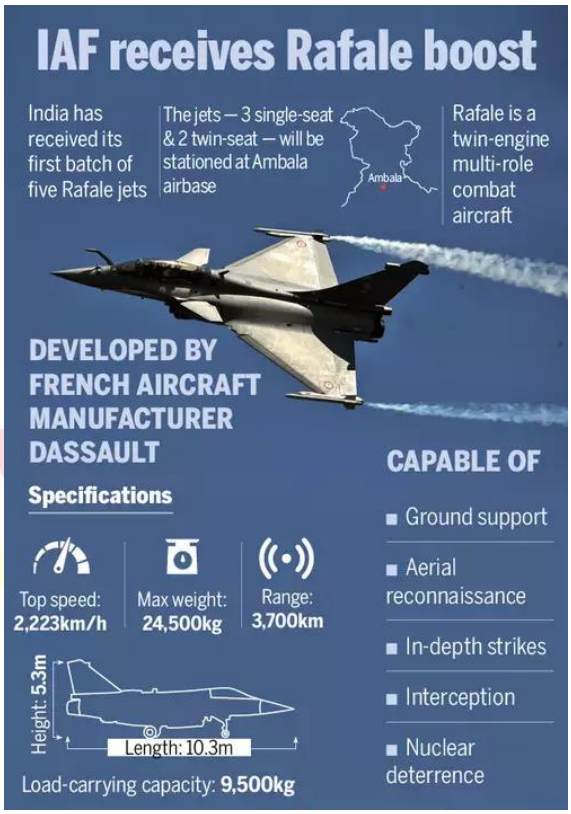
- Introduced in 2001, the Rafale is a French twin-engine **and** multirole fighter aircraft designed and built by Dassault Aviation being produced for both the French Air Force and for carrier-based operations in the French Navy.
- India has inked a Rs 59,000-crore deal in 2016 to procure 36 Rafale jets from French aerospace major Dassault Aviation after a nearly seven-year exercise to procure 126 Medium Multi-Role Combat Aircraft (MMRCA) for the Indian Air Force did not fructify.
    - The MMRCA deal was stalled due to disagreements over production in India.
    - In comparison to the earlier deal i.e. MMRCA, Rafale has much technological advancement, lower life cycle cost and specifications according to the warfare needs of India.

Specification

- **Air Supremacy:** Equipped with a wide range of weapons, the Rafale is intended to perform air supremacy, interdiction (act of disrupting), aerial reconnaissance (observation to locate an enemy), ground support, in-depth strike, anti-ship strike and nuclear deterrence missions.
- **Wide Range of Weapons:** Meteor missile, Scalp cruise missile and MICA weapons system will be the mainstay of the weapons package of the Rafale jets.

- **Meteor:** It is the next generation of Beyond Visual Range (BVR) air-to-air missile (BVRAAM) designed to revolutionise air-to-air combat.
  - The Meteor missile can target enemy aircraft from 150 km away. It can destroy enemy aircraft before they actually even get close to the Indian aircraft.
- **SCALP Cruise Missiles:** It can hit targets 300 km away**.**
- **MICA Missile System:** It is a very versatile air-to-air missile**.** It comes with a radar seeker and can be fired for the short-range to long-range as well right up to 100 km.
  - It's already in service with the IAF i.e. Mirages and is the primary weapon system of Rafales as well.

- **Air to Air Target:** The ability to strike air-to-air targets from up to 150 km away and safely hit land targets 300 km within enemy territory make them some of the deadliest fighter jets flying in the world.
- **Flight Hours:** The aircraft has 30,000 flight hours in operations**.**



Asset Reconstruction Companies

(Source: The Hindu)

Context: *The RBI set up a committee to undertake a comprehensive review of the working of asset reconstruction companies (ARCs) in the financial sector ecosystem and recommend suitable measures for enabling them to meet the growing requirements.*

What are Asset Reconstruction Companies (ARCs)?

- An Asset Reconstruction Company is a specialized financial institution that buys the NPAs or bad assets from banks and financial institutions so that the latter can clean up their balance sheets.
- In other words, ARCs are in the business of buying bad loans from banks.

Background

- At the time of the Asian Financial Crisis, India's non-performing assets stood at a whopping 14.4 per cent. It was in this context that the Narasimham Committee (1998) recommended setting up an ARC specifically for purchasing NPAs from banks and financial institutions
- Following this, the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest **(SARFAESI) Act, 2002 was enacted in December 2002 which provides the legal basis for the setting up ARCs in India**
- The asset reconstruction companies or ARCs are registered under the RBI
- It helps the bank clear up its balance sheets and concentrate in normal banking activities
- The ARCs take over a portion of the debts of the bank that qualify to be recognised as Non-Performing Assets. Thus ARCs are engaged in the business of asset reconstruction or securitisation or both
- The ARC can take over only secured debts which have been classified as a non-performing asset (NPA)

- A few of the existing ARCs in India, which are being regulated by the Reserve Bank of India include:
  - Asset Reconstruction Company (India) Limited (ARCIL)
  - ASREC (India) Limited
  - Reliance Asset Reconstruction Company Limited
  - India SME Asset Reconstruction Company Limited (ISARC)
  - International Asset Reconstruction Company Private Limited; and more

Asset Reconstruction Companies in the Union Budget 2021-22 – Key Points

- Bad loans of Indian lenders have increased in several years. The gross bad loans in the banks could increase to 13.5% by September 2021 (in the worst-case scenario, 14.8% – highest in two decades)
- Thus, ARCs can control this increase by setting up an Asset Management Company (AMC) which would manage and sell bad assets
- The bad bank would be transferring the NPAs to an entity (Asset Management or Asset Reconstruction Company) and dispose of the assets to Alternate Investment Funds (AIF)
- They would basically take over the bad loans in Public Sector Banks and manage the recoveries
- As of 2020, stressed assets of Rs. 2-2.5 lakh crore remain unsolved in approximately 70 large accounts

Capital Needs for Asset Reconstruction Companies

- As per the amendment made in the SARFAESI Act in 2016, an ARC should have a minimum net owned fund of Rs. 2 crores. This was later increased to Rs.100 crores.
- The ARCs also have to maintain a capital adequacy ratio of 15% of their risk-weighted assets

How do ARCs work?

- The banks will transfer the stressed assets to ARC at the net book value.
- The bank will in return receive 15% cash and 85% security receipts against the amount of bad loan from the Asset Management Company.

India at 142nd rank on press freedom index

(Source: The Hindu)

Context: *The World Press Freedom Index, 2021, produced by Reporters Without Borders (RSF), a French non-governmental organisation, has again ranked India at 142nd out of 180 countries. This is despite the fact that for a year, on directions from Cabinet Secretary Rajiv Gauba, an index monitoring cell worked to improve the rankings, even holding a meeting between the Indian Ambassador to France and the RSF officials to lobby for a change in the ranking.*

Details:

- In 2016, India's rank was 133, which has steadily climbed down to 142 in 2020.
- The RSF report says India is one of the world's most dangerous countries for journalists trying to do their job properly. They are exposed to every kind of attack, even police violence against reporters, ambushes by political activists, and reprisals instigated by criminal groups or corrupt local officials.
- In February last year, fearing such an adverse assessment, the cell was set up in 18 Ministries to find ways to improve the position on 32 international indices.
- The Information and Broadcasting Ministry was delegated to look at the freedom of press index.
- The minutes of this September meeting are part of the report of the cell. Mr. Ashraf said the openness of the government to be criticised and questioned with respect to subjects such as economy, international affairs and defence deals such as Rafale were indicators of press freedom.

- The RSF representatives, however, questioned the Internet ban in Jammu and Kashmir from August 5, 2019, which went on for nearly a year. The Ambassador said the shutdown was for the security of the region.

Why India's oil and gas production is falling?

(Source: Indian Express)

Context: *India's crude oil production fell by 5.2 per cent and natural gas production by 8.1 per cent in the FY21 as producers extracted 30,491.7 Thousand Metric Tonnes (TMT) of crude oil and 28670.6 Million Metric Standard Cubic Metres (MMSCM) of natural gas in the fiscal. While Covid-19 related delays are among the key reasons cited by producers behind lower production, India's crude oil and natural gas production have been falling consistently since 2011-12.*

Why is India's crude oil and natural gas production falling?

- Experts have noted that most of India's crude oil and natural gas production comes from ageing wells that have become less productive over time.
- An industry source, who did not wish to be named, noted that "there was no more easy oil and gas" available in India and that producers would have to invest in extracting oil and gas using technologically intensive means from more difficult fields such as ultradeepwater fields.
- Crude oil production in India is dominated by two major state-owned exploration and production companies, ONGC and Oil India.
- These companies are the key bidders for hydrocarbon blocks in auctions and were the only successful bidders in the fifth and latest round of auctions under the Open Acreage Licensing Policy (OALP) regime with ONGC bagging seven of the eleven oil and gas blocks on offer and Oil India acquiring rights for the other four.
- Experts noted that interest from foreign payers in oil and gas exploration in India had been low. The government has asked ONGC to boost its investments in explorations and increase tie-ups with foreign players to provide technological support in extracting oil and gas from difficult oil and gas fields.

Why is there a lack of private participation?

- One of the key reasons cited by experts for low private participation in India's upstream oil and gas sector are delays in the operationalisation of hydrocarbon blocks due to delays in major clearances including environmental clearances and approval by the regulator of field development plans.
- The government official quoted above said the government was reaching out to major foreign players to convey that the current system of auction and regulation was much more "open and transparent" than before.
- Oil Secretary Tarun Kapor had recently noted that the government may consider providing fiscal incentives to attract foreign players to India's upstream sector.
- Industry players have been calling for a reduction in the cess on domestically produced crude oil to 10 per cent from the current 20 per cent. A government official noted that internal maximum production levels set by oil and gas majors to address climate change had also lowered interest by oil majors to expand operations in India.

What is the impact of low oil and gas production?

- Low domestic production of crude oil and natural gas makes India more reliant on imports.
- The share of imports as a proportion of overall crude oil consumption in India has risen from 81.8 per cent in FY2012 to 87.6 per cent in FY2020.

- Boosting oil and gas production has also been a key part of the government's Aatmanirbhar Bharat initiative and its goal to boost the use of natural gas in India's primary energy mix from the current 6.2 per cent to 15 per cent by 2030.

World Heritage Day 2021

(Source: PIB)

Context: *World Heritage Day, also known as International Day for Monuments and Sites, is being observed on 18 April every year.*

About World Heritage Day:

- The day is dedicated to the conservation and promotion of cultural heritage through various activities undertaken by the International Council on Monuments and Sites (ICOMOS).
- To mark World Heritage Day, various programmes and tours are organised by heritage sites.
- In 1982, ICOMOS suggested United Nations Educational, Scientific and Cultural Organization (UNESCO) that April 18 should be celebrated as the International Day for Monuments and Sites.
- UNESCO approved the proposal during the 22nd General Conference in 1983.
- The day is observed to raise awareness about the cultural heritage that we see around us. It is also aimed at promoting historical monuments and sites through which we can actually preserve the cultural integrity of a community as well.
- The theme for World Heritage Day 2021 is "Complex Pasts: Diverse Futures".

UNESCO Natural World Heritage Sites

UNESCO Natural World Heritage sites are those sites with distinctive cultural facets such as geological formations, physical, biological and cultural landscapes.

Natural World Heritage Site	State	Year of Notification
Kaziranga National Park	Assam	1985
Keoladeo Ghana National Park	Rajasthan	1985
Manas Wildlife Sanctuary	Assam	1985
Nanda Devi National Park and Valley of Flowers	Uttarakhand	1988, 2005
Sundarbans National Park	West Bengal	1987
Western Ghats	Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala	2012
Great Himalayan National Park	Himachal Pradesh	2014

UNESCO Cultural World Heritage Sites

UNESCO Cultural World Heritage sites are those sites with unique cultural facets such as Paintings, monuments, architecture, etc.

Cultural World Heritage Site	State	Year of Notification
The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement	Chandigarh	2016
Victorian and Art Deco Ensemble of Mumbai	Maharashtra	2018
Historic City of Ahmedabad	Gujarat	2017
Jaipur City	Rajasthan	2020
Archaeological Site of Nalanda Mahavihara (Nalanda University)	Bihar	2016
Rani-Ki-Van	Gujarat	2014
Hill Forts of Rajasthan	Rajasthan	2013
The Jantar Mantar	Rajasthan	2010
Red Fort Complex	Delhi	2007
Champaner-Pavagadh Archaeological Park	Gujarat	2004
Chhatrapati Shivaji Terminus	Maharashtra	2004
Rock Shelters of Bhimbetka	Madhya Pradesh	2003
Mahabodhi Temple Complex at Bodh Gaya	Bihar	2002
Mountain Railways of India	Tamil Nadu	1999
Humayun's Tomb, Delhi	Delhi	1993
Qutb Minar and its Monuments, Delhi	Delhi	1993
Buddhist Monuments at Sanchi	Madhya Pradesh	1989
Elephanta Caves	Maharashtra	1987
Great Living Chola Temples	Tamil Nadu	1987
Group of Monuments at Pattadakal	Karnataka	1987
Churches and Convents of Goa	Goa	1986
Fatehpur Sikri	Uttar Pradesh	1986
Group of Monuments at Hampi	Karnataka	1986
Khajuraho Group of Monuments	Madhya Pradesh	1986
Group of Monuments at Mahabalipuram	Tamil Nadu	1984
Sun Temple, Konarak	Orissa	1984
Agra Fort	Uttar Pradesh	1983
Ajanta Caves	Maharashtra	1983
Ellora Caves	Maharashtra	1983
Taj Mahal	Uttar Pradesh	1983

UNESCO Mixed World Heritage Sites
A mixed site comprises components of both natural and cultural importance:

Mixed World Heritage Site	State	Year of Notification
Khangchendzonga National Park	Sikkim	2016

Temples of Khajuraho

(Source: PIB)

Context: *Ministry of Tourism organises webinar on "Khajuraho – Temples of Architectural Splendour" under Dekho Apna Desh.*

About the Khajuraho Historical Temples:

- Khajuraho Temples were built between 950-1050 CE by the Chandela Dynasty.
- The temples are categorised into three groups that is Eastern, Western and Southern.
- These temples display intricate & exceptional carvings and astounding architectural skill which makes Khajuraho one of the most popular tourist destinations among domestic as well as international visitors.
- Some of the most prominent temples here are Kandariya Mahadev Temple, Chaunsat Yogini Temple, Brahma Temple, Chitragupta Temple, Devi Jagdamba Temple, Lakshmana Temple, Matangeshwar Temple and Parsvanath Temple.

RBI plans and an upcoming Bill on Cryptocurrency

(Source: Indian Express)

Context: *Uncertainty over the legal status of cryptocurrencies is unnerving Indian investors who, according to unofficial estimates, hold around $1.5 billion (Rs 10,000 crore) in digital currencies. The government, which plans a law to ban private digital currencies, favours a digital currency backed by the Reserve Bank of India.*

The proposed law

- The Cryptocurrency and Regulation of Official Digital Currency Bill, 2021, which will prohibit all private cryptocurrencies and lay down the regulatory framework for the launch of an "official digital currency", was to be introduced in Parliament's Budget session, but was held up as the government continues discussions with stakeholders.
- A 3-6 month exit period prior to banning the trading, mining and issuing of cryptos has been discussed in inter-ministerial discussions.
- The high-power inter-ministerial committee has previously recommended a ban on all private cryptocurrencies. The final draft Bill is yet to go to the Cabinet, a source said.

RBI and digital currency

- RBI had said central banks are exploring DLT (Distributed Ledger Technology) for application in improving financial market infrastructure, and considering it as a potential technological solution in implementing central bank digital currency (CBDC).
- Sources indicated the government is open to supporting a central bank-backed digital currency.

- A recent survey of central banks conducted by the Bank for International Settlements found that some 80 per cent of the 66 responding central banks have started projects to explore the use of CBDC in some form, and are studying its potential benefits and implications for the economy.
- RBI had expressed concern over other cryptocurrencies, saying they can be used for illegal activities, and pose a threat to financial stability.
- In April 2018, RBI banned banks and other regulated entities from supporting crypto transactions after digital currencies were used for frauds. In March 2020, the Supreme Court struck down the ban as unconstitutional. One of the reasons it gave was that cryptocurrencies, though unregulated, were not illegal in India.
- Various start-ups dealing with cryptocurrency have come up in India, such as Unocoin in 2013 and Zebpay in 2014 (Tracxn, 2019). But volatility in Bitcoin prices and instances of fraud have underlined regulatory concerns, RBI says.
- Both the government and RBI have said they have not authorised or issued regulation for any entity to deal with cryptocurrencies, and individuals dealing with them would bear all risks. RBI has issued several warnings against dealing in cryptocurrencies.

Hospet-Vasco Da Gama project

(Source: Down to Earth)

Context: *A project to double a railway track in the Western Ghats was cleared by the Standing Committee of the National Board for Wildlife (NBWL) on January 5, 2021, despite warnings against it by government-appointed experts.*

Details:

- A committee appointed by the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) raised concerns about clearing the project in one of 'the last remaining wildernesses' in the Western Ghats. The Ghats are one of the world's eight 'hottest hotspots' of biological diversity.
- The committee was appointed to clear the projects in Protected Areas (PAs) of Goa and Karnataka. PAs include national parks, wildlife sanctuaries, conservation and community reserves.

The project

- The project in question is the doubling of the track of the the Hospet-Hubballi-Londa-Vasco Da Gama railway line by the Rail Vikas Nigam Ltd (RVNL).
- The project, sanctioned by the Union Ministry of Railways in 2010-11, involves doubling of the 353-kilometre-long railway track in Karnataka and Goa passing through the Western Ghats.
- The project is divided into two phases with Phase I covering 252 km between Hospet and Tinaighat and Phase II covering the Tinaighat-Vasco stretch.
- Phase I of the project is being funded by the Asian Development Bank (ADB) with Rs 2,127 crore. There is no forest diversion for this part of the project.
- Phase II involves diversion of 9.57 ha forest land in the Dandeli Wildlife Sanctuary (in Karnataka) and 113.857 ha in the Bhagwan Mahaveer Wildlife Sanctuary and Mollem National Park (in Goa). The Dandeli Wildlife Sanctuary is part of the Kali Tiger Reserve (earlier called the Dandeli Anshi Tiger Reserve).
- The Phase II stretch is divided into two parts by the RVNL as separate forest land diversion proposals:
    - The 'Tinaighat-Castlerock-Caranzol Railway Doubling' for the Karnataka stretch.
    - The 'Castlerock-Kulem Railway Doubling' for the Goa stretch.
- According to the ADB's Technical Assistance Consultant's Report from March 2009, the doubling is being done to improve the handling capacity of the track for carrying iron, iron ore and steel to Mormugao Port for export and carrying back imported coal.

INTERNATIONAL

Earth Day 2021

(Source: Indian Express)

Context: *April 22 is Earth Day, an international event celebrated around the world to pledge support for environmental protection. The year 2021 marks the 51st anniversary of the annual celebrations. This year's theme for Earth Day is 'Restore Our Earth'.*

The importance of Earth Day

- Earth Day was first observed in 1970, when 20 million took to the streets to protest against environmental degradation. The event was triggered by the 1969 Santa Barbara oil spill, as well as other issues such as smog and polluted rivers.
- For over the next half century, Earth Day continued to play an important role in environmental activism.
- The landmark Paris Agreement, which brings almost 200 countries together in setting a common target to reduce global greenhouse emissions, was signed on Earth Day 2016.
- According to earthday.org, Earth Day aims to "build the world's largest environmental movement to drive transformative change for people and the planet." The movement's mission is "to diversify, educate and activate the environmental movement worldwide."
- According to the United Nations, International Mother Earth Day is celebrated to remind each of us that the Earth and its ecosystems provide us with life and sustenance.
- This Day also recognizes a collective responsibility, as called for in the 1992 Rio Declaration, to promote harmony with nature and the Earth to achieve a just balance among the economic, social and environmental needs of present and future generations of humanity.
- This day provides an opportunity to raise public awareness around the world to the challenges regarding the well-being of the planet and all the life it supports.

ASEAN

(Source: The Hindu)

Context: *Junta leader Min Aung Hlaing is expected to join a special ASEAN summit on Myanmar on Saturday in Jakarta — his first official overseas trip since the putsch that ousted civilian leader Aung San Suu Kyi.*

ASEAN History

- ASEAN was established on 8th August 1967 in Bangkok, Thailand with the signing of the Bangkok Declaration (a.k.a ASEAN Declaration) by the founding fathers of the countries of Indonesia, Malaysia, Thailand, Singapore, and the Philippines.
- The preceding organisation was the Association of Southeast Asia (ASA) comprising of Thailand, the Philippines, and Malaysia.
- Five other nations joined the ASEAN in subsequent years making the current membership to ten countries.

ASEAN Members

- Thailand (founding member)
- The Philippines (founding member)
- Malaysia (founding member)
- Singapore (founding member)
- Indonesia (founding member)
- Brunei (joined in 1984)
- Vietnam (joined in 1995)
- Lao PDR (joined in 1997)
- Myanmar (joined in 1997)
- Cambodia (joined in 1999)

There are two observer States namely, Papua New Guinea and Timor Leste (East Timor).

ASEAN Fundamental Principles

- Mutual respect for the independence, sovereignty, equality, territorial integrity, and national identity of all nations;
- The right of every State to lead its national existence free from external interference, subversion or coercion;
- Non-interference in the internal affairs of one another;
- Settlement of differences or disputes by peaceful manner;
- Renunciation of the threat or use of force; and
- Effective cooperation among themselves.

ASEAN Headquarters and official language

- The body is headquartered in Jakarta, Indonesia.
- Official Languages: Burmese, Filipino, Indonesian, Khmer, Lao, Malay, Mandarin, Tamil, Thai and Vietnamese
- Working Language: English

Ingenuity, the first helicopter on Mars

(Source: Indian Express)

Context: *Recently NASA announced that Ingenuity had performed its first flight. "…the first flight of a powered aircraft on another planet!" NASA said in a post on Twitter. The helicopter's main task is to carry out a technology demonstration to test the first powered flight on Mars, which it seems to have accomplished today. Since the first flight has succeeded, the Ingenuity team will attempt upto four test flights within a 31-Earth-day window.*

What is Ingenuity?

- Ingenuity, the first helicopter to fly on Mars was carried by NASA's rover called Perseverance that was launched in July last year and will help collect samples from the surface from locations where the rover cannot reach.
- The helicopter got its name because of a high school student Vaneeza Rupani of Alabama. Rupani originally submitted the name for the Mars

2020 rover, which was ultimately called Perseverance.
- But the NASA officials felt that Ingenuity–which means the skill of thinking, performing, or using things in new ways, esp. to solve problems (definition as per the Cambridge dictionary)– was a suitable name for the helicopter whose team had given a lot of creative thinking to get the mission off the ground.

How and when did it get to Mars?
- Perseverance landed at the Jezero Crater of Mars in February year. It will remain on the Red Planet for about two years and look for finding past signs of life.
- The rover is designed to study signs of ancient life, collect samples that might be sent back to Earth during future missions and test new technology that might benefit future robotic and human missions to the planet.

What will it do on Mars?
- The helicopter's mission is experimental in nature and completely independent of the rover's science mission – which is searching for signs of ancient life and collecting samples of rock and sediment in tubes for potential return to Earth by later missions.
- Ingenuity is able to fly using counter-rotating blades that spin at about 2,400 rpm. It has a wireless communication system, and is equipped with computers, navigation sensors, and two cameras. It is solar-powered, able to charge on its own.
- The helicopter project's chief engineer is J (Bob) Balaram, a graduate of IIT Madras who later went on to work at NASA.
- According to NASA, the helicopter was placed on the Martian surface to test — for the first time ever — powered flight in the planet's thin air. Its performance during these experimental test flights will help inform decisions about small helicopters for future Mars missions — where they can perform a support role as robotic scouts, surveying terrain from above, or as full standalone science craft carrying instrument payloads.
- Taking to the air would give scientists a new perspective on a region's geology and even allow them to peer into areas that are too steep or slippery to send a rover, a NASA fact sheet said. In the distant future, they might even help astronauts explore Mars.
- NASA will try and demonstrate rotorcraft flight in the extremely thin atmosphere of Mars with this helicopter, which is why the mission is so crucial.

Dogecoin

(Source: Indian Express)

Context: *Just as the virtual currencies Bitcoin and Ethereum have surged in value this week, so has Dogecoin — a cryptocurrency started in 2013 as an internet parody.*

What is Dogecoin?
- According to CNBC, the digital token was created in 2013 by software engineers Billy Markus and Jackson Palmer as a faster but "fun" alternative to Bitcoin.
- It was started as a satire on the numerous fraud crypto coins that had sprung up at the time, and takes its name and logo from a Shiba Inu meme that was viral several years ago.
- Unlike Bitcoins, whose maximum possible number is fixed at 21 million (a figure that is estimated to be reached by 2040), Dogecoin numbers do not have an upper limit, and there are already more than 100 billion in existence.
- When the crypto coin first took off, the online community that was backing it invited attention by supporting unconventional causes, such as sponsoring Jamaica's bobsled team at the 2014 Winter

Olympics. Also that year, the Dogecoin community gave $55,000 worth of the digital token to a Nascar driver in the US.

Mains

GS II

Why Goa's Civil Code is not as uniform ?

(Source: Indian Express)

Context: *Chief Justice of India S A Bobde recently appreciated the uniform civil code (UCC) in Goa, the only state to have one. This brought the spotlight back on the UCC debate, although the Law Commission had concluded in 2018 that a UCC is neither desirable nor feasible. No expert committee on the lines of the Hindu Law Reforms Committee of 1941 has ever been constituted, nor has any blueprint for a UCC been prepared.*

Example of plurality

- Goa's Portuguese Civil Code, 1867 is basically an alien code given by the Portuguese. Its continuance — and non-enforcement of Hindu Marriage Act, 1955 and Hindu Succession Act, 1956 or Indian Succession Act, 1925 or Shariat (Application) Act, 1937 and Dissolution of the Muslim Marriage Act,1939 etc. in Goa — is an example of legal pluralism, and negation of the very idea of one nation, one law? Is Goa's Civil Code really as uniform as is generally made out?
- Under Article 1 of the Decree of Gentile Hindu Usages and Customs of Goa, 1880, customs of Hindus were preserved and exemptions from the Civil Code were given to gentile Hindus.
- This decree continued the institution of Hindu joint family, named in Portuguese as sociedade, which technically is closer to a partnership rather than the concept of a Hindu joint family.
- The Shariat Act has not been extended to Goa; Muslims are governed by the Code as well as Shastric Hindu law.
- Those who favour love jihad laws would be surprised to know that under Article 1090 of the Goa Code, marriage cannot be annulled on the ground of religion.
- Goa's Civil Code has four parts, dealing with civil capacity, acquisition of rights, right to property, and the breach of rights and remedies. It begins in the name of God and Dom Luis, King of Portugal and Algarves.
- India's Constituent Assembly had rejected H V Kamath's proposal of a similar invocation of God in the Constitution.
- The Code has survived by virtue of Section 5(1) of the Goa, Daman and Diu Administration Act, 1962 that permitted its continuance. On the contrary, the Jammu & Kashmir Reorganisation Act, 2019 has repealed laws based on local Hindu customs; even Kashmiri Muslims were being governed by such non-Islamic laws and customs.

Marriage & property

- It is not clear whether the CJI wants that like Goa's Civil Code, the proposed UCC should put national Transfer of Property Act, Contract Act, Civil Procedure Code, Sale of Goods Act, Partnership Act etc in one code along with family law provisions. But then, having all laws in one code does not necessarily guarantee justice and equality.
- Article 1057 of Goa's Code provides for the registration of marriages. This lacks uniformity between Catholic and non-Catholic marriages.
- First, the intent of marriage is recorded by the would-be spouses before the civil registration authorities and after two weeks, a marriage deed is signed. For Catholics, signature in churches are considered

sufficient for civil registration. Many women are not aware that the UCC requires a second confirmation through signatures, and so, when a dispute arises, their marriages are found invalid. Many cases of bigamy through such frauds have been reported.

- Marriages solemnised in churches can be annulled by the church tribunal in cases of non-consummation. Article 1086 says that ecclesiastical courts alone can nullify Catholic marriages.
- The High Court mechanically approves such annulment, except in extraordinary cases. And yet, non-consummation is not a ground of annulment or divorce for non-Christians. For them, Article 1089 says such a power to annul marriage can be exercised only by the civil courts.
- Article 1204 permits the husband to get a divorce if adultery is committed by the wife, but the wife can get a separation only if the husband commits adultery with public scandal, and a divorce if he keeps a mistress in the conjugal home or abandons her.
- Article 3 of the Decree of Gentile Hindu Usages and Customs of Goa, 1880 provides that a Hindu husband can take a second wife in the absence of an issue, if the wife has attained the age of 25, and also if she has attained age 30 without having a son. The provision is contrary to both the Indian Penal Code and the Hindu Marriage Act.
- Article 1056 terms marriage a perpetual contract between persons of different sex (same sex marriage is not recognised) rather than sacrament. Is the rest of India ready to deny sacramental nature of Hindu marriage in the UCC? In any case, with the addition of the provision of divorce, marriage is no more perpetual even in Goa.
- The Code provides for pre-nuptial contracts; here again, the devil is in the details. There are four types of such contracts — no communion of properties; total separation of assets before and after marriage; Dotal regime under which the bride's share in her father's property is given to the husband; and communion of all assets of husband and wife that are equally divided on divorce or death.
- It is only the fourth that looks equitable, and yet, even here the management of properties is solely vested in the husband. Under Article 1104, the wife is not entitled to deprive the husband by way of ante-nuptial contracts from the administration of assets. She may, however, reserve for herself the right to receive part of income from her assets for pocket expenses provided it does not exceed one-third of the net income. Of course, there is joint ownership, and the husband cannot sell assets without the wife's consent.
- Moreover, what is divided are properties, not ownership of rights/interests. Thus, if the husband was an agricultural tenant, she would not get half the tenurial interests. Many pre-nuptial contracts do provide that there would be no right if the marriage is not solemnised or the wife leaves the marital home within a few months, or even on divorce.
- In cases of parties opting out of joint ownership of properties, the succession order becomes significant. Not only Article 1969 of the Goa Civil Code, but also Goa Succession, Special Notaries Inventory Proceedings Act, 2012 (enacted in 2016) mentions in Section 52 the surviving spouse at number four in the order of preference of legal succession — after descendants, ascendants, and brothers and sisters and their children.
- Unlike the Hindu Succession Act that gives unlimited testamentary powers, Article 1784 of the Goa Code prohibits disposal of more than 50% of assets through a will. This is called legitime. The Goa Succession, Special Notaries and Inventory Proceedings Act too has retained it.
- The provision is similar to one in Muslim Personal Law that says a Muslim cannot make a will of more than one-third of his property and two-thirds must go to the heirs. Is the Hindu right prepared to have such a provision in the UCC as and when it is enacted?
- Are we ready for a provision similar to Article 1876 of the Goa Code that disentitles an heir from inheritance in case of refusal to maintain his or her parents without a good reason or commission of an offence against their person punishable with six months' imprisonment?

States, different laws

- In fact, not all Hindus in the country are governed by one law. Marriage amongst close relatives is prohibited by the Hindu Marriage Act, 1955 but is considered auspicious in the South.

- The Hindu Code Bill recognises customs of different Hindu communities. Even the Hindu Succession Act, 1955 could not make the daughter a coparcener until 2005. The wife is still not the coparcener.
- Even today, property devolves first to class-I heirs, and if there are none, then to class-II heirs. While the heirs of sons are moved to class-I, heirs of daughters are not. Even among class-II heirs, preference is given to male lineage.
- And if a couple is issueless, self-acquired property of both spouses goes to the husband's parents even when they have thrown out the daughter-in-law. The wife's parents do not get anything from the property of their issueless daughter.
- There is no uniform applicability of personal laws among Muslims and Christians either. The Constitution protects the local customs of Nagaland, Meghalaya and Mizoram. Even land laws in a number of states are discriminatory, and daughters do not inherit landed properties in the presence of sons.
- With a 2006 amendment in UP, only an unmarried daughter gets a share in agricultural property. The distinction between married and unmarried daughters is arbitrary. These laws have been exempted from judicial scrutiny by including them in the Ninth Schedule.
- Let the secular laws first be made gender-just before the country undertakes reforms in religious laws. Piecemeal reform rather than enactment of the UCC in one go is the only way forward. In fact, a just code is preferable to a uniform code.

Orginance promulgation and Repromulgation

(Source: The Hindu)

Context: *The central government has repromulgated the ordinance that establishes a commission for air quality management in the National Capital Region, or the Commission for Air Quality Management in National Capital Region and Adjoining Areas Ordinance, 2020. This raises questions about the practice of issuing ordinances to make law, and that of re-issuing ordinances without getting them ratified by Parliament.*

What the data show

- Whereas an ordinance was originally conceived as an emergency provision, it was used fairly regularly. In the 1950s, central ordinances were issued at an average of 7.1 per year. The number peaked in the 1990s at 19.6 per year, and declined to 7.9 per year in the 2010s.
- The last couple of years has seen a spike, 16 in 2019, 15 in 2020, and four till now this year.
- State governments also used this provision very often. The issue was brought up in the Supreme Court through a writ petition by D.C. Wadhwa, a professor of economics, who discovered this fact when he was researching land tenures. He found out that Bihar had issued 256 ordinances between 1967 and 1981, of which 69 were repromulgated several times, including 11 which were kept alive for more than 10 years.
- A five-judge Constitution Bench of the Supreme Court, in 1986, ruled that repromulgation of ordinances was contrary to the Constitutional scheme. It said, "it would most certainly be a colourable exercise of power for the Government to ignore the Legislature and to repromulgate the Ordinance and thus to continue to regulate the life and liberty of the citizens through Ordinance made by the Executive.
- Such a stratagem would be repugnant to the constitutional scheme as it would enable the Executive to transgress its constitutional limitation in the matter of law making in an emergent situation and to covertly and indirectly arrogate to itself the law making function of the Legislature." Interestingly, the Court pointed out that there was not a single instance of the President (i.e., the central government) repromulgating an ordinance.
- The judgment did not stop the practice. Instead, the Centre also started to follow the lead of Bihar. For example, in 2013 and 2014, the Securities Laws (Amendment) ordinance was promulgated three times.

- Similarly, an ordinance to amend the Land Acquisition Act was issued in December 2014, and repromulgated twice – in April and May 2015 (https://bit.ly/32svBkM).

An unconstitutional practice

- The matter came up again in the Supreme Court, and in January 2017, a seven-judge Constitution Bench declared this practice to be unconstitutional. The judgment concluded that, "Re-promulgation of ordinances is a fraud on the Constitution and a subversion of democratic legislative processes."
- Even this judgment has been ignored. The Indian Medical Council Amendment Ordinance was issued in September 2018, and reissued in January 2019, as it was passed by only one House of Parliament in the intervening session. The current case of the Commission for Air Quality Management is even more egregious.
- While the ordinance of October 2020 was laid in Parliament on the first day of the recent Budget Session, a Bill to replace it was not introduced. However, the ordinance has been repromulgated now.
- States have also been using the ordinance route to enact laws. For example, in 2020, Kerala issued 81 ordinances, while Karnataka issued 24 and Maharashtra 21. Kerala has also repromulgated ordinances: one ordinance to set up a Kerala University of Digital Sciences, Innovation and Technology has been promulgated five times between January 2020 and February 2021 (https://bit.ly/2Q6zglJ).

Onus on legislatures, courts

- The legal position is clear, and has been elucidated by constitution Benches of the Supreme Court. Ordinances are to tackle exigencies when the legislature is not in session, and expire at the end of six weeks of the next meeting of the legislature.
- This time period is given for the legislature to decide whether such a law is warranted. Repromulgation is not permitted as that would be a usurpation of legislative power by the executive.
- As governments, both at the Centre and States, are violating this principle, the legislatures and the courts should check the practice.
- That is what separation of powers and the concept of checks and balances means. By not checking this practice, the other two organs are also abdicating their responsibility to the Constitution.

Assessing students amid a pandemic

(Source: The Hindu)

Context: *Faced with a massive surge in COVID-19 cases, the Central government cancelled the Central Board of Secondary Education's (CBSE) Class X examination and postponed the Class XII examination scheduled to be held from May 4. The decision, which will be reviewed by the Ministry of Education on June 1, was followed by the Indian Certificate of Secondary Education (ICSE or Class X) and Indian School Certificate (ISC or Class XII) examinations also being postponed, with a review scheduled in the first week of June. As of Saturday, the International Baccalaureate and several State Boards had taken similar decisions.*

What are the challenges?

- Aligning examinations of various Boards is a practical necessity since admission to higher education courses must be done uniformly and entrance examinations have to be conducted for professional courses.
- While the government has bought itself time to address the wildfire spread of COVID-19 by getting public examinations out of the way, students are left wondering about the nature of formative academic assessment that will be applied to their Class X performance during the year gone by, which was marked by a shift to online classes and TV-based instruction.

- For many, it was a total lack of access without electricity, connectivity, computers and smartphones. The challenge now is to take up formative assessments where pen-and-pencil annual examinations cannot be held.

What is formative assessment?

- The annual high-stakes public school examination is referred to as a summative assessment. It had to be cancelled or deferred this year due to the pandemic, and the academic system had to fall back on continuous evaluation techniques or other metrics.
- This is known as formative assessment. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), the key aspects of this pattern are use of observation, quizzes, assignments and feedback.
- While summative assessment is described as a 'testing of learning', formative assessment is 'testing for learning,' which helps teachers assess the strengths and weaknesses of individual students and suggest remedial measures.
- The CBSE introduced a formative assessment system through a Continuous and Comprehensive Evaluation (CCE) framework in 2009-10, but abandoned it in favour of a compulsory public examination for Class X, eight years later.
- However, the year 2020-21 stands apart due to the disruption to routine schooling and the use of online and remote instruction. UNESCO says that in such a remote-learning situation, formative assessment has to rely on Learning Management Solutions and digital tools such as the open-source Moodle, Google Classroom and Schoology, and other tools that facilitate the creation of adaptive instructions for personalised learning.
- Many teachers in India used video-calling tools to deliver instructional material and to coach and assess students. The Boards must now come up with a formative assessment framework that fixes clear metrics.

How have schools responded?

- After the latest move by the Centre, prominent CBSE schools say they will not face disruption because they conducted periodic internal examinations, practicals, as well as "pre-Board" testing for Class X. This will be useful to evaluate students.
- However, the switch from a reformist model of formative assessment to the traditional public examination was not seen as a move forward by others. The decision to reintroduce a public examination for Class X in CBSE was defended by the then Human Resource Development Minister, Prakash Javadekar, as the removal of discrimination against 1.93 crore secondary students of State and other Boards who continued to take an exit examination.

Can all schools assess fairly?

- The question of schools' capabilities to conduct sound formative assessments has become important because not all have similar facilities. While CBSE schools may be more urbanised, the picture for other Boards is mixed.
- The Unified District Information System for Education data show that in 2017-18, there were 1,88,742 rural schools and 83,207 urban schools under all managements.
- Data from the National Sample Survey (NSS) for the same year indicate that only 4% of rural households and 23% of urban households had a computer. Internet access was restricted to 15% of rural and 42% of urban households.

What reforms are needed?

- As COVID-19 cases from the first wave dropped, CBSE launched a competency-based assessment plan for Classes VI to X in March this year, aligned with the National Education Policy (NEP), 2020.
- It was prepared jointly with the British Council, for science, mathematics and English. The aim was to strengthen critical thinking and analytical capacity for competency-based learning.
- In fact, even the National Policy on Education, 1986, had de-emphasised rote learning and recommended a CCE-like framework.

- The NEP 2020 emphasises (formative) assessment for learning and critiques existing Board examinations as forcing students "to learn a very narrow band of content/material in a single stream".
- Future reforms would, therefore, have to work on two fronts — to ensure access to learning for every student, in classrooms or remotely, and make formative assessment possible through a scientifically designed set of metrics.

Sharing the burden of care

(Source: The Hindu)

Context: *The resilience of national health services is characterised by their ability to respond appropriately to epidemics, pandemics and disasters. There has been a consistent failure in India to prevent the spread of the COVID-19 pandemic, which has resulted in the second wave. It is the responsibility of the state to first prevent the spread of a pandemic, failing which it needs to be extra vigilant in order to prevent every death from the disease. It is unfortunate that people are dying not because of inadequate solutions (technology and knowledge) for dealing with the virus but due to inadequate access (economic, physical and others) to that knowledge and technology. This is serious injustice.*

Two approaches

- There are two possibilities that exist in strengthening curative care for COVID-19. The first is a reactive approach, which is what is carried out by most of the State governments.
- This is done by transforming a few of the well-performing facilities at the tertiary level into state-of-the art COVID-19 hospitals. However, this comes at a cost: people are not be able to get their routine hospital services from these tertiary facilities.
- At the primary level, most of the facilities created were temporary structures. They were created by hiring buildings and open spaces as COVID-19 treatment centres providing only beds.
- This approach of providing beds without adequate infrastructure was extensively critiqued for its inability to cater to the needs of patients in real-time situations. A slightly modified approach was to create first line treatment centres.
- Most of these facilities were a failure due to their inability to build trust among people as COVID-19 treatment centres. Most of them were shut down when the cases went down.
- The second possibility, less tried out, is to equip the functional facilities of government health services at the secondary level and convert them into exclusive COVID-19 care centres. These could be used to treat those patients who don't need ICU support.
- As the three-tier structure of health services in India envisages, a community health centre (CHC) can potentially become a fulcrum on which the entire health system can bank on, especially during a crisis.
- A CHC is supposed to cover a population of 80,000-1,00,000 in rural areas. A CHC is supposed to have 30 beds with at least four specialty services and is expected to function as a first referral unit for curative care services referred from primary health centres (PHCs).
- Sadly, several States have failed to develop this facility. Many CHCs are grossly underdeveloped. Over 5,000 CHCs exist in rural areas, and can they can add 50,000-75,000 beds if 10-15 beds are added in each.
- This facility can be strengthened to address COVID-19-specific treatment needs (primary and secondary) of the rural population, especially in States with an increasing case load and poor health infrastructure like Bihar, Uttar Pradesh and Chhattisgarh.

Feasible and sustainable solution

- This can be a more feasible solution as specialists for this facility can be directed from district hospitals or medical colleges and the numbers can be managed for four-six CHCs under each district. This can be

a sustainable solution as already there is a certain level of trust and functionality built into these centres as treatment centres. They have the potential to become centres for sample collection and vaccine delivery too.

- These CHCs can also easily be converted into independent standalone centres for COVID-19 treatment.
- After the pandemic ends, they can be converted into normal secondary-level facilities that cater to other needs. This can substantially reduce the overload faced by tertiary facilities as more than the severity of the disease, it is inadequate access to timely treatment that results in several deaths. It is always possible to strengthen the PHCs nearby to cater to the needs of people for other curative care services.
- For urban areas too, there is a need to develop peripheral hospitals at the secondary level within the government sector (100-150 bedded facility for every 3 lakh population), which can cater to the needs of the population during COVID-19 times.
- Instead of placing 500 and 1,000 beds in playgrounds and parking lots, it is important to expand beds which are effectively integrated into the existing health services. Only then will infrastructure facilities be good enough to provide effective care. This can build trust among people and contribute to strengthening health services in the long term.

Arise and rejuvenate the third layer of governance

(Source: The Hindu)

Context: *What is progress? When has a government achieved its goals? What is the true indication that a government is not just planning, but also putting into action those plans? The half-hearted execution of a plan by a government that the people chose is not a sign of achievement. The government must ensure that even the last man sitting in the remote corner of the last row should have access to the benefits of the plan. This is why it is crucial that strong local bodies are formed to enable genuine feasibility and execution. The Cholas were the pioneers in the formation of local bodies as part of a well-organised hierarchy to oversee the implementation of progressive plans.*

The journey of Panchayati raj

- "The voice of the people is the voice of god; The voice of the Panchayat is the voice of the people," is the quote attributed to Mohandas Karamchand Gandhi. Panchayati raj ensures that the voices of the people are heard loud and clear. But, drawing up a path for a brilliant organisational structure like the Panchayat raj, and then travelling along the path is not a simple task.
- Realising that seamless administration is impossible without power sharing, the British, in 1884, passed the Madras Local Boards Act. With this, the British formed unions in both small towns and big cities and began to appoint members to ensure better administration. To a certain extent, this brought about positive changes in basic parameters such as health and hygiene.
- With the advent of gram panchayat laws in 1920, people over 25 years of age were bestowed with the right to vote and choose their panchayat members.
- Even though Gandhiji was constantly laying emphasis on the importance of autonomously ruled villages, the idea received constitutional recognition only in 1992.
- It was only after the 73rd Amendment in the 1990s, that the Panchayati raj law came into force. This was the law that brought about massive turning points such as the initiation of grama sabha, a three-tier Panchayati raj methodology of governance, reservation for the downtrodden and women, consistency in economic development, local body elections once in five years, the formation of the State Election Commission, Finance Commission, and the power to draft the rules and responsibilities of the Panchayat.
- The regions which were better equipped with basic facilities and which were more developed than the villages were brought under one coordinated body, namely, the municipality. The district capitals were

further slotted into a combined parameter, namely, the corporation. Administration was transferred to the people, from the politicians and other officials.

- The lofty dream of Gandhiji to make each village of the independent India a republic organisation, and to reiterate that the autonomous administration of villages should be made the foundation of the entire country's administration was heard and he lay stress on the active participation of the people in governance.

Ideal platform

- For seemingly trivial and easily resolvable issues, the villages did not have to seek the assistance of the State or the Central governments. Grama sabhas could and can be the platform to resolve such issues. According to the rules framed by the Tamil Nadu government, it is mandatory that grama sabhas meet at least four times in a calendar year.
- Besides, grama sabhas can be convened as and when the necessity arises. Every grama sabha meeting ensures the equal right to highlight the issues that disrupt life. In addition to this, the elected members of the Panchayat are obliged to read out the financial statements and balance sheet to ensure transparency.

The reality

- The decisions taken during a grama sabha meeting and the proposed solutions with a feasible deadline are potent and powerful. Unfortunately, the reality today is that grama sabhas have become more like auction houses.
- In Tamil Nadu, for instance, the present government did not even make an attempt to seek the opinions and the consensus of the people on significant issues such as an eight-lane highway project and even a major hydrocarbon project.
- Even though the government announced that people's opinions would be considered, it went ahead and conducted meetings, which were marked by poor attendance and poor representation from the people. Even then, the government went ahead with the approval of projects which are impediments to normal life.
- The truth is that keeping in mind a single goal, of profit, politicians hold 'negotiations' with the officials. Several projects are being implemented for the benefit of private and corporate entities.
- Sadly, in this age, women do not find themselves in major administrative roles in the local bodies, though, on paper, women are shown to be a considerable force.
- The Makkal Needhi Maiam has been laying stress on the importance of grama sabhas and has been extending its support in a very transparent manner to rejuvenate the dying system of Panchayati raj.

The Kerala example

- The neighbouring State of Kerala has been diligently working toward ensuring the proper use of allotted funds, and ensuring the efficiency of administration and eligible member appointments. Thus, it stands tall as being exemplary. If Tamil Nadu wants to stand tall too, it needs to take steps to enable the power of administration to Panchayats, as stated in the Constitution.
- To ensure efficiency, we need to strengthen our grama sabhas, hold area sabhas in cities, form ward committees, hold online Panchayat meetings, ensure decent remuneration to Panchayat chiefs and councillors and also bestow the grama sabha with the power to revoke appointed members and representatives. These steps are what will ensure real growth in the State.
- The State-appointed corporation commissioner faces mammoth challenges when a member of the Opposition party takes charge as a mayor. The constant and meaningless conflicts between the ruling party and the mayor from the Opposition party make it impossible for the corporation commissioner to execute what was agreed upon in a meeting.
- The officials kowtow to pressures from the ruling party. The same treatment is meted out to municipal councillors and district councillors.

In Tamil Nadu

- The Constitution is clear in stating that local body elections must be conducted once in five years. But the ruling party keeps postponing the holding of local body elections, which is a breach of the Constitution. Strangely, this form of disrespect never materialises when it comes to the Assembly elections!
- Local body elections have been held once in five years for the last 25 years, since 1996. But for the first time, the All India Anna Dravida Munnetra Kazhagam government has travelled on without holding a local body election. This is not only an act of escapism but also a stain on the State's political history.
- The recent reconstitution of nine districts in the State is an invalid excuse to postpone the holding of local body elections.
- The government gives a variety of empty and irrelevant excuses to postpone these elections and to cancel grama sabha meetings. The time has come to stop this act — of depriving people of their basic rights.
- The demand for federal rule in the Centre and autonomous rule in the States should resonate along with the need to have autonomous local bodies too. We must collectively ensure that Panchayati raj should be strengthened. This should be the outcome of a peoples' movement.

GS III

The Ken-Betwa project

(Source: The Hindu)

Context: *The Ken-Betwa project is part of the national river linking project which proposes to connect 14 Himalayan and 16 peninsular rivers with 30 canals and 3,000 reservoirs in order to irrigate 87 million hectares of land. It has the status of a national project, as the Centre will contribute 90% of the cost. It is India's first river linking project and will take eight years to complete.*

Background

- First mooted in the 1980s, the Ken-Betwa project was taken up seriously only during former Prime Minister Atal Bihari Vajpayee's regime.
- Since then, former Union Water Resources Minister Uma Bharti has been the torch-bearer of the project. The project, the government says, will enhance the irrigation potential of the water-starved Bundelkhand region in U.P. and M.P., facilitate groundwater recharge and reduce the occurrence of floods.
- According to the Memorandum of Agreement signed, the to-be-built Daudhan dam is expected to irrigate nearly 6,00,000 hectares in four districts in M.P. and 2,51,000 hectares in four districts in U.P. and provide drinking water supply to 41 lakh people in M.P. and 21 lakh in U.P.

Environmental concerns

- However, the excitement of planners and politicians about this project, which costs ₹37,611 crore (2018 figure), is reportedly missing on the ground. The people of the region who are going to be affected by the project seem resigned to their fate.
- In public hearings held in the past, they were divided on political lines and also worried about the loss of the ecosystem and displacement.
- The project was on the drawing board for years mainly due to environmental concerns. Of the 12,500 hectares of land to get submerged by the project, more than 9,000 ha are categorised as forest land. The

submergence area includes a critically important section of the Panna Tiger Reserve. The Reserve is considered as a shining example of conservation after it successfully improved the tiger and vulture populations.

- Echoing the concerns of environmentalists, Congress president Sonia Gandhi wrote to Union Environment Minister Prakash Javadekar asking him not to implement the project.
- She said "around 40% of the area of the tiger reserve will be irretrievably damaged" if the project is implemented. Also, the project may destroy about 7.2 lakh trees. South Asia Network on Dams, River and People convener Himanshu Thakkar fears that this will affect rainfall in the already parched region.

Cost and benefit

- The claims of Ken having surplus water may be unrealistic as the river is not perennial — in the past sometimes, it has slowed to a trickle. Another difficulty will be that the Ken flows 60-70 feet lower than the Betwa and at least 30% of the 103 MW power generated will be used for pumping the water up.
- The Union Ministry and the National Water Development Agency, which is entrusted with the project, have some issues to sort out. These include getting clearance from the Central Empowered Committee of the Supreme Court, which had raised concerns about the project.
- The cost-benefits calculations of the project also don't take into consideration the environmental and social impacts. Thus, the benefits do not seem certain and are far outweighed by the costs on the environment.
- It is surprising that alternatives such as water-conservation and water-harvesting methods without building a dam haven't been seriously considered in the region. Large-scale solutions such as this are not always viable and the best.
- Given the serious doubts about the benefits of the project and the monumental toll that it would have on the ecosystem, including on carefully preserved wildlife, the Ken-Betwa project seems like a huge, costly mistake.

Protecting children in the age of AI

(Source: The Hindu)

Context: *We are now living among history's very first "AI" generation. From the Alexas they converse with, to their robot playmates, to the YouTube wormholes they disappear into, the children and adolescents of today are born into a world increasingly powered by virtual reality and artificial intelligence (AI). AI is not only changing what humans can do, it is shaping our behaviours, our preferences, our perceptions of the world and of ourselves. Older people still remember life before AI and the digital world — our references, anchors and pole stars pre-date the fourth Industrial Revolution. Not so for the millions of children and adolescents who were born into it.*

The task ahead

- Double imperatives — this would mean getting all children on-line and creating child-safe digital spaces
- One of the most pressing concerns is that not everyone can tap into the opportunities offered by this transformation. According to UNICEF and the International Telecommunication Union (ITU), as many as two-thirds of the world's children do not have access to the Internet at home.
- In addition to closing the digital divide, we need to better protect children and adolescents online; but how does one childproof AI? How do we encourage and support the tremendous good AI can do for children's growth and development, while simultaneously mitigating the harm? And how do we equip children and young people with the knowledge, tools and awareness to protect themselves?
- In the old-fashioned physical world, we evolved norms and standards to protect children. For instance, there are policies and protocols for a child travelling alone as an unaccompanied minor. Parents are

understandably reluctant to let their children be photographed by the media, and in many countries, news outlets blur children's faces to protect them. Where are these protections online?

- The virtual world is full of unsupervised "vacations" and "playgrounds" — with other children and, potentially, less-than-scrupulous adults, sometimes posing anonymously as children.
- While video gaming and chat forums like Fortnite: Battle Royale, to name one popular example, offer an online space for children to socialise with their friends, multiple reports identify such virtual playgrounds as "honeypots" for child predators. Short of banning screen time entirely, parents are hard-pressed to keep tabs on just what their children are doing online, and with whom. With online homework, this has become even more difficult.

Right to freedom of attention

- It does not help that the AI systems driving many video games and social networks are designed to keep children hooked, both through algorithms and gimmicks like "streaks", "likes", infinite scroll, etc.
- Even if this is an ancillary consequence of the underlying business model, the damage is done — children, from a tender age through adolescence, are becoming digitally addicted.
- Similarly, right when children and youth are forming their initial views of the world, they are being sucked into virtual deep space, including the universe of fake news, conspiracy theories, hype, hubris, online bullying, hate speech and the likes.
- With every click and scroll, AI is sorting them into tribes, and feeding them a steady diet of specially customised tribal cuisine.
- All this is thrown at our children just when they are starting to try to make sense of who they are and the world they live in; right when it is so important to help them understand and appreciate different perspectives, preferences, beliefs and customs, to build bridges of understanding and empathy and goodwill.

Harvesting, algorithmic bias

- Other insidious pitfalls also lie in the path of the Generation AI child. Today, many AI toys come pre-programmed with their own personality and voice. They can offer playful and creative opportunities for children, with some even promoting enhanced literacy, social skills and language development.
- However, they also listen to and observe our children, soaking up their data, and with no framework to govern its use. Some of these AI toys even perform facial recognition of children and toddlers.
- Germany banned Cayla, an Internet-connected doll, because of concerns it could be hacked and used to spy on children. Yet, most countries do not yet have the legal framework in place to ban such toys.
- Finally, in the field of education, AI can and is being used in fabulous ways to tailor learning materials and pedagogical approaches to the child's needs — such as intelligent tutoring systems, tailored curriculum plans, and imaginative virtual reality instruction, offering rich and engaging interactive learning experiences that can improve educational outcomes.
- But algorithms can also both amplify existing problems with education systems and introduce new challenges — when the pandemic caused the usual tests to be cancelled in the United Kingdom and by the International Baccalaureate board, for instance, the algorithms that served as a fallback meant thousands of students lost out on college admissions and scholarships.
- And unless the educational and performance data on children is kept confidential and anonymous, it can inadvertently typecast or brand children, harming their future opportunities.

Rights, protections

- So, how do we balance the tremendous good AI can do for children, while keeping their unique vulnerabilities topmost in our preoccupations, mitigating inadvertent harm and misuse?
- The next phase of the fourth Industrial Revolution must include an overwhelming push to extend Internet access to all children. Governments, the private sector, civil society, parents and children must push hard for this now, before AI further deepens the pre-existing inequalities and creates its own disparities.

- And on mitigating on-line harms, we need a multi-pronged action plan: we need legal and technological safeguards; we need greater awareness among parents, guardians and children on how AI works behind the scenes; we need tools, like trustworthy certification and rating systems, to enable sound choices on safe AI apps; we need to ban anonymous accounts; we need enforceable ethical principles of non-discrimination and fairness embedded in the policy and design of AI systems — we need "do no harm" risk assessments for all algorithms that interact with children or their data.
- In short, we need safe online spaces for children, without algorithmic manipulation and with restricted profiling and data collection. And we need online tools (and an online culture) that helps prevent addiction, that promotes attention-building skills, that expands children's horizons, understanding and appreciation for diverse perspectives, and that builds their social emotional learning capabilities.

Key first step

- In February, in a landmark decision, the UN Committee on the Rights of the Child adopted General Comment 25, on implementing the Convention on the Rights of the Child and fulfilling all children's rights in the digital environment. This is an important first step on the long road ahead.
- The Government of India has put in place strong policies to protect the rights and well-being of children, including a legislative framework that includes the Right to Education. Laws and policies to prevent a range of abuses and violence, such as the National Policy for Children (2013), can be extended for children in a digital space
- But much more needs to be done, here in India and around the world. And in this interconnected world, the more we can agree upon multilaterally and by multi-stakeholder groups, the easier it may be to implement nationally and locally.
- Just as India proactively helped shape the Universal Declaration of Human Rights and gave the world the principle of Ahimsa, it could also galvanise the international community around, ensuring an ethical AI for Generation AI.

Copyright war

(Source: The Hindu)

Context: *On April 5, the U.S. Supreme Court ruled in favour of Alphabet Inc.'s Google in a case where it was accused by Oracle of violating the country's copyright law. The case, dubbed "the copyright case of the century", began with Oracle's charge in the San Francisco federal district court in 2010 that Google's Android platform infringed upon its copyright in a platform called Java SE. In the process of finally being decided by the U.S. Supreme Court in a 6-2 verdict, this case made its journey through a federal district court and an appellate court twice.*

What is the background of the case?

- Oracle's lawsuit came shortly after it acquired Sun Microsystems, which had developed the Java language.
- Consequently, it came to own the copyright in Java SE (standard edition), a platform that programmers use to build programs that work on any personal computer.
- Oracle's charge was that Google copied a part of this platform's program while developing the Android platform for programmers.

What did the courts find?

- The courts found that Google did negotiate with Sun Microsystems, prior to it being bought by Oracle, to license the use of the Java platform in Android.

- But negotiations fell through. Eventually, as the Supreme Court noted, it created the Android platform software using the services of about 100 engineers who worked for more than three years.
- But Google also wanted the millions of Java programmers around the world to be able to work with Android seamlessly. As Justice Stephen Breyer wrote in the majority opinion, "It also copied roughly 11,500 lines of code from the Java SE program."

What were the legal questions that the Supreme Court had to weigh in on?

- Prior to Google bringing the case to the Supreme Court, the Federal Circuit, an appeals court, had ruled in Oracle's favour. The lower courts had focused on two major questions, something that the Supreme Court had to review.
- The first was whether Oracle could copyright the part of the code that Google copied, and the second was whether the copying constituted fair use, if the answer to the first was in the affirmative.
- In ruling in Oracle's favour, the Federal Circuit had held that the portion of the copied code is copyrightable and that Google's act did not constitute fair use.
- The Supreme Court decided to sidestep the first question, saying, "In reviewing that decision, we assume, for argument's sake, that the material was copyrightable."
- The question of the copyrightability of the code remains significant also because the lower courts gave different judgments on it. But the Supreme Court decided the second question in Google's favour, saying that its copying of a part of the code constituted fair use, and therefore it did not violate the copyright law.

What is fair use?

- According to the U.S. Copyright Office, "Fair use is a legal doctrine that promotes freedom of expression by permitting the unlicensed use of copyright-protected works in certain circumstances."
- So, activities such as "criticism, comment, news reporting, teaching, scholarship, and research" may qualify under fair use. In other words, these activities can be exempt from copyright infringement charges.

How did the court decide that Google's action came under the ambit of fair use?

- Section 107 of the U.S. copyright law provides a framework to judge fair use. It contains four factors, in the following order — the purpose of the use, the nature of the copyrighted work, the substantiality of the portion used in relation to the whole work, and the effect of the usage upon the potential market.
- The court decided to start with the second factor, the nature of the copyrighted work.
- What worked in Google's favour was that the court made a distinction between a code "that actually instructs a computer to execute a task" and the code that Google copied, which were the lines of an API (application programming interface), which "allows programmers to call upon prewritten computing tasks for use in their own programs".
- To understand this, it is best to go back to the district court's explanation of what happened. That court said, "An API is like a library. Each package is like a bookshelf in the library. Each class is like a book on the shelf. Each method is like a how-to-do-it chapter in a book. Go to the right shelf, select the right book, and open it to the chapter that covers the work you need."
- The Supreme Court said Google's copying was transformative, as it "copied only what was needed to allow programmers to work in a different computing environment" (which is Android) using a familiar programming language (Java).

What is the implication of this ruling?

- There is a view that the software industry is relieved that the Supreme Court differentiated between the type of code Google copied, i.e., software interface, and other creative codes.
- Digital rights group Electronic Frontier Foundation said, "This decision gives more legal certainty to software developers' common practice of using, re-using, and re-implementing software interfaces written by others, a custom that underlies most of the internet and personal computing technologies we use every day."

An obituary for the IP Appellate Board

(Source: The Hindu)

Context: *The demise of the Intellectual Property Appellate Board (IPAB), India's specialist tribunal for determining disputes relating to intellectual property (IP) rights, is symbolic of its tenuous life. For an organisation that was created in haste and managed in haste, the end came about, unsurprisingly, in haste.*

Details:

- The patent system is notorious for its bipolar nature. Ever since its inception, public opinion has been divided about the usefulness of the system.
- There have been regular calls for its abolition. The lack of unanimity about the system here was seen in the way Indian parliamentarians deliberated on patent bills in the past.Most of the significant amendments to the Patents Act since 1970 came through, not by way of an Act passed by Parliament, but through an ordinance.
- Just as we pushed through amendments to the Patents Act through ordinances in 1994 and 2005, we have now accorded the IPAB a similar burial. On April 4, the President of India signed the Tribunal Reforms (Rationalisation and Conditions of Service) Ordinance, 2021, shutting down the IPAB and many other tribunals for good.

Troubled life

- Ever since its creation, the IPAB has been treated like an unwanted child. Perennially understaffed and underfunded, it always looked like a jugaad fix for the problems in the innovation system.
- Established under the Trade Marks Act of 1999, its jurisdiction was later extended to hear patent cases after the Patents (Amendment) Act of 2002. Historically, appeals from the Intellectual Property Office (IPO), rectification and revocation applications were heard by the various High Courts.
- However, the Patents (Amendment) Act of 2002 divested these powers from the High Courts and extended it to the IPAB.
- Though the patents side of the IPAB existed in theory since 2002, the Central government notified its functioning only in April 2007 after a rebuke from the Madras High Court. The court was then hearing an appeal from the IPO regarding Novartis' Glivec patent application which ought to have been heard by the IPAB. After the notification, the High Court transferred Novartis' petition and subsequently all other pending patent cases to the IPAB.
- Since its inception, the institution has been involved in controversies. Even though the IPAB has not been performing its adjudicatory function on the patent side regularly due to administrative reasons, it certainly has been the subject matter of judicial review before the various High Courts.
- These cases include a challenge to the constitutionality of the IPAB, petitions seeking filling up of vacancies before the High Court in Delhi and Chennai, and even a petition to the Supreme Court for extension of the term of the chairperson.
- After remaining headless for almost two years, in January 2018, the IPAB was given a head. The then chairperson of the Appellate Tribunal for Forfeited Property was given additional charge. However, there was a substantial delay in the start of hearing of patent cases due to a technical reason.
- The appointment of the technical member for patents, with whom the chairperson sits while deciding cases on patents, who brings the much-needed technical expertise that patent cases usually demand, was delayed. The appointment of the technical member finally came last year after the government was sued by the Indian Drug Manufacturers' Association.

- IPAB's end was foreseen by the leaders who ran it. One of the former chairpersons had publicly raised concerns regarding the judicial and institutional independence of the IPAB, and called for closing it. Not only was the IPAB understaffed, with its administrative staff often being on deputation, it was also underpowered, at times quite literally.
- The tribunal had to bear the brunt of the summer power cuts in Chennai. Imagine the highest authority on protecting technology and innovation working through the scorching Chennai summer during power cuts without any viable backup.
- One lasting memory of the IPAB will be the image of a dimly lit court hall with the presiding judges poring over patent specifications covering high technology using two emergency lights and the counsel arguing the case using the flashlight on his phone. For those who had the misfortune of walking into the tribunal in Guna Complex in Chennai, where the IPAB was housed during those punishing power cuts, this image would have been a teaser of what was to follow.
- The IPAB's jurisdiction of cases was split between trademarks, patents, copyright, and geographical indication, where the predominant business pertained to trademarks.
- Thus, the workload of the IPAB was typically split between trademarks and patents with the former consuming much of the time. Not only did the IPAB juggle its time with the different forms of IP, but it also had sittings in five different cities, with just one chairperson who had to fly between them at times. The chairperson had to summon parties and papers to all these cities, which came at a substantial cost to the public.
- The patents bench of the IPAB would have probably taken longer to constitute had it not been for the limelight brought by the Novartis case. In any case, the disposal rate for patents at the IPAB did not justify its continuance. Patent disputes owing to their technological complexity were the IPAB's predominant time-consuming business after trademarks.
- In our study of the first decade of operation of the patents bench, we saw a paltry disposal rate of about 20 patent cases a year. Nearly 70% of the patent cases filed were either pending at some stage or yet to be taken up for hearing. After the IPAB was set up, not more than 15 cases were transferred from all the High Courts to the IPAB.
- Going by this disposal rate, it would have taken another decade to dispose of the pending applications, leave alone the new ones. The irony was that tribunals were established with the primary aim of speedy disposal of cases by specialised experts.
- The functioning of the IPAB is critical for the innovation ecosystem. Every patent granted by the Patent Office is a potential subject matter in appeal before the IPAB. An unjustified patent grant at the Patent Office, by error or oversight, can only be corrected in appeal. While we know the number of cases filed and disposed, we will never know the number of unjustified patents that went unquestioned for lack of an effective appellate mechanism.

Missed opportunity

- India stands as a shining example for what it has done legislatively in patent law. Be it the retraction of product patents for pharmaceuticals and chemicals between 1970 and 2005, the anti-evergreening provisions or the robust compulsory licensing regime, it has offered the world a host of TRIPS-compliant flexibilities in its statute.
- But when it came to developing a jurisprudence around these provisions – case laws from the highest courts on how these provisions will be worked – it has failed.
- Barring a few bright spots, there has been a reluctance to extend the flexibilities in the Patents Act through judicial interpretation that expands the law.
- The tenure of the IPAB will be remembered as a missed opportunity to develop the home-grown jurisprudence on patent law that is much lacking in India.

A low-carbon future through sector-led change

(Source: The Hindu)

Context: *In the build-up to the 'Leaders' Climate Summit' organised by the United States this week (April 22-23), there has been a flurry of articles about whether India should announce a 'net-zero' emissions target, and by when.*

Details:

- The Intergovernmental Panel on Climate Change (IPCC) 1.5°C report called for global carbon emissions to reach net-zero by 2050, which the pressure cooker of climate diplomacy has quickly transformed into a call for all countries to announce 2050 as the net-zero target year.
- Yet, global net zero may require some countries reaching net-zero before 2050 in order for others to have some additional time. Since a disproportionate share of the carbon space has been used up by developed countries, it is important that they act boldly at home, to match the vigour of their diplomatic efforts.
- Nonetheless, as a climate-vulnerable country, India must also up its game to contribute to limiting global temperature rise, ideally below 1.5°C.
- While doing so, it should not lose sight of the history of global climate negotiations and its own developmental needs. Though a large country and economy, we are still a very poor country with a significant development deficit — for example, our per-capita carbon emissions are less than half the world average.

What India must do

- So, what is the way forward for India? Saying India will take only modest steps until richer countries do more is not viable in the context of a global climate crisis. Yet, announcing an Indian 2050 net-zero commitment risks taking on a much heavier burden of decarbonisation than many wealthier countries, and could seriously compromise India's development needs.
- We suggest a third path, focused on concrete, near-term sectoral transformations through aggressive adoption of technologies that are within our reach, and an earnest effort to avoid high carbon lock-ins.
- This is best accomplished by focusing on sectoral low-carbon development pathways that combine competitiveness, job-creation, distributional justice and low pollution in key areas where India is already changing rapidly.
- This approach is directionally consistent with India moving towards net-zero, which should be our long-term objective.
- Over time, India can and should get more specific about future economy-wide net-zero targets and dates.
- Here, we detail what such an approach would look like, by laying out the contours of an enhanced national pledge for the electricity sector, to illustrate how it can be both ambitious and in India's interest.
- A similar approach should be adopted for other sectors.

De-carbonise power sector

- To achieve net-zero emissions, a key piece of the puzzle is to decarbonise the electricity sector, which is the single largest source (about 40%) of India's greenhouse gas emissions. De-carbonised electricity would also allow India to undertake transformational changes in urbanisation and industrial development, for example by expanding the use of electricity for transport, and by integrating electric systems into urban planning.
- So far, our efforts in the electricity sector have focused on expanding renewable electricity capacity, with targets growing by leaps and bounds from 20GW of solar to 175GW of renewable capacity by 2022, further growing to 450GW of renewable capacity by 2030.
- While useful as a direction of travel, India now needs to shift gears to a comprehensive re-imagination of electricity and its role in our economy and society.
- One way to do this is to go beyond expanding renewables to limiting the expansion of coal-based electricity capacity.

- This will not be easy: coal provides firm, dispatchable power and accounts for roughly 75% of electricity today; supports the economy of key regions; and is tied to sectors such as banking and railways. These connections need to be unravelled to truly shift to a decarbonised future.

Ceiling for coal power

- A first, bold, step would be to pledge that India will not grow its coal-fired power capacity beyond what is already announced, and reach peak coal electricity capacity by 2030, while striving to make coal-based generation cleaner and more efficient.
    - There is a strong rationale for this: coal is increasingly uneconomic and phasing it out over time will bring local gains, such as reduced air pollution, aside from climate mitigation.
    - Such a pledge would give full scope for development of renewable energy and storage, and send a strong signal to investors.
- **A second, necessary step is to create a multi-stakeholder Just Transition Commission representing all levels of government and the affected communities to ensure decent livelihood opportunities beyond coal in India's coal belt. This is necessary because the transition costs of a brighter low-carbon future should not fall on the backs of India's poor.**
- Third, a low-carbon electricity future will not be realised without addressing existing problems of the sector such as the poor finances and management of distribution companies, which requires deep changes and overcoming entrenched interests.
- Finally, India will need to work hard to become a leader in technologies of the future such as electricity storage, smart grids, and technologies that enable the electrification of other sectors such as transportation. Through careful partnership with the private sector, including tools such as production-linked incentives, India should use the electricity transition to aim for job creation and global competitiveness in these key areas.
- Thus, an electricity-supply focused component of India's climate pledge could provide the overarching framework to envision and drive transformative change.

Improve energy services

- Enhancing the efficiency of electricity use is an important complement to decarbonising electricity supply. Growing urbanisation and uptake of electricity services offer a good opportunity to shape energy consumption within buildings through proactive measures.
- Cooling needs are expected to increase rapidly with rising incomes and temperatures. Air conditioners, fans and refrigerators together consume about 60% of the electricity in households.
- Today, the average fan sold in the market consumes more than twice what an efficient fan does, and an average refrigerator about 35% more. India could set aggressive targets of, say, 80% of air conditioner sales, and 50% of fan and refrigerator sales in 2030, being in the most efficient bracket.
- In addition to reducing green house gas emissions, this would have the benefit of lowering consumer electricity bills. India can leverage this transition too as an opportunity to become a global leader in production of clean appliances.
- Such a sector-by-sector approach, which can and should be developed for other sectors, can demonstrate concrete, yet ambitious, domestic action that sets India on the path toward net zero emissions.
- It empowers India to insist that developed countries complement their distant net-zero targets by enacting concrete near-term measures that are less reliant on unsure offsets.
- This approach also allows India to nimbly adapt its sectoral transition plans as technologies mature and enable it to ratchet up its pledges periodically as required by the Paris Agreement.

Forming timelines

- Going further, India may even consider committing to submit plausible pathways and timelines to achieving net-zero emissions as part of its future pledges.
- This would allow India adequate time to undertake detailed assessments of its development needs and low-carbon opportunities, the possible pace of technological developments, the seriousness of the net-

zero actions by developed countries, and potential geo-political and geo-economic risks of over-dependence on certain countries for technologies or materials.

- India can also use this period to develop a strategic road map to enhance its own technology and manufacturing competence as part of the global clean energy supply chain, to gain benefits of employment and export revenues.
- Such an integrated approach, which is ambitious, credible and rooted in our developmental needs — including climate mitigation needs — will represent an ambitious, forward-looking and results-oriented India.

A fresh push for green hydrogen

(Source: The Hindu)

Context: *India will soon join 15 other countries in the hydrogen club as it prepares to launch the National Hydrogen Energy Mission (NHEM). The global target is to produce 1.45 million tonnes of green hydrogen by 2023. Currently, India consumes around 5.5 million tonnes of hydrogen, primarily produced from imported fossil fuels. In 2030, according to an analysis by the Council on Energy, Environment and Water (CEEW), green hydrogen demand could be up to 1 million tonnes in India across application in sectors such as ammonia, steel, methanol, transport and energy storage. However, several challenges in scaling up to commercial-scale operations persist. We propose five recommendations.*

Key steps

- First, decentralised hydrogen production must be promoted through open access of renewable power to an electrolyser (which splits water to form H2 and O2 using electricity).
    - Currently, most renewable energy resources that can produce low-cost electricity are situated far from potential demand centres.
    - If hydrogen were to be shipped, it would significantly erode the economics of it.
    - A more viable option would be wheeling electricity directly from the solar plant.
    - For instance, wheeling electricity from a solar plant in Kutch to a refinery in Vadodara could lower the transportation cost by 60%, compared to delivering hydrogen using trucks.
    - However, the electricity tariffs could double when supplying open-access power across State boundaries.
    - Therefore, operationalising open access in letter and spirit, as envisioned in the Electricity Act, 2003, must be an early focus.
- Second, we need mechanisms to ensure access to round-the-clock renewable power for decentralised hydrogen production.
    - To minimise intermittency associated with renewable energy, for a given level of hydrogen production capacity, a green hydrogen facility will typically oversize the electrolyser, and store hydrogen to ensure continuous hydrogen supply.
    - However, such a configuration would also generate significant amounts of excess electricity.
    - Therefore, as we scale up to the target of having 450 GW of renewable energy by 2030, aligning hydrogen production needs with broader electricity demand in the economy would be critical.
- Third, we must take steps to blend green hydrogen in existing processes, especially the industrial sector. Improving the reliability of hydrogen supply by augmenting green hydrogen with conventionally produced hydrogen will significantly improve the economics of the fuel. This will also help build a technical understanding of the processes involved in handling hydrogen on a large scale.
- Fourth, policymakers must facilitate investments in early-stage piloting and the research and development needed to advance the technology for use in India.

  - The growing interest in hydrogen is triggered by the anticipated steep decline in electrolyser costs.
  - India should not be a mere witness to this. Public funding will have to lead the way, but the private sector, too, has significant gains to be made by securing its energy future.
- Finally, India must learn from the experience of the National Solar Mission and focus on domestic manufacturing.
  - Establishing an end-to-end electrolyser manufacturing facility would require measures extending beyond the existing performance-linked incentive programme.
  - India needs to secure supplies of raw materials that are needed for this technology.
  - Further, major institutions like the DRDO, BARC and CSIR laboratories have been developing electrolyser and fuel-cell technologies.
  - There is a need for a manufacturing strategy that can leverage the existing strengths and mitigate threats by integrating with the global value chain.
- Even before it has reached any scale, green hydrogen has been anointed the flag-bearer of India's low-carbon transition. Hydrogen may be lighter than air, but it will take some heavy lifting to get the ecosystem in place.

From Petro to Electro

(Source: Down to Earth)

Context: *India aims to generate 40 per cent of its energy from renewable sources by 2030 and become a 30-40 per cent electric vehicle (EV) nation. The target gives one the impression that India is well poised for energy transition.*

Details:

- In 2019-20, India imported about Rs8,500 crore worth of Li-ion batteries. Same was the case in 2018-19. This is a six-fold rise from 2014-15. India almost entirely depends on global (especially Chinese) resources and technology for this energy transition. Recent tensions with China have made the country even more aware of this dependence.
- Self-reliance and localisation are, therefore, high on national priority, but this needs firmer strategies. Already, the government has rolled out a subsidy and charging infrastructure-based incentive programme called Faster Adoption and Manufacturing of Electric Vehicles (FAME) in 2015.
- As part of the post-pandemic economic recovery, it has announced Production Linked Incentive (PLI) scheme, under which Rs 18,000 crore have been allocated for developing EV battery chemistry and promoting investment in manufacturing.
- Under PLI, manufacturers would be given a grace period of five years from notification of the scheme to ensure adequate localisation. While the first few years may see large-scale import of cell components, such as electrodes and electrolytes, higher value capture is likely in the years to follow.
- PLI provides incentives between 2 and 12 per cent of the incremental sales revenue and between 4 and 7 per cent of incremental exports revenue. Incentives will be disbursed based on performance in the areas of cell manufacturing.
- India is also setting targets for giga-scale battery storage factories.
- NITI Aayog has proposed to the government that each kilowatt hour of the manufacturing of the Li-ion cell should be given a direct fiscal incentive and that it should be a production-linked direct fiscal incentive. It is believed that 60-70 per cent of the value addition is possible locally.\
- Localisation will require local component and battery development to customise to Indian conditions while reducing the cost of manufacturing, he says and the auto industry is in consultation with the government to suggest refinement to the scheme.
- Though localisation has drawn policy attention, industry is waiting and watching.

States push for cell makers

- Multiple state governments, too, have framed or are framing EV policies and offering capital subsidies to match those of the Union government to help build supply.
- Invest India, the national investment promotion and facilitation agency under the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, provides information in this regard.
- Gujarat has seen large-scale investments for Li-ion battery manufacturing and is offering subsidised utilities, while Telangana is earmarking land for manufacturing unit at a concessional rate. Andhra Pradesh has announced allocation of land for an electric mobility-focused industrial park and capital subsidies of 50 per cent on fixed capital investments in common infrastructure. Karnataka has focussed on R&D and interest-free loans for EV manufacturing.
- Tamil Nadu is offering subsidised land and incentives. The first five giga-factories in Maharashtra will get capital subsidies on fixed capital investments and the state government will be an equity partner. Haryana, Punjab, Bihar, Uttar Pradesh and Rajasthan are working towards ecosystem required for the industry.
- US-based car manufacturer Tesla is already in Bengaluru to import completely built-up units, but also has plans to start production. This may also bring battery partners Panasonic and LG Chem. Delhi, too, has a comprehensive EV policy.

Industry thinks big in small

- There is more optimism about quicker scale of change in the e-two-wheeler segment. With 40 players, of which 27 are Indian start-ups, the e-two-wheeler market is crowded. Compared to 3,400 e-four-wheelers and 600 e-buses, India sold 152,000 e-two-wheelers in 2019-2020.
- The popularity of e-two-wheelers has a lot to do with their small batteries that are easier to charge at home and do not need public charging. The sheer numbers make e-two-wheelers the immediate candidate for ambitious electrification target.
- Start-ups and non-conventional players in this segment are moving aggressively with innovative business models than the conventional players. Ather Energy Pvt Ltd, an Indian EV company, manufactures all components in-house except battery cells which it imports from China.
- Okinawa Autotech Pvt Ltd, another Indian e-two-wheeler company, is expanding capacity and setting up a manufacturing plant in Rajasthan. Taxi aggregator Ola Electric is setting up an e-two-wheeler manufacturing facility in Tamil Nadu. Even Mahindra & Mahindra plans to launch a product in this segment.
- Integrated business model is a necessity in this segment. Ravneet Phokela, chief business officer, Ather Energy, says they have “taken the route of intertwined ecosystem to build an integrated platform to go beyond just assembling of vehicles”.
- This includes battery management systems, motor, controllers, charging infrastructure and connected dashboard.
- The car industry is slower to respond, as the demand is low. But it is also looking at an ecosystem approach. The Maruti-Suzuki alliance is building supply chain and skills and also setting up battery manufacturing plant. Suzuki Motor Corp, along with Toshiba Corp and Denso Corp, is setting up a Li-ion battery manufacturing plant. But their electrification strategy is likely to be pushed to 2025. Mahindra started early and is building its product line.
- In the bus segment, 55 per cent of the orders under FAME till 2019-20 are said to have been won by Indian industry that partnered with Chinese firms. The dependence on China is more due to the lower costs of materials in China. But the scenario is changing.
- Tata Power, the leader in the sector, is setting up indigenous supply chain including batteries. Tesla Inc may tie up with Tata Power to set up charging infrastructure for EVs. Overall, in the four wheelers segment, lack of competition and a low fleet volume have dampened import substitution efforts so far.

Resource rush is on

- Mirroring the global trend, India is looking at accessing mines globally for tying up sources for battery raw materials. Khanij Bidesh India Ltd, a joint venture of National Aluminium Co, Hindustan Copper Ltd and Mineral Exploration Corp, is acquiring lithium and cobalt mines overseas.
- It is reported that two-thirds of the minerals required to achieve the energy transition goals are already available in the country. For the rest, the government is signing up battery mineral sourcing agreements with Latin American countries and Australia.
- While industry blames "not enough traction" to build consumer demand and infrastructure, consumers rue that there are not many quality products in the market. This "chicken and egg" syndrome can be dispelled only with policy mandates, targets and long-term policy commitments. Consumer awareness on e-models is low, hindering progress.
- Global experience shows the government will have to be the prime mover to jump start the big change in industrial policy and consumer demand. FAME, PLI and state-level policies are steps forward but do not add up to achieve the required scale of change.
- Entrenched in manufacturing of internal combustion engines, the auto industry is resistant to ambitious and urgent electrification targets, especially after recent investment in BS-VI emissions standards.
- Global experience shows India needs targets for electrification, credit-based zero emissions mandate (including sales and purchase mandate), and a holistic industrial and trade policy to build the ecosystem for the massive change. When major global markets are aiming for 100 per cent electrification over the next two decades, can India remain insular?
- But the Indian auto sector is weary of the zero emissions mandate.
- The battery industry is also seeking more support for charging infrastructure. Though the infrastructure expansion will bring more private investment, financial strategies are still needed.
- The overall sense in the industry is that it is important to incentivise players to setup local manufacturing and to have more rational cost structures to lower investment costs. This is needed to build supplies, jobs and skills around EVs while stimulating consumer demand.
- Other large business houses have begun to show interest in the battery sector. Reliance is reportedly looking at energy storage for renewables and other electronics to leverage synergies among the businesses (including mobile phones and cell towers) that use lithium ion batteries. They may offer a future option to diversify into electric vehicles.
- The economics of electric mobility, as opposed to the internal combustion engine economy, is India's chance to stay ahead of the global curve. While there will be restructuring in trade to access battery materials and mines, domestic industry and market development is necessary.
- An electro-economy is an inevitable reality. The quicker India prepares for this change, the bigger will be the economic spin off, along with low carbon and health benefits.

Current Affairs Quiz

1) Which of the following statements is/are correct with respect to System for Assessment, Awareness & Training for the Hospitality Industry (SAATHI)?

1. It aims to assist the hospitality industry in their preparedness to continue operations safely and mitigate risks arising out of the COVID-19 pandemic.
2. It was launched by the Ministry of Tourism in partnership with Quality Council of India (QCI).

Select the correct answer code:

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

Answer : c
Both statements are correct

2) Consider the following statements with respect to the recently released report, Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework:

1. It was released by the Department of Science and Technology.
2. It identifies eight states, located mostly in the eastern part of the country, as highly vulnerable to climate change.

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
Both statements are correct

3) Nongkhyllem Wildlife Sanctuary is located in -

a. Sikkim
b. Meghalaya
c. Arunachal Pradesh
d. None of the above

Answer : b

4) Which of the following countries does not share borders with Black Sea?

1. Serbia
2. Russia
3. Greece
4. Bulgaria
5. Romania

Select the correct answer using the codes given below:

a. 2 and 3 only
b. 1, 3 and 5 only
c. 2, 4 and 5 only
d. All of the above

Answer : a

5) Which of the following statement is incorrect about elephants?

a. African elephants and Asian elephants are different species
b. Elephant calves can stand up and walk after one week after birth
c. Males leave their family after puberty and roam with other males or singly

d. Elephants can detect and communicate with seismic signals

Answer : b

- Elephant calves can, in fact, stand a mere 20 minutes after birth.

6) Consider the following statements with respect to Wholesale Price Index:

1. The WPI captures only the average movement of wholesale prices of goods and not services.
2. It is released by the Economic Advisor in the Ministry of Commerce and Industry.

Which of the statements given above is/are incorrect?

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

Answer : d

Both statements are incorrect

7) Consider the following statements with respect to Multisystem Inflammatory Syndrome in Children (MIS-C):

1. It is related to a surge of inflammation triggered by an immune response to the virus, particularly connected to Covid-19
2. Neurological symptoms of the syndrome include hallucinations, confusion, speech impairments, and problems with balance and coordination.

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

Both statements are correct

8) Consider the following statements with respect to Currency Manipulators Watch List:

1. It is a semi-annual report released by World Bank which tracks foreign exchange reserves of a nation.
2. Inclusion in the list does not subject to any kind of penalty and sanctions but it deteriorates the global financial image of 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

The US Department of Treasury releases the semi-annual report where it has to track developments in international economies and inspect foreign exchange rates.

9) Global Diabetes Compact is launched by which of the following group?

a. World Health Organization
b. World Diabetes Foundation
c. Doctors without Borders
d. International Diabetes Federation

Answer : a

10) Which of the following statements is/are incorrect with respect to Ultra White Paint recently created by a team of researchers fro Purdue University?

1. It is made of calcium carbonate and reflects 85% of white light.
2. It remains cooler than the ambient temperature in full sunlight.

Select the correct answer code:

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

Answer : a

The team of researchers from Purdue University have created an ultra-white paint made up of barium sulphate.

Barium Sulphate is used to make photo paper and cosmetics white. Different sized particles of this chemical compound, helps in scattering different amounts of light.

The new ultra white white paint reflects 99% of all light that hits it, remaining significantly cooler than the ambient temperature, even when sitting in full sunlight.

11) Consider the following statements with respect to Khajuraho Temples:

1. It is located in the state of Madhya Pradesh and managed by the Archaeological Survey of India (ASI).
2. It was built between 950-1050 AD by the Chandela Dynasty.
3. The Khajuraho group of monuments have been recognised by UNESCO as a World Heritage Site in 1986.

Which of the statements given above is/are correct?

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

Answer : d

12) Consider the following statements with respect to energy sector in India:

1. More than half of India's total installed electricity generation is based on renewables.
2. India is the first country to formulate a basic hydrogen strategy.

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

38% of India's total installed electricity generation is based on renewables.

Japan is the first country to formulate a basic hydrogen strategy.

13) Consider the following statements with respect to ALH Mk III?:

1. It is a multirole helicopter with Shakti engine manufactured by Hindustan Aeronautics Limited (HAL).
2. It will be primarily used for Search and Rescue, Special Operations and Coastal Surveillance.

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

Both statements are correct

14) Which of the following statements is/are correct with respect to Startup India Seed Fund Scheme (SISFS)?

1. The fund aims to provide financial assistance to startups which provides proof of concept and a developed prototype.
2. The scheme was launched by the Ministry of Commerce and Industry.

Select the correct answer code:

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

Answer : b

Funding from angel investors and venture capital firms becomes available to startups only after the proof of concept has been provided.
Similarly, banks provide loans only to asset-backed applicants. It is essential to provide seed funding to startups with an innovative idea to conduct proof of concept trials.

15) Consider the following statements with respect to the "Cities combating plastic entering the marine environment" agreement, recently signed by India:

1. The project which aims to enhance practices to prevent plastic entering the marine environment will be undertaken in all India states for a period of three and a half years.
2. The project was signed between India and the Federal Republic of Germany.

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

The project will be undertaken at the national level (at MoHUA), select states (Uttar Pradesh, Kerala and Andaman & Nicobar Islands) and in the cities of Kanpur, Kochi and Port Blair for a period of three and a half years.

16) Consider the following statements with respect to Exotic Animals

1. It usually refers to a wild animal or one that is more unusual and rarer than normal domesticated pets like cats or dogs.
2. Wildlife Protection Act 1972, provides protection to all exotic animals that are in India.

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

Not all exotic animals are protected under Wildlife Protection Act.

17) Which of the following goods are not components of Wholesale Price Index?

1. Crude Petroleum
2. Fruits
3. LPG
4. Cement
5. Tobacco products

Select the correct answer using the codes given below:

a. 1, 3 & 5 only
b. 4 & 5 only

c. 2, 4 & 5 only
d. None of the above

Answer : d
All of the above are components of WPI.

18) Consider the following statements with respect to Right to Freedom of Movement :
1. It is protected against only state action and not private individuals.
2. It is guaranteed under Article 19 of the Indian Constitution.

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

19) Which of the following group has established World Heritage Day?
a. World Monuments Fund (WMF)
b. Indian National Trust for Art and Cultural Heritage (INTACH)
c. Indian National Trust for Art and Cultural Heritage (INTACH)
d. Global Heritage Fund (GHF)

Answer : c
Every year, 18th April is celebrated as 'International Day for Monuments and Sites', also known as 'World Heritage Day'.

20) Which of the following statements is/are incorrect with respect to Centralised & Decentralised Payment Systems?
1. Centralised payment systems will include Cheque Truncation System (CTS) centres and Express Cheque Clearing System (ECCS) centres.
2. Decentralised payment systems will include Real Time Gross Settlement (RTGS) System and National Electronic Fund Transfer (NEFT) system.

Select the correct answer code:
a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2

Answer : c
The centralised payment systems will include Real Time Gross Settlement (RTGS) System and National Electronic Fund Transfer (NEFT) system and any other system as may be decided by RBI from time to time. The decentralised payment systems will include clearing houses managed by RBI (Cheque Truncation System (CTS) centres) as well as other banks (Express Cheque Clearing System (ECCS) centres) and any other system as decided by RBI from time to time.