



# ACE

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# ESE-2022

## (Preliminary Examination)

### Current Issues

(January - 2022)

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**19 All India 1<sup>st</sup> Ranks in ESE**

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# Current Issues

(January - 2022)

## POLITY OF GOVERNANCE

### UNEMPLOYMENT IN INDIA

#### Why in News

According to data from the Centre for Monitoring Indian Economy (CMIE), India's unemployment rate touched a four-month high of 7.9% in December 2021.

- With Covid-19 cases on the rise amid the threat posed by the Omicron variant and many states imposing fresh curbs, economic activity and consumption levels have been affected.
- This could adversely affect economic recovery further going ahead.

# Unemployment in India



### KEY POINTS

#### About Unemployment:

- Unemployment occurs when a person who is actively searching for employment is unable to find work.
  - ✓ Unemployment is often used as a measure of the health of the economy.
- The most frequent measure of unemployment is the unemployment rate, which is the number of unemployed people divided by the number of people in the labour force.

- **National Sample Survey Organisation (NSSO)**

defines employment and unemployment on the following activity statuses of an individual:

- ✓ Working (engaged in an economic activity) i.e. 'Employed'.
- ✓ Seeking or available for work i.e. 'Unemployed'.
- ✓ Neither seeking nor available for work.
- ✓ The first two constitute the labour force and unemployment rate is the percent of the labour force that is without work.
- ✓  $\text{Unemployment rate} = (\text{Unemployed Workers} / \text{Total labour force}) \times 100$

## CRIMINALISING MARITAL RAPE

### Why in News

Recently, a batch of petitions seeking criminalisation of marital rape, has been filled in the Delhi High Court.

- In response to it the Union government has replied that it is considering a “constructive approach” towards criminalising it and had sought suggestions from various stakeholders.
- The petition seeks to amend the criminal law, which includes Section 375 (rape) of the Indian Penal Code (IPC).

### When rape is allowed by law



**More than two-thirds of married women in India, aged 15 to 49, have been beaten, or forced to provide sex, regardless of their socio-economic positions. (As per the UN Population Fund)**

**1 in 5 men has forced his wife or partner to have sex. (As per the International Men and Gender Equality Survey 2011)**

**Over 104 countries across the world have criminalised marital rape.**

**India, Saudi Arabia, Pakistan and China have not.**

## KEY POINTS

### Background:

- The grounds for “marital immunity” for rape prosecution have emerged from the patriarchal discourse in society.
  - ✓ According to which, a husband cannot be guilty of a rape committed upon his lawful wife because she has given up herself in this kind to her husband by their mutual matrimonial consent and contract, which she cannot retract.
- Under the impact of the second wave of feminism in the seventies, Australia became the first common law country to pass reforms in 1976 and after it, many Scandinavian and European countries made rape in marriage a criminal offence.

## KRISHNA WATER DISPUTE

### Why in News

Recently, two judges of the Supreme Court have recused themselves from hearing a matter related to the distribution of Krishna water dispute between Andhra Pradesh, Telangana, Maharashtra and Karnataka.

- They cited the reason that they did not want to be the target of partiality since the dispute is related to their home states.

### Recusal of Judges

- It is the act of abstaining from participation in an official action such as a legal proceeding due to a conflict of interest of the presiding court official or administrative officer.
- When there is a conflict of interest, a judge can withdraw from hearing a case to prevent creating a perception that he carried a bias while deciding the case.
- There are no formal rules governing recusals, although several SC judgments have dealt with the issue.
  - ✓ In *Ranjit Thakur v Union of India* (1987), the SC held that the test of the likelihood of bias is the reasonableness of the apprehension in the mind of the party.
  - ✓ The judge needs to look at the mind of the party before him, and decide that he is biased or not.



## KEY POINTS

### About:

- In 2021 Andhra Pradesh alleged that the Telangana government had deprived it of its legitimate share of water for drinking and irrigation purposes in an “unconstitutional and illegal” manner.
- The water of the Srisailem reservoir - which is the main storage for river water between the two states - has turned out to be a major warring point.
  - ✓ Andhra Pradesh protested against Telangana’s use of the Srisailem reservoir water for power generation.
- ✓ The Srisailem reservoir is constructed across the Krishna River in Andhra Pradesh. It is located in the Nallamala hills.
- It further contended that Telangana was refusing to follow decisions taken in the apex council constituted under the Andhra Pradesh Reorganisation Act, 2014, directions of Krishna River Management Board (KRMB) constituted under this Act and directions of the Centre.

### Background:

#### Krishna Water Disputes Tribunal:

- In 1969, the Krishna Water Disputes Tribunal (KWDT) was set up under the Inter-State River Water Dispute Act, 1956, and presented its report in 1973.
- At the same time, it was stipulated that the KWDT order may be reviewed or revised by a competent authority or tribunal any time after 31st May, 2000.

#### Second KWDT

- The second KWDT was instituted in 2004. It delivered its report in 2010, which made allocations of the Krishna water at 65 % dependability and for surplus flows as follows: 81 TMC for Maharashtra, 177 TMC for Karnataka, and 190 TMC for Andhra Pradesh.

#### After the KWDT’s 2010 report:

- Andhra Pradesh challenged it through a Special Leave Petition before the Supreme Court in 2011.
- In 2013, the KWDT issued a ‘further report’, which was again challenged by Andhra Pradesh in the Supreme Court in 2014.

### Creation of Telangana:

- After the creation of Telangana, Andhra Pradesh has asked that Telangana be included as a separate party at the KWDT and that the allocation of Krishna waters be reworked among four states, instead of three.
- ✓ It is relying on Section 89 of The Andhra Pradesh State Reorganisation Act, 2014.
- ✓ For the purposes of this section, it is clarified that the project-specific awards already made by the Tribunal on or before the appointed day shall be binding on the successor States.

### Constitutional Provisions:

- Article 262 of the Constitution provides for the adjudication of inter-state water disputes.
- Under this, Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley.
- The Parliament has enacted the two laws, the River Boards Act (1956) and the Inter-State Water Disputes Act (1956).
- The River Boards Act provides for the establishment of river boards by the Central government for the regulation and development of inter-state river and river valleys.
- The Inter-State Water Disputes Act empowers the Central government to set up and hoctribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.
- ✓ Neither the Supreme Court nor any other court is to have jurisdiction in respect of any water dispute which may be referred to such a tribunal under this Act.

### Krishna River

- **Source:** It originates near Mahabaleshwar (Satara) in Maharashtra. It is the second biggest river in peninsular India after the Godavari River.
- **Drainage:** It runs from four states Maharashtra (303 km), North Karnataka (480 km) and the rest of its 1300 km journey in Telangana and Andhra Pradesh before it empties into the Bay of Bengal.
- **Tributaries:** Tungabhadra, Mallaprabha, Koyna, Bhima, Ghataprabha, Yerla, Warna, Dindi, Musiand Dudhganga.



## **SURVEY OF DEFENCE LAND USING MODERN TECHNOLOGY**

### **Why in News**

Recently, the Ministry of Defence has concluded a survey of nearly 18 lakh acres of defence land scattered across 4,900 pockets across the country for effective land use and planning, and preventing encroachments.



## KEY POINTS

### About:

- It is a remarkable achievement since for the first time after independence, entire defence land has been surveyed by using latest survey technology and in a large number of pockets in association with the Revenue authorities of various State Governments.

### Use of Modern Technology:

- Modern survey technologies like Electronic Total Station (ETS) and Differential Global Positioning System (DGPS) were used in the survey.
  - ✓ ETS is integrated with Electronic Distance Measurement (EDM) to measure both vertical and horizontal angles and the slope distance from the instrument to a particular point, and an on-board computer to collect data and perform triangulation calculations.
  - ✓ DGPS is an advanced form of GPS navigation which provides greater positioning accuracy than the standard GPS.
- Drone imagery and Satellite imagery based surveys were leveraged for reliable, robust and time bound outcomes.
  - ✓ For the first time, Drone imagery based survey technology was used for survey of lakhs of acres of defence land in Rajasthan.
  - ✓ Besides this, Satellite Imagery based survey was done for the first time for certain defence land pockets.
- 3D Modelling techniques for better visualisation of defence land in hilly area have also been introduced by utilising Digital Elevation Model (DEM) in association with Bhabha Atomic Research Centre (BARC).
- A Digital Elevation Model (DEM) is a representation of the bare ground (bare earth) topographic surface of the Earth excluding trees, buildings, and any other surface objects.

## JAL JEEVAN MISSION

### Why in News

Recently, the Ministry of Jal Shakti has approved Drinking Water Supply schemes of Rs. 15,381.72 Crore for Madhya Pradesh under Jal Jeevan Mission (JJM).

- JJM aims to ensure assured tap water supply or 'Har Ghar Jal' to all rural households by 2024.



## KEY POINTS

### About:

- Launched in 2019, it envisages supply of 55 litres of water per person per day to every rural household through Functional Household Tap Connections (FHTC) by 2024.
- JJM looks to create a jan andolan for water, thereby making it everyone's priority.
- It comes under Jal Shakti Ministry.

### Aims:

- The mission ensures functionality of existing water supply systems and water connections; water quality monitoring and testing as well as sustainable agriculture.
- It also ensures conjunctive use of conserved water; drinking water source augmentation, drinking water supply system, grey water treatment and its reuse.

### Features:

- JJM focuses on integrated demand and supply-side management of water at the local level.
- Creation of local infrastructure for source sustainability measures as mandatory elements, like rainwater harvesting, groundwater recharge and management of household wastewater for reuse, is undertaken in convergence with other government programmes/schemes.
- The Mission is based on a community approach to water and includes extensive Information, Education and Communication as a key component of the mission.

### Implementation:

- Paani Samitis plan, implement, manage, operate and maintain village water supply systems.
  - ✓ These consist of 10-15 members, with at least 50% women members and other members from Self-Help Groups, Accredited Social and Health Workers, Anganwadi teachers, etc.
- The committees prepare a one-time village action plan, merging all available village resources. The plan is approved in a Gram Sabha before implementation.

### Funding Pattern:

- The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states, and 100% for Union Territories.

### Progress So Far:

- When the mission was launched, only 17% (32.3 million) of the country's rural households had a tap water supply.
- Today, 7.80 Crore (41.14%) households have tap water supply. Goa, Telangana, Andaman & Nicobar Islands and Puducherry have achieved 100% household connection in rural areas and have become 'Har Ghar Jal'.
  - ✓ To complement the Jal Jeevan Mission (Rural), Jal Jeevan Mission (Urban) was announced in the Budget 2021-22.

## GREEN ENERGY CORRIDOR

### Why in News

Recently, the Cabinet Committee on Economic Affairs approved the scheme on Green Energy Corridor (GEC) Phase-II for Intra-State Transmission System (InSTS).





## KEY POINTS

### GEC-1:

- Phase 1 of the Green Energy Corridor is already under implementation in Gujarat, Andhra Pradesh, Karnataka, Himachal Pradesh, Maharashtra, Madhya Pradesh, Tamil Nadu, and Rajasthan.
- It is working for the grid integration and power evacuation of about 24GW of Renewable Energy.

### GEC-2:

- It will facilitate grid integration and power evacuation of approximately 20 GW of Renewable Energy (RE) power projects in seven States namely, Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh.
- The transmission systems will be created over a period of five year from Financial Year 2021-22 to 2025-26.
- It is targeted to be set up with a total estimated cost of Rs. 12, 031 crores, and the Central Finance Assistance (CFA) will be 33% of the project cost.
  - ✓ The CFA will help in offsetting the Intra-State transmission charges and thus keep the power costs down.

### Objectives:

- It aims at synchronizing the electricity produced from renewable resources, such as wind and solar, with the conventional power stations in the grid.
- It aims to achieve the target of 450 GW installed RE capacity by 2030.
- The objective of the GEC is to evacuate approx. 20,000 MW of large-scale renewable power and improvement of the grid in implementing states.

### Significance:

- It will contribute to the long-term energy security of India and will promote ecologically sustainable growth by reducing carbon footprint.
- It will facilitate in generating large direct and indirect employment opportunities for both the skilled and unskilled personnel.



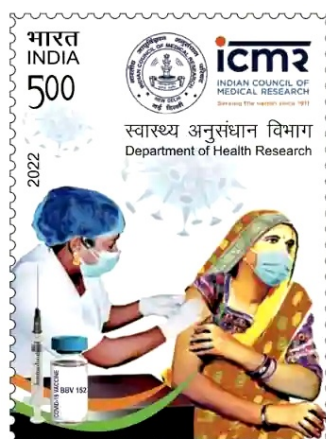
## 16TH JANUARY ANNOUNCED AS NATIONAL START-UP DAY



### KEY POINTS

- Highlighting the importance of Start-Ups in the nation's progress, Prime Minister Shri Narendra Modi has announced that 16th of January will be commemorated as National Start-Up Day every year.
- Interacting with Start-Ups through video conferencing on 15th January, PM Modi said, this decade is being called the 'techade' of India and the government is taking concrete steps to strengthen the innovation, entrepreneurship and start-up ecosystem across the country.
- Whether it is a new Drone Rules, or new Space Policy, the priority of the government is to provide opportunities to youths for innovation, he added.

## COMMEMORATIVE POSTAL STAMP MARKING ONE YEAR OF COVID VACCINATION DRIVE



## KEY POINTS

- Recognising and honouring the remarkable work done by the frontline healthcare workers and scientific community across the country in protecting the people against the COVID pandemic, the Ministry of Health and Family Welfare has released a commemorative postal stamp on COViD-19 Vaccine.
- The stamp was inaugurated by Union Health Minister Dr Mansukh Mandaviya on 16th January, the first anniversary of India's National Covid-19 Vaccination program.
- The Minister highlighted that India's vaccination program is a story of the unparalleled journey of the country.

## NEW DEVELOPMENT GUIDELINES FOR RURAL INDIA RELEASED

### KEY POINTS

- The Ministry of Rural Development and Panchayati Raj has released new development guidelines to transform rural India.
- The revised Rural Area Development Plan Formulation and Implementation (RADPFI) Guidelines will help in improving the quality of life in rural areas, according to Union Minister for Rural Development Giriraj Singh.
- The guidelines provide a roadmap for Panchayati Raj Institutions for the next twenty-five years till India's centenary of Independence in 2047.
- It will help the Panchayati Raj Institutions and other stakeholders to formulate a master plan for all-round development and possible efforts to boost local infrastructure, employment opportunities and to strengthen the resource base of Panchayats to ensure rural prosperity.

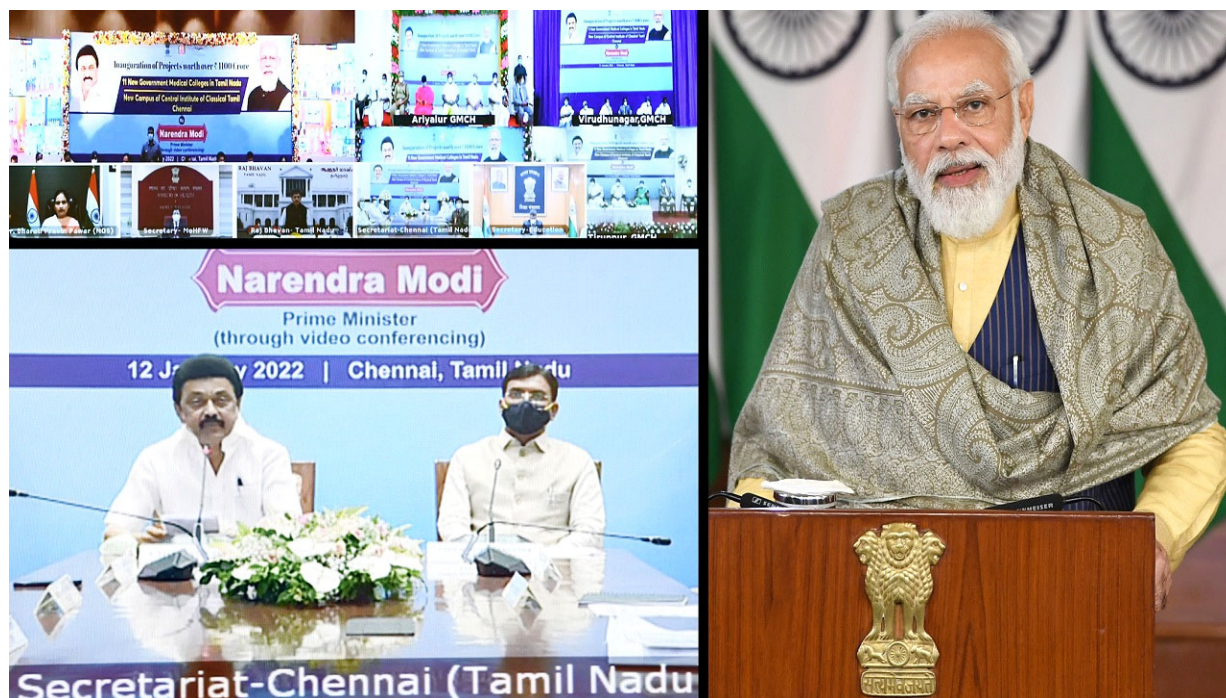
## REVISED GUIDELINES FOR PROMOTING USE OF ELECTRIC VEHICLES



## KEY POINTS

- The Centre has promulgated revised consolidated Guidelines and Standards for Charging Infrastructure for Electric Vehicles.
- According to the revised guidelines, owners may charge their Electric Vehicles at their residence and offices using then existing electricity connections.
- The guidelines also provide that any individual or entity is free to set up public charging stations without the requirement of a license provided that such stations meet the technical, safety and performance standards and protocols laid down by Ministry of Power, Bureau of Energy Efficiency and Central Electricity Authority from time to time.
- The guidelines recognize not only the prevailing international charging standards available in the market but also the new Indian charging standards.
- In order to make charging stations financially viable, a revenue sharing model has been put in place for land used.
- Power Ministry said that these guidelines and standards have been promulgated with the objective of enabling faster adoption of electric vehicles in India by ensuring safe, reliable, accessible and affordable Charging Infrastructure and ecosystem.

## PM INAUGURATES 11 GOVERNMENT MEDICAL COLLEGES ACROSS TAMIL NADU



## KEY POINTS

- Prime Minister Shri Narendra Modi inaugurated 11 new government Medical Colleges across Tamil Nadu on 12th January.
- The new medical colleges have been established at an estimated cost of about Rs 4,000 crore.
- Of this amount, around Rs 2,145 crore have been provided by the Union Government and rest by the Tamil Nadu Government.
- The PM said that in 2014, India had 387 medical colleges, but in the last seven years, this number has gone up to 596.
- The new medical colleges, with cumulative capacity of 1,450 seats, have been established under the centrally sponsored scheme of establishing of medical colleges in districts which do not have either a government or private medical college.

## EMINENT ROCKET SCIENTIST S SOMANATH APPOINTED NEW CHAIRMAN OF ISRO



## KEY POINTS

- Eminent rocket scientist Shri S Somanath has been appointed the new Chairman of the Indian Space Research Organisation (ISRO) as well as the Space Secretary and the Chairman of Space Commission.
- He will be holding all three positions, for tenure of three years.
- Before his appointment as ISRO Chairman, Shri Somnath served as the Director of Vikram Sarabhai Space Centre (VSSC).
- He is an expert in the area of system engineering of launch vehicles.



## INDIA SKILLS 2021 NATIONAL COMPETITION CONCLUDES



### KEY POINTS

- India Skills 2021 national competition has concluded with as many as 270 winners being felicitated with 61 gold, 77 silver, 53 bronze and 79 medallions of excellence.
- Odisha topped the chart with 51 winners, followed by Maharashtra with 30 and Kerala with 25 winners.
- The winners of the competition will get an opportunity to represent India at the World Skills International Competition to be held in Shanghai, China in October this year.
- Competitors from across the country participated in the competition to showcase their talent from 54 industrial sectors.
- These sectors included car painting, patisserie and confectionery, welding, additive manufacturing, cyber security, floristry, among others.
- The competitions were held at multiple locations, including Pragati Maidan and offsite locations in the National Capital Region, from 7th to 9th January 2022.

## EC HIKES EXPENDITURE LIMIT FOR ELECTORAL CANDIDATES



## KEY POINTS

- The Election Commission has enhanced the existing election expenditure limit for candidates in Parliamentary and Assembly constituencies.
- These limits will be applicable in all upcoming elections.
- The ceiling on parliamentary poll expenditure has been raised from Rs. 70 lakh to 95 lakh in bigger states and Rs. 54 lakh to Rs. 75 lakhs in smaller states.
- The bigger states include Maharashtra, Madhya Pradesh, Uttar Pradesh, West Bengal and Kamataka, and the smaller states include Goa, Sikkim, Arunachal Pradesh and UTs.
- The ceiling on poll expenditure in UT of Jammu and Kashmir has been raised to Rs.95 lakhs.
- For Assembly constituencies, expenditure limits have been enhanced from Rs. 28 lakh to Rs. 40 lakh in bigger states and from Rs. 20 lakhs to 28 lakhs in smaller states.
- Last major revision in the election expenditure limit was carried out in 2014, which was further increased by 10 percent in 2020.

## RAILWAYS DEPLOYS 244 MY SAHELI TEAMS AT MAJOR RAILWAY STATIONS



## KEY POINTS

- The Indian Railways Protection Force, RPF has deployed 244 My Saheli teams at major railway stations across the country to provide security to lady passengers in long distance trains particularly travelling alone.
- The Railway Ministry said, RPF collects feedback from these lady passengers at the end of their journeys to assess the efficacy of the initiative.

- The Ministry said, other preventive measures to ensure security of lady passengers like train escorting, CCTV system at 840 stations and about 4000 coaches, regular drives against unauthorized passengers in ladies coaches are also being implemented.
- RPF, tasked with the responsibility of security of railway property, passenger area and passengers, has been working round the clock for providing safe, secure and comfortable travel experience to the passengers.
- During 2021, RPF has arrested more than 3000 criminals involved in offenses against passengers and handed them over to concerned Police.
- RPF has also apprehended 8744 persons last year indulging in crime involving railway property with recovery of stolen Railway Property worth around Rs 6 crore.

## INTERNATIONAL ISSUES

### NATO-RUSSIA COUNCIL TALKS

#### Why in News

Recently, the North Atlantic Treaty Organisation (NATO) and Russia discussed the ongoing situation in Ukraine and its implications for security in Europe at the NATO-Russia Council (NRC) in Brussels.

- Talks between representatives of NATO and Russia concluded without a clear outcome.





## KEY POINTS

### NATO-Russia Council:

- NRC was established at the NATO-Russia Summit in Rome (Rome Declaration) on 28 May 2002.
  - ✓ It replaced the Permanent Joint Council (PJC), a forum for consultation and cooperation created by the 1997 NATO-Russia Founding Act on Mutual Relations.
- The NRC is a mechanism for consultation, consensusbuilding, cooperation, joint decision and joint action, in which the individual NATO member states and Russia work as equal partners on a wide spectrum of security issues of common interest.

### Highlights of the Meet:

- NATO rejected Russia's demand for a new security settlement in Europe, challenging Russia to withdraw troops deployed near Ukraine and join talks on reducing the threat of open conflict.
  - ✓ For the US and EU, Ukraine acts as a significant buffer with Russia. Ukraine is also building a naval base in Ochakiv and another in Berdyansk, which Russia is not happy about.
- The Western allies received no promise that Russia will stand down its forces - which Moscow insists pose no threat to its already partially occupied neighbour - despite the threat of economic sanctions.
- Russia demanded not to admit any more members into NATO and to withdraw western forces from its Eastern Allies. It also warned that the continued deterioration could lead to the "most unpredictable and most dire consequences for European security."
  - ✓ There are significant differences between NATO allies and Russia which will not be easy to bridge.

### India's Stance over Russia Ukraine Crisis:

- India did not join the Western powers' condemnation of Russia's intervention in Crimea and kept a low profile on the issue.
- In November 2020, India voted against a Ukrainesponsored resolution in the United Nations (UN) that condemned alleged human rights violations in Crimea thereby backing old ally Russia on the issue.

## UNREST IN KAZAKHSTAN

### Why in News

Recently, a sharp and sudden spike in fuel prices triggered a national crisis in Kazakhstan, with the government officially stepping down following days of violent protests across the country.

- Russian-led forces have also arrived in Kazakhstan at the request of the country's authoritarian president, amid a violent crackdown on anti-government protests.
- Earlier, the Defence Minister of India held bilateral talks with the Defence Minister of the Republic of Kazakhstan in New Delhi.

**Unrest in Kazakhstan**  
The once stable but repressive Kazakhstan has been thrown into chaos with dozens reported dead in violent protests and Russia sending troops to quell the unrest

**ALMATY IN CHAOS DOZENS DEAD**

**JAN. 5:** Tokayev sacks his Cabinet in a bid to head off the unprecedented unrest but protesters gather again, blocking roads and storming Almaty's local government headquarters

**JAN. 6:** Tokayev says "terrorists" are seizing buildings, infrastructure and small arms, and battling security forces

**LPG PRICE HIKE**  
**JAN. 2:** Protests erupt in the town of Zhanaozen in the oil-rich western Mangystau region over a New Year increase in prices for LPG

**STATE OF EMERGENCY**  
■ Later that night, President Kassym-Jomart Tokayev (above) imposes a state of emergency in the city and in the restive west after saying he would cut the price of LPG

**APPEAL TO MOSCOW**  
■ Tokayev appeals for help to quell the protests from the Moscow-led Collective Security Treaty Organisation

■ 13 security officers have been killed and 353 wounded in the unrest, local media report. The Health Ministry says 1,000 people have been wounded

■ Unrest spreads to the regional hub of Aktau on the ex-Soviet country's Caspian Sea coast

■ Many chant "Old Man Out!", a reference to Tokayev's still-powerful predecessor and mentor Nursultan Nazarbayev

**JANUARY 4:** Thousands take to the streets of Almaty, the largest city, with police firing tear gas and stun grenades

■ The Mayor's office and the presidential residence in the city are later reportedly left in flames

■ Russian paratroopers are dispatched

## KEY POINTS

### Reason for the Unrest:

- Angry Kazakhs first took to the streets after fuel prices doubled in the oil-rich Central Asian nation when the government lifted price caps for Liquefied Petroleum Gas (LPG), commonly used in vehicles.
- The protests began in the oil city of Zhanaozen, where at least 16 oil workers protesting against poor working conditions were killed by the police in 2011.
- Demonstrations broke out and quickly turned violent in cities and towns across the country, in what is being called the biggest wave of protests in Kazakhstan's history.
  - ✓ Kazakhstan has been a largely stable autocracy since the collapse of the Soviet Union; protests of this scale haven't been seen since the 1980s.
  - ✓ Autocracy is a system of government of a country in which one person has complete power.
- Protesters demanded the resignation of the government and lowering of LPG prices.
- They have argued that the jump in prices would cause a steep increase in food prices and deepen the income inequality that has plagued the nation for decades.
  - ✓ Just last year (2021), inflation in the country was closing in on 9% year-on-year, the highest it has been in over five years.

## ASIAN INFRASTRUCTURE INVESTMENT BANK (AIIB)

### Why in News

Recently, former Reserve Bank of India (RBI) governor Urjit Patel has been appointed vice-president of the Beijing-based Asian Infrastructure Investment Bank (AIIB).

- In October 2021, the Union Minister of Finance participated in the 6th Annual Meeting of the Board of Governors of AIIB.



## KEY POINTS

### About:

- It is a multilateral development bank with a mission to improve social and economic outcomes in Asia.
- It aims to connect people, services and markets that over time will impact the lives of billions and build a better future by investing in sustainable infrastructure and other productive sectors.
- It is established by the AIIB Articles of Agreement (entered into force December 2015) which is a multilateral treaty.
- It is headquartered in Beijing (China) and began its operations in January 2016.

### Various Organs of AIIB:

#### Board of Governors:

- The Board of Governors consists of one Governor and one Alternate Governor appointed by each member country. Governors and Alternate Governors serve at the pleasure of the appointing member.

#### Board of Directors:

- Non-resident Board of Directors is responsible for the direction of the Bank's general operations, exercising all powers delegated to it by the Board of Governors.

#### Senior Management:

- AIIB staff is headed by the President who is elected by AIIB shareholders for a five-year term and eligible for reelection once.

#### International Advisory Panel:

- The Bank has established an International Advisory Panel (IAP) to support the President and Senior Management on the Bank's strategies and policies as well as on general operational issues.

## UNITED NATION SECURITY COUNCIL

### Why in News

The United Nation Security Council (UNSC) got five new non permanent members (Albania, Brazil, Gabon, Ghana and the United Arab Emirates).

- Estonia, Niger, St Vincent and the Grenadines, Tunisia and Vietnam finished their terms recently.



- Albania is joining for the first time while Brazil is taking an 11th turn. Gabon and Ghana each have been on the council three times before and the UAE once.
- More than 50 of the UN's 193 member countries have never been elected to the council since its formation.

## KEY POINTS

### UNSC:

#### About:

- The Security Council was established by the UN Charter in 1945. It is one of the six principal organs of the United Nations.
  - ✓ The other 5 organs of the United Nations are - the General Assembly (UNGA), the Trusteeship Council, the Economic and Social Council, the International Court of Justice, and the Secretariat.
- Its primary responsibility is to work to maintain international peace and security.
- The council is headquartered at New York.

### Members:

- The council has 15 members: the five permanent members and ten non-permanent members elected for two-year terms.
  - ✓ The five permanent members are the United States, the Russian Federation, France, China and the United Kingdom.
  - ✓ India, for the eighth time, has entered the UNSC as a non-permanent member last year (2021) and will stay on the council for two years i.e 2021-22.
- Each year, the General Assembly elects five non-permanent members (out of ten in total) for a two-year term. The ten non-permanent seats are distributed on a regional basis.
- The council's presidency is a capacity that rotates every month among its 15 members.

### Voting Powers:

- Each member of the Security Council has one vote. Decisions of the Security Council on matters are made by an affirmative vote of nine members including the concurring votes of the permanent members. A "No" vote from one of the five permanent members blocks the passage of the resolution.

- Any member of the United Nations which is not a member of the Security Council may participate, without vote, in the discussion of any question brought before the Security Council whenever the latter considers that the interests of that member are specially affected.

### India in the UNSC:

- India took active part in the formulation of the Universal Declaration of Human Rights (UDHR) in 1947-48 and raised its voice passionately against racial discrimination in South Africa.
- India has played its part in formulating decisions on several issues such as admitting former colonies to the UN, addressing deadly conflicts in the Middle East and maintaining peace in Africa.
- It has contributed extensively to the UN, particularly for the maintenance of international peace and security.
  - ✓ India has taken part in 43 Peacekeeping missions with a total contribution exceeding 160,000 troops and a significant number of police personnel.
- India's population, territorial size, Gross Domestic Product (GDP), economic potential, civilisational legacy, cultural diversity, political system and past and ongoing contributions to UN activities make India's demand for a permanent seat in the UNSC completely rational.

### CRISIS IN SUDAN

#### Why in News

Recently, Sudan's civilian Prime Minister Abdalla Hamdok resigned, plunging the country into further turmoil.

- Mr. Hamdok, who was sacked by the military in October 2021 and reinstated a few weeks later as part of a deal, stepped down as anti-military protests continued to rock the country.
- Sudanese pro-democracy groups rejected Mr. Hamdok's deal with the military and demanded the Generals hand over power to an independent civilian authority.



## KEY POINTS

### Unstable Sudan:

- Sudan is at a familiar deadlock, subject to the whims of a brutal military regime after a coup. On a continent with a bad record in this respect, Sudan is in a class of its own, with six coups and 10 failed attempts since independence in 1956.
- Since independence Sudan has been governed, with only occasional breaks, by an Arab elite in Sudan, bent on plundering the country's considerable wealth at the expense of its people.
- Their rule, exercised through the army, has been cloaked in the language of Islam; it is really a kleptocracy.
  - ✓ Kleptocracy is a government whose corrupt leaders use political power to appropriate the wealth of their nation, typically by embezzlement or misappropriation of government funds at the expense of the wider population.
- The consequence is a country beset by wars and conflict between the centre and the immiserated peripheries. The army and its allied militias, notably the Rapid Support Forces, have used their power to carve out swathes of the economy for themselves, well beyond defence industries.



- ✓ Civilian rule, bringing transparency, as well as democracy, would threaten those financial interests.
- The victims of decades of misrule are ordinary Sudanese. Facing inflation rates of over 100%, almost a quarter of the population can barely feed themselves and millions live in refugee camps.
- By contrast, the elites seem to get by. Therefore the elites will fight to preserve the status quo.

## CHINA'S NEW BORDER LAW

### Why in News

China's new law on land borders came into effect from 1st January, 2022.

- It comes at a time when border standoff in eastern Ladakh remains unresolved and several places in Arunachal Pradesh have been renamed recently by China as part of its claim on the Indian state.

### KEY POINTS

#### About:

#### Delimitation and Survey of Land Borders:

- The new law lays down that the People's Republic of China (PRC) shall set up boundary markers on all its land borders to clearly mark the border.

#### Management and Defence of Border Areas:

- The People's Liberation Army (PLA) and Chinese People's Armed Police Force are assigned with the responsibility of maintaining security along the border.
- This responsibility includes cooperating with local authorities in combating illegal border crossings.
- The law prohibits any party from indulging in any activity in the border area which would "endanger national security or affect China's friendly relations with neighbouring countries".
- Even citizens and local organisations are mandated to protect and defend the border infrastructure.
- Finally, the law provides for the border to be sealed in the event of a war, armed conflict, incidents which threaten the security of border residents such as biological and chemical accidents, natural disasters, and public health incidents.

## International Cooperation:

- On the topic of its border-sharing countries, the law lays down that the relations with these countries is to be based on principles of “equality and mutual benefit”.
- Further, the law provides for provisions for formation of joint committees, both civil and military, with the said countries to negotiate land border management and resolve borderrelated issues.
- The law also stipulates that PRC should abide by the treaties on land borders that it has signed with the respective countries and all border issues are to be settled through negotiations.

## NEW BRIDGE: INDIA & NEPAL

### Why in News

Recently, the Union Cabinet has cleared a plan to build a new bridge connecting India and Nepal over the Mahakali river and link Dharchula in Uttarakhand with Nepal’s Dharchula.



## KEY POINTS

### About

- The bridge will be completed within three years. It will strengthen the relationship between the two countries.
- India and Nepal share unique ties of friendship and cooperation.
- The construction of the bridge will help people living in Dharchula in Uttarakhand and in the territory of Nepal.

### **Mahakali River:**

- It is also known as Sharda river or Kali Ganga in Uttarakhand.
- It joins Ghagra river in Uttar Pradesh, which is a tributary of Ganga.
- River Projects: Tanakpur hydro-electric project, Chameliya hydro-electric project, Sharda Barrage.

### **India - Nepal Relations**

#### **Historical Ties:**

- Nepal is an important neighbour of India and occupies special significance in its foreign policy because of the geographic, historical, cultural and economic linkages/ties that span centuries.
- India and Nepal share similar ties in terms of Hinduism and Buddhism with Buddha's birthplace Lumbini located in present day Nepal.
- The two countries not only share an open border and unhindered movement of people, but they also have close bonds through marriages and familial ties, popularly known as Roti-Beti ka Rishta.
- The India-Nepal Treaty of Peace and Friendship of 1950 forms the bedrock of the special relations that exist between India and Nepal.
- Importance for India can be studied from two different angles: a) their strategic importance for India's national security; and b) their place in India's role perception in international politics.
- Rivers originating in Nepal feed the perennial river systems of India in terms of ecology and hydropower potential.

### **MOU IN THE FIELD OF DISASTER MANAGEMENT: INDIA -TURKMENISTAN**

#### **Why in News**

Recently, a Memorandum of Understanding (MoU) was signed between India and Turkmenistan on Cooperation in the field of Disaster Management.



## KEY POINTS

### About:

- The MoU seeks to put in place a system whereby both countries will benefit from the Disaster Management mechanisms of each other.
- It will help in strengthening the areas of preparedness, response and capacity building in the field of Disaster Management.
- India currently has bilateral or multilateral agreements, MoUs, joint declaration of Intent or Memorandums of Cooperation in disaster management with Switzerland, Russia, Germany, Japan, Tajikistan, Mongolia, Bangladesh, Italy and South Asian Association for Regional Cooperation (SAARC).

## INDIA-CHINA BILATERAL TRADE CROSSES US\$ 125 BILLION IN 2021



## KEY POINTS

- Bilateral trade between India and China crossed 125 billion USD in 2021, according to Chinese customs data released on 14th January.
- Despite a protracted border standoff, the two-way trade between India and China in 2021 stood at 125.66 billion USD, up 43.3% from 2020 when bilateral trade was worth 87.6 billion USD.
- In 2021, China's exports to India were 97.52 billion USD, up 46.2%, while China imported 28.14 billion USD worth of goods from India, up 34.2%, according to statistics released by China's General Administration of Customs (GAC).
- Trade deficit between the two countries remained in favour of China - at \$69 billion.
- The deficit in trade has been a constant source of friction between New Delhi and Beijing, with India complaining that China hasn't given Indian companies access to sectors like pharmaceuticals.

## ROBERTA METSOLA OF MALTA ELECTED PRESIDENT OF EUROPEAN PARLIAMENT



## KEY POINTS

- European Union has chosen centre-right lawmaker Roberta Metsola of Malta as the European Parliament's new President.
- Metsola - a member of the largest bloc, the European People's Party, won a large majority with 458 votes to become the third woman to head the chamber.
- Aged 43, the politician from the European Union's smallest nation becomes the youngest president ever to run the chamber.



## FORMER RBI GOVERNOR URJIT PATEL APPOINTED VP OF AIIB



### KEY POINTS

- Former Governor of the Reserve Bank of India (RBI) Shri Urjit Patel has been appointed as a Vice-President of the Asian Infrastructure Investment Bank (AIIB), a Beijing-based multilateral development bank.
- Shri Patel, 58, will be one of the five Vice Presidents of the AIIB with three-year tenure.
- Shri Urjit Patel had taken over as the 24th Governor of the Reserve Bank of India (RBI) succeeding Shri Raghuram Rajan in September 2016 and was with RBI till December 2018.
- An economist of great repute, Mr. Patel takes over as Vice-President at a time when AIIB is expanding its footprint in developing countries, especially India, where infrastructure is seen as a key driver for growth.
- India has emerged as AIIB's biggest beneficiary by obtaining \$6.8 billion funding for 29 projects across various sectors, especially in transport and energy.

## SRI LANKA TO GO BANKRUPT BY 2022 WITH RECORD-HIGH INFLATION

### KEY POINTS

- Sri Lanka is facing a deepening financial and humanitarian crisis as inflation rises to record levels, food prices rocket and its coffers run dry.
- According to media reports, the meltdown faced by the government, led by President Gotabaya Rajapaksa, is in part caused by the immediate impact of the Covid crisis and the loss of tourism

but is compounded by high government spending and tax cuts eroding state revenues and vast debt repayments to China.

- The World Bank estimates 500,000 people in Sri Lanka have fallen below the poverty line since the beginning of the pandemic, the equivalent of five years' progress in fighting poverty.

## FRANCE HITS GOOGLE, FACEBOOK WITH EURO 210 MILLION IN FINES



### KEY POINTS

- French regulators have hit Google and Facebook with 210 million euros (237 million dollars) in fines over their use of cookies, the data used to track users online.
- US tech giants, including the likes of Apple and Amazon, have come under growing pressure over their businesses practices across Europe, where they have faced massive fines and plans to impose far-reaching EU rules on how they operate.
- The Euro 150-million fine imposed on Google was a record by France's National Commission for Information Technology and Freedom (CNIL), beating a previous cookie-related fine of Euro 100 million against the company in December 2020.
- Facebook was handed a 60-million-euro fine.
- CNIL has determined that the sites facebook.com, google.fr and (Google-owned) youtube.com do not allow users to refuse the use of cookies as simply as to accept them, the regulatory body said.
- The two platforms have three months to adapt their practices, after which France will impose fines of Euro 100,000 per day.
- Google told a news agency that it would change its practices following the ruling.



## BANGLADESH DISCOVERS HUGE NATURAL GAS HYDRATE DEPOSITS IN BAY OF BENGAL



### KEY POINTS

- Bangladesh has discovered huge potential natural gas hydrate deposits of 0.11 to 0.73 trillion cubic feet (TCF) in its exclusive economic zone area.
- It is equivalent to 17-103 TCF of natural gas reserves.
- This finding was shared by the Foreign Minister of Bangladesh Dr A K Abdul Momen to news agencies in Dhaka.
- The study undertaken over the last three years was conducted by the Petrobangla, Bapex, local experts and the National Oceanography centre in Southampton, UK.
- The study has come up with the preliminary idea about the location and nature of the gas hydrate discovery.
- Commending the findings, Foreign Minister Dr. Momen said that the results of the study were very encouraging.
- The finding of the huge reservoir of the natural gas hydrate is a landmark event in resolving the energy crisis in future.

**INDEX****CORRUPTION PERCEPTION INDEX 2021****Why in News**

Recently, the Corruption Perception Index (CPI) 2021 was released by Transparency International. Overall, the CPI shows that control of corruption has stagnated or worsened in 86% of countries over the last decade.

**Transparency International**

- It is an international non-governmental organisation founded in 1993 based in Berlin, Germany
- Its non-profit purpose is to take action to combat global Corruption with civil societal anti-corruption measures and to prevent criminal activities arising from corruption.
- Its most notable publications include the Global Corruption Barometer and the Corruption Perception Index.

**KEY POINTS****About:**

- The Index ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and business people.
- It relies on 13 independent data sources and uses a scale of zero to 100, where zero is highly corrupt and 100 is very clean.
- More than two-thirds of countries (68%) score below 50 and the average global score remains static at 43. Since 2012, 25 countries significantly improved their scores, but in the same period 23 countries significantly declined.

**Top performers:**

- This year, the top countries are Denmark, Finland and New Zealand, each with a score of 88. Norway (85), Singapore (85), Sweden (85), Switzerland (84), the Netherlands (82), Luxembourg (81) and Germany (80) complete the top 10.

### Bottom Performers:

- South Sudan (11), Syria (13) and Somalia (13) remain at the bottom of the index.
- Countries experiencing armed conflict or authoritarianism tend to earn the lowest scores, including Venezuela (14), Afghanistan (16), North Korea (16), Yemen (16), Equatorial Guinea (17), Libya (17) and Turkmenistan (19).

### India's Performance:

- India ranked 85 among 180 countries in the current index (86 in 2020 and 80 in 2019). Transparency International gave India a CPI score of 40.
- ✓ Except Bhutan, all of India's neighbours are ranked below it. Pakistan dropped 16 spots in the index and was ranked at 140.
- The country's score has remained stagnant over the past decade, some of the mechanisms that could help reign in corruption are weakening.
- There are concerns over the country's democratic status, as fundamental freedoms and institutional checks and balances decay.

### GOOD GOVERNANCE INDEX 2021: GUJARAT, MAHARASHTRA, GOA EMERGE TOP RANKERS



### KEY POINTS

- In the Good Governance Index (GGI) 2021, Gujarat Maharashtra and Goa top the composite rank score covering 10 sectors.
- The GGI 2021 Framework covered ten sectors and 58 indicators.

- According to the index, Gujarat registered 12.3 percent increase and Goa registered 24.7 percent increase over GGI 2019 indicators.
- Gujarat has performed strongly in 5 of the 10 sectors including economic governance, human resource development, public infrastructure and utilities, social welfare and development judiciary and public safety Maharashtra has performed strongly in agriculture and allied sector, human resource development, public infrastructure and utilities, social welfare and development.
- Goa has performed strongly in agriculture and allied sector, commerce and industry, public infrastructure and utilities, economic governance, social welfare and development and environment.
- Union Minister of Home Affairs and Minister of Cooperation, Shri Amit Shah released the Good Governance Index 2021 on Good Governance Day (25th December).

## KERALA, TAMIL NADU BEST PERFORMERS IN NITI AAYOG STATE HEALTH INDEX

**Health scores** | The table shows the NITI Aayog's Health Index scores (out of 100) of the three 'large' States at the top and bottom in 2019-20 and 2018-19. The rank for the latter is mentioned in brackets

| Rank | State      | 2019-20 | 2018-19    |
|------|------------|---------|------------|
| 1    | Kerala     | 82.2    | 81.6 (1)   |
| 2    | Tamil Nadu | 72.42   | 70.79 (2)  |
| 3    | Telangana  | 69.96   | 65.74 (4)  |
| 19   | U.P.       | 30.57   | 25.06 (19) |
| 18   | Bihar      | 31      | 30.24 (18) |
| 17   | M.P.       | 36.72   | 33.37 (17) |



## KEY POINTS

- The NITI Aayog has released the fourth edition of 'The Healthy States, Progressive India report ranking states performance for the year 2019-20.
- On overall ranking based on the composite index score in 2019-20, the top-ranking states were Kerala and Tamil Nadu among the larger states, Mizoram and Tripura among the smaller states, and DH&DD (Dadra and Nagar Haveli and Daman and Diu) and Chandigarh among the Union Territories (UTs).
- In terms of annual incremental performance, Uttar Pradesh, Assam and Telangana are the top three ranking larger states.

- Among smaller states, Mizoram and Meghalaya registered the maximum annual incremental progress.
- Among UTs, Delhi, followed by Jammu and Kashmir, showed the best incremental performance.
- The Health Index is a weighted composite score incorporating 24 indicators covering key aspects of health performance.

## AWARDS

### NATIONAL WATER AWARDS

#### Why in news

Recently, Uttar Pradesh bagged the first prize for efforts towards water conservation in the National Water Awards (NWA) 2020 organised by the Ministry of Jal Shakti.

- ✓ Rajasthan and Tamil Nadu bagged the second and third prizes, respectively, in the best state category.

### KEY POINTS

#### About:

- The awards are organised by the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti.
- The Jal Shakti Ministry had launched the first 'National Water Award' in 2018.
- They facilitate a good opportunity for the start-ups as well as the leading organisations to engage with the senior policymakers on adopting the best water resources management practises in India.
- They focus on the good work and efforts made by individuals and organisations across the country, and the government's vision for the path to 'Jal Samridh Bharat'.

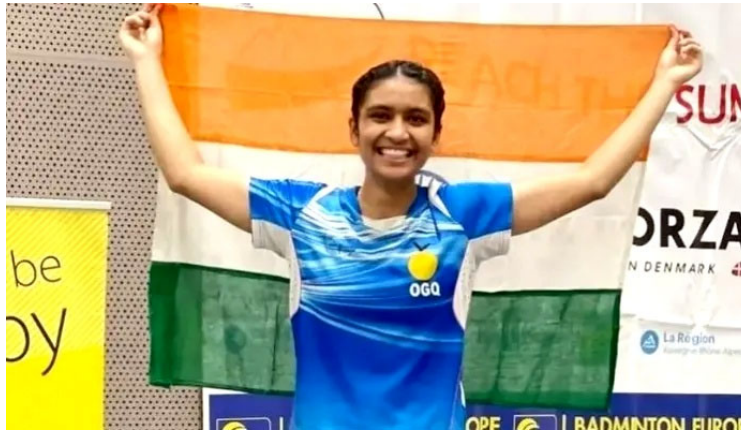
#### Objectives:

- To motivate individuals/organisations who are doing commendable work in the field of water resources conservation and management.
- To create awareness among the people about the importance of water and encourage them to adopt the best water usage practises.



## SPORTS

### TASNIM MIR CLAIMS WORLD NO.1 RANK IN U-19 GIRLS BADMINTON



#### KEY POINTS

- Shuttler Tasnim Mir has become the first Indian to grab the World No.1 ranking in the Under-19 girls singles in the latest Badminton World Federation (BWF) junior rankings.
- The 16-year old from Gujarat jumped three places to grab the top position after her stellar run last year during which she secured titles in three junior international tournaments.

### LAKSHYA SEN, CHIRAG SHETTY, SATWIKSAIRAJ RANKIREDDY CLINCH INDIA OPEN 2022 TITLES



## KEY POINTS

- Lakshya Sen has scripted history by becoming only the third Indian male shuttler to win the India Open singles title.
- Lakshya won his maiden BWF (Badminton World Federation) World Tour Super 500 title after beating the world champion, Loh Kean Yew, in the final of the India Open 2022.
- Lakshya defeated Singapore's Kean Yew in two straight games to win his third world championship title.
- The 20-year-old put on a magnificent performance at the Indira Gandhi Stadium in New Delhi to win the game by 24-22 21-17.
- Meanwhile, Chirag Shetty and Satwiksairaj Rankireddy defeated Mohammad Ahsan and Hendra Setiawan to win the India Open men's doubles title.
- The Indian pair defeated the Indonesian duo of Mohammad Ahsan and Hendra Setiawan in straight games 21-16, 26-24 in a match that lasted for 43 minutes.

## 14-YEAR-OLD BHARATH SUBRAMANIYAM BECOMES INDIA'S 73RD CHESS GRANDMASTER



## KEY POINTS

- 14-year-old Bharath Subramaniam is the 73rd Chess Grandmaster (GM) of India, the All India Chess Federation has confirmed.
- The Chennai-based teenager completed his final GM Norm and crossed the requisite 2500 rating at Vergani Cup Open in Italy.
- Subramaniam finished seventh overall in the event held at Cattolica by scoring 6.5 points from nine rounds.
- To achieve the Grandmaster title, a player has to secure three GM norms and cross the live rating of 2,500 Elo points.

## INDIA CLINCHES U-19 ASIA CUP CRICKET TROPHY



### KEY POINTS

- India beat Sri Lanka by 9 wickets to lift the Under-19 Asia Cup Cricket in Dubai on December 31, 2021 in a rain-interrupted final.
- India under the leadership of Yash Dhull won through the Duckworth Lewis method (DLS) as the match was reduced to 38 overs due to rain interruption.
- Indian bowlers put up a great display of talent led by the spin duo of Vicky Ostwal and Kaushal Tambe by picking up early wickets and restricting South Africa to 74/7.
- Sri Lanka posted a total of 106 runs for the loss of 9 wickets in 38 overs.
- India faced a target of chasing down 102 runs in 32 overs via the Duckworth-Lewis-Stern (DLS) method.
- India chased down the total easily in just 21.3 overs with 9 wickets to spare. India only lost one wicket of Harnoor Singh who went for 5 runs.



## MEDAL TALLY 4TH PARA-BADMINTON NATIONAL CHAMPIONSHIP



### KEY POINTS

- Haryana's Nitesh Kumar doubled his gold tally at the 4th Para-Badminton National Championship, which concluded in Bhubaneswar.
- Odisha on 27th December, Nitesh along with his partner Tarun defeated World No. 1 Paralympic Games gold medallist Pramod Bhagat and Manoj Sarkar in straight sets 21-19, 21-11 in the Men's doubles finals to win the gold.
- Earlier, Nitesh also won the gold medal in the Men's singles category.
- World No 1 SL3 Para-Badminton player Parul Parmar from Gujarat also secured gold while Mandeep Kaur from Uttarakhand won Silver and Mansi won bronze.
- In Women Wheelchair 1 category, Alpha James from Kerala secured gold, while silver went to Neerja Goyal from Uttarakhand.
- Nirmala Mehta from Uttarakhand and Ranjeeta Maurya from Uttar Pradesh secured bronze.
- In Women Wheelchair 2 category, Ammu Mohan from Karnataka secured gold while silver went to Shabana from Punjab and Prema Biswas and Suman Rawat had to settle for bronze.
- In Women SU5 category, Manisha from Tamil Nadu secured gold while Arti ended up with silver.
- Jyoti and Vaishali ended with a bronze medal.
- In Women SL4 category, Jyoti from Haryana secured gold, while Chiranjita secured silver and Kanak had to settle for bronze.
- In Women SH6 category, Nitya Sre from Tamil Nadu secured Gold, while Rhui had to settle for silver.
- Sasikala and Rachana secured Bronze.
- The 3-day event saw over 500 athletes compete in 22 different categories.

## SUMMITS

### DAVOS SUMMIT: WORLD ECONOMIC FORUM

#### Why in News

Recently, the Prime Minister addressed the World Economic Forum's (WEF) Davos Agenda via video conferencing.

- The WEF annual meeting in Davos (Switzerland) engages the world's top leaders to shape global, regional and industry agendas.



### KEY POINTS

#### One Earth, One Health:

- During the course of Covid-19, India saved many lives by exporting essential medicines and vaccines by following its vision of "One Earth, One Health".
  - ✓ India has delivered 1154.173 lakh doses of Covid-19 vaccines to 97 countries till 31<sup>st</sup> December 2021.
- India is the world's third-largest pharmaceutical producer and is considered 'pharmacy to the world'.



### Pro-Planet People (P3) Approach:

- Proposed the idea of the “P3 (Pro-Planet-People) movement” that underscores India’s commitments to climate change at the global forum (UNFCCC COP 26).
  - ✓ Reiterated India’s “clean, green, sustainable, and reliable” energy goals which dwell on achieving a net-zero carbon emission target by 2070.
- Making LIFE (Lifestyle for Environment - given by the Indian PM at UNFCCC COP 26 Conference) into a mass movement can be a strong foundation for P3.
  - ✓ LIFE is a vision of a resilient and sustainable lifestyle that will come handy in dealing with the climate crisis and other unpredictable challenges of the future.
  - ✓ Throwaway culture and consumerism has enhanced the climate challenge.

### Reforms recently Undertaken by India:

- In physical and digital infrastructure like optical fibre in 6 lakh villages, 1.3 trillion dollars invested in connectivity-related infrastructure, the goal of generation of 80 billion dollars through asset monetization.
- Gatishakti National Master Plan to bring all the stakeholders on the single platform to infuse new dynamism to the seamless connectivity of goods, people and services.
- Today India has the world’s largest, secure and successful digital payments platform.
  - ✓ In December 2021, 4.4 billion transactions were done through Unified Payments Interface (UPI) in India.
- Technological solutions like Arogya-SetuApp for tracking of Corona Infections and CoWinPortal for Vaccination.

## INDIA-CENTRAL ASIA SUMMIT

### Why in News

Recently, the Prime Minister of India hosted the first India-Central Asia Summit in virtual format.

- It was attended by Presidents of the Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan, Turkmenistan and Republic of Uzbekistan.
- This first India-Central Asia coincided with the 30<sup>th</sup> anniversary of establishment of diplomatic relations between India and Central Asian countries.
- The summit came two days after a similar China-Central Asia Conference was held where China offered USD 500 million in assistance and pledged to ramp up trade to USD 70 billion from the present levels of about USD 40 billion a year.

## KEY POINTS

### Institutionalisation of the Summit:

- Discussed the next steps in taking India-Central Asia relations to new heights. In a historic decision, the Leaders agreed to institutionalise the Summit mechanism by deciding to hold it every 2 years.
- They also agreed on regular meetings of Foreign Ministers, Trade Ministers, Culture Ministers and Secretaries of the Security Council to prepare the groundwork for the Summit meetings.
- An India-Central Asia Secretariat in New Delhi would be set up to support the new mechanism.

### India-Central Asia Cooperation:

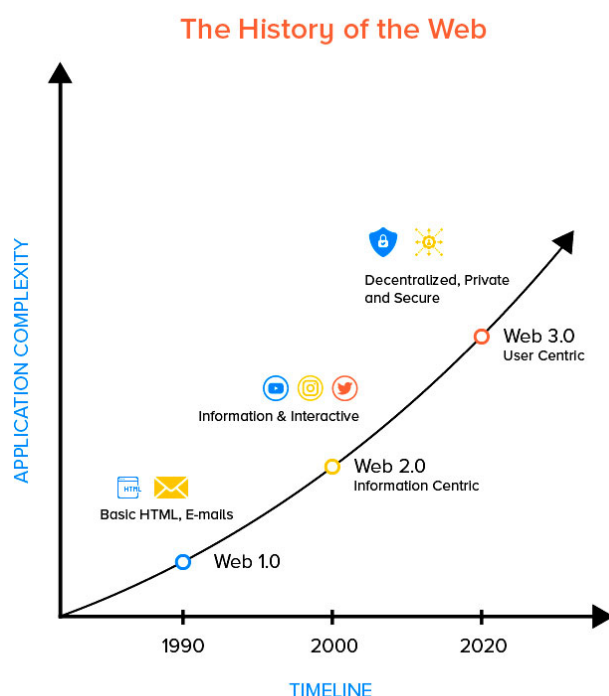
- The Leaders discussed far-reaching proposals to further cooperation in areas of trade and connectivity, development cooperation, defence and security and, in particular, on cultural and people to people contacts. These included:
  - ✓ Round-Table on Energy and Connectivity.
  - ✓ Joint Working Groups at senior official level on Afghanistan and use of Chabahar Port.
  - ✓ Showcasing of Buddhist exhibitions in Central Asian countries and commissioning of an India-Central Asia dictionary of common words.
  - ✓ Joint counter-terrorism exercises.
  - ✓ Visit of 100 member youth delegation annually from Central Asian countries to India and special courses for Central Asian diplomats.
- A comprehensive Joint Declaration was adopted by the leaders that enumerates their common vision for an enduring and comprehensive India-Central Asia partnership.

## SCIENCE AND TECHNOLOGY

### WEB 3.0

#### Why in News

The concept of Web3, also called Web 3.0, used to describe a potential next phase of the internet, created quite a buzz in 2021.



### KEY POINTS

#### About:

- World Wide Web, which is also known as a Web, is a collection of websites or web pages stored in web servers and connected to local computers through the internet.
- These websites contain text pages, digital images, audios, videos, etc. Users can access the content of these sites from any part of the world over the internet using their devices such as computers, laptops, cell phones, etc.
- Web 3.0 is a decentralized internet to be run on blockchain technology, which would be different from the versions in use, Web 1.0 and Web 2.0.

- In Web3, users will have ownership stakes in platforms and applications unlike now where tech giants control the platforms.
  - ✓ Gavin Wood, founder of Ethereum, a block chain technology company, used the term Web3 first in 2014 and in the past few years many others have added to the idea of Web3.

### Need of Web 3.0:

- In Web 2.0, most of the data in the internet and the internet traffic are owned or handled by very few companies ex. Google.
- This has created issues related to data privacy, data security and abuse of such data.
- There is a sense of disappointment that the original purpose of the internet has been distorted.

### Significance of Web 3.0:

- Decentralized and Fair Internet: Web3 will deliver a decentralized and fair internet where users control their own data.
- Eliminates Intermediaries: With block chain, the time and place of the transaction are recorded permanently.
  - ✓ Thus, Web3 enables peer to peer (seller to buyer) transactions by eliminating the role of the intermediary. This concept can be extended to
- Decentralization and Transparency: The spirit of Web3 is Decentralized Autonomous Organization (DAO).
  - ✓ DAO is all about the business rules and governing rules in any transaction are transparently available for anyone to see and software will be written conforming to these rules.
  - ✓ With DAO, there is no need for a central authority to authenticate or validate.

## MILLIMETRE WAVE BAND IN 5G

### Why in News

Recently, Satcom Industry Association-India (SIA) has voiced concerns over the Government's plan to include the Millimetre Wave (mm Wave) bands in the 5G spectrum auction

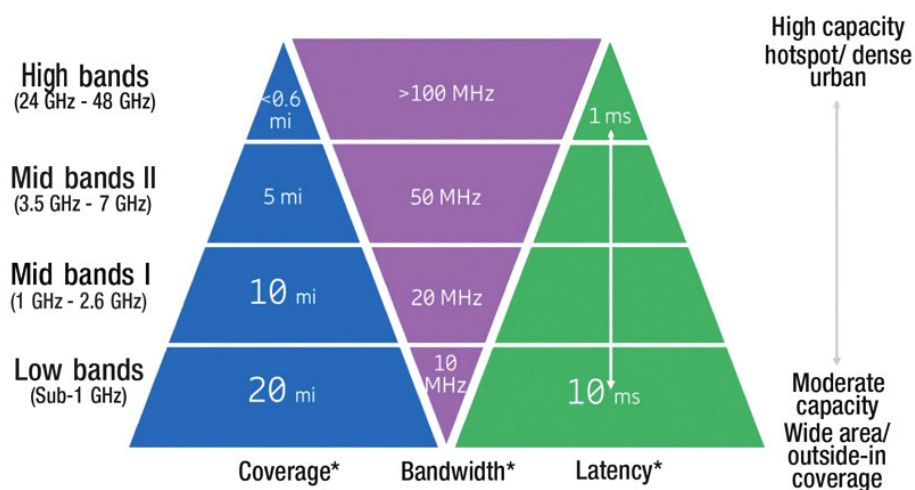
- SIA is an industry body that represents the interests of the communication satellite ecosystem in India.
- Telecom Regulatory Authority of India (TRAI) had sought industries' views on topics related to quantum of spectrum to be auctioned off.

## KEY POINTS

### 5G Technology:

#### About:

- 5G is the 5th generation mobile network. It is a new global wireless standard after 1G, 2G, 3G, and 4G networks. The 5G networks will operate in the mm Wave spectrum.
- It enables a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices.
- **Bands in 5G:** 5G mainly work in 3 bands, namely low, mid and high frequency spectrum - all of which have their own uses as well as limitations.
  - ✓ **Low band spectrum:** It has shown great promise in terms of coverage and speed of internet and data exchange however the maximum speed is limited to 100 Mbps (Megabits per second).
  - ✓ **Mid-band spectrum:** It offers higher speeds compared to the low band, but has limitations in terms of coverage area and penetration of signals.
- High-band spectrum: It has the highest speed of all the three bands, but has extremely limited coverage and signal penetration strength.
  - ✓ Internet speeds in the high-band spectrum of 5G has been tested to be as high as 20 Gbps (gigabits per second), while, in most cases, the maximum internet data speed in 4G has been recorded at 1 Gbps.





## Millimetre Wave-Band:

### About:

- It is a particular segment of the radio frequency spectrum that ranges between 24 GHz and 100 GHz.
- This spectrum, as the name suggests, has a short wavelength, and is appropriate to deliver greater speeds and lower latencies. This in turn makes data transfer efficient and seamless as the current available networks work optimally only on lower frequency bandwidths.

### Significance:

- 5G services can be deployed using lower frequency bands. They can cover greater distances and are proven to work efficiently even in urban environments, which are prone to interference.
- But, when it comes to data speeds, these bands fail to hit peak potential needed for a true 5G experience. So, mmWave is that quintessential piece in the 5G jigsaw puzzle for mobile service providers.

### Effect on Satellite Industry:

- The Internet has largely been provided to users via fibre-optic based broadband connectivity or mobile network. Of late, another class of Internet vendors is showing up. These are satellite-based communication service providers.
- This segment uses Low-Earth Orbit (LEO) satellites to provide broadband to both urban and rural users. Their service could also be used for weather predictions.
- The mm- band had been the subject of controversy due to out-of-band emissions into the passive satellite band used for weather satellites at 23.6-24 GHz.
  - ✓ Out-of-band emission is emission on a frequency or frequencies immediately outside the necessary bandwidth which results from the modulation process.
  - ✓ The level of out-of-band emission can not be reduced without affecting the corresponding transmission of information.

### Concerns Raised by the Industry:

#### Against ITU Norms:

- SIA urged the regulator to limit the inclusion of mmWave spectrum in the 5G auction as 27.5- 31 GHz and 17.7-21.2 GHz bands have been preserved for satellite-based broadband services as per the decision taken by the International Telecommunication Union (ITU).
- The industry body pointed to Europe's "5G Roadmap", which is built on the ITU's decision to hold these bands for satellite-based broadband services.

### Denial of Benefits:

- It also noted that offering excessive spectrum resources in the upcoming 5G auction will result in Indian citizens being denied the benefits of high-demand, advanced satellite broadband services.

### Loss to Economy:

- It will result in a massive loss to the Indian economy of up to USD 184.6 billion by 2030, along with the loss of Foreign Direct Investment (FDI) and employment generation benefits.

### SIA's Suggestions:

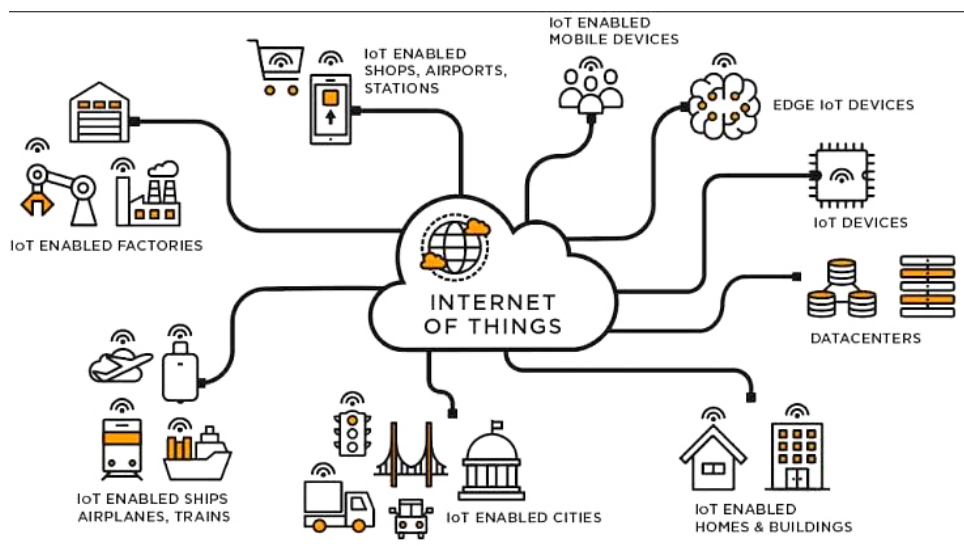
- SIA-India has noted that the 330 MHz of spectrum in the 3.3-3.67 GHz band is enough to satisfy India's mid-band 5G needs while ensuring a competitive auction.
- The industry body also noted that providing excess spectrum could pose a downside risk of the bands going unsold, or even worse, underutilised by terrestrial players at the expense of satellite-based service providers. The allocation of mmWave band is critical to the satellite communication industry, which needs a stronger regulatory support to ensure that 5G operations don't interfere with their existing operations.

## SECURING INTERNET OF THINGS

### Why in News

Recently, in order to secure Consumer Internet of Things (IoT) devices, Telecommunication Engineering Centre (TEC), under Department of Telecommunications, Ministry of Communications, has released a report "Code of Practice for Securing Consumer Internet of Things(IoT)".

- These guidelines will help in securing consumer IoT devices & ecosystem as well as managing vulnerabilities.



## KEY POINTS

### Internet of Things:

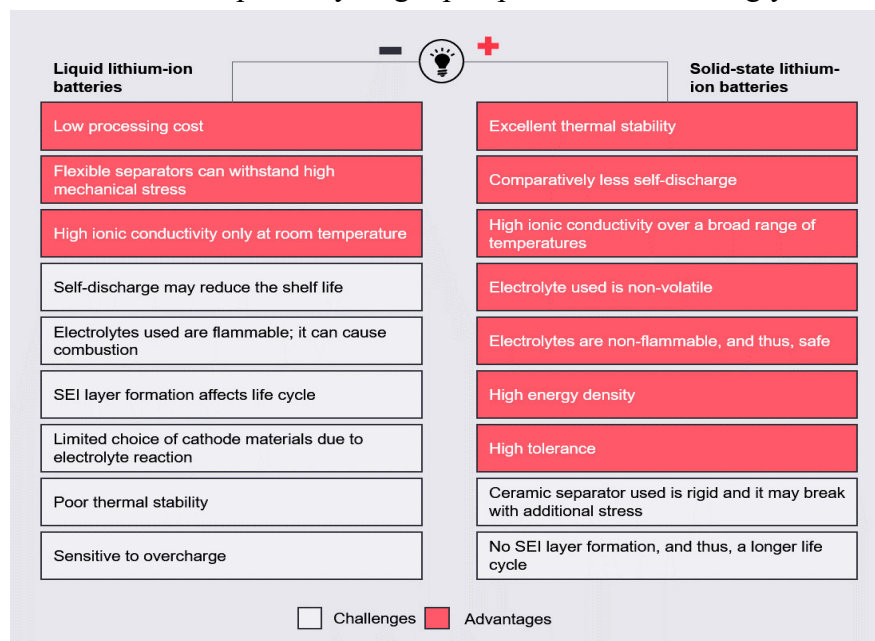
- **Definition:** It is a computing concept that describes the idea of everyday physical objects being connected to the internet and being able to identify themselves to other devices.
- **One of Fastest Growing Technology:** It is one of the fastest emerging technologies across the globe, providing enormous beneficial opportunities for society, industry, and consumers.
- **Use of IoT:** It is being used to create smart infrastructure in various verticals such as Power, Automotive, Safety & Surveillance, Remote Health Management, Agriculture, Smart Homes and Smart Cities etc, using connected devices.
  - ✓ A smart device is a context-aware electronic device capable of performing autonomous computing and connecting to other devices wire or wirelessly for data exchange.
- **Supplementary Technologies:** IoT is benefitted by recent advances in several technologies such as sensors, communication technologies (Cellular and non-cellular), Artificial intelligence/ Machine Learning, Cloud / Edge computing etc.

## SOLID-STATE BATTERIES

### Why in News

Car manufacturer Volkswagen plans to have production running for solid-state batteries by 2025 via the partnership with QuantumScape.

- QuantumScape's solid-state battery - lithium metal with a solid electrolyte separating the two electrodes is seen as an exceptionally bright prospect in an increasingly crowded space.



## KEY POINTS

### About:

- A solid-state battery has higher energy density than a Lithium-ion battery that uses liquid electrolyte solution. It doesn't have a risk of explosion or fire, so there is no need to have components for safety, thus saving more space. Then we have more space to put more active materials which increase battery capacity in the battery.
- A solid-state battery can increase energy density per unit area since only a small number of batteries are needed. For that reason, a solid-state battery is perfect to make an Electric Vehicle (EV) battery system of module and pack, which needs high capacity.
- The energy density of lithium-ion cells used in today's mobile phones and electric vehicles is nearly four times higher than that of older-generation nickel-cadmium batteries.
- Despite improvements in technology over the last decade, issues such as long charging times and weak energy density persist. While lithiumion batteries are seen as sufficiently efficient for phones and laptops, they still lack the range that would make EVs a viable alternative to internal combustion engines.

## NASA LAUNCHES WORLD'S MOST POWERFUL SPACE TELESCOPE TO SCOUR UNIVERSE FOR HINTS OF LIFE



## KEY POINTS

- NASA has launched the world's largest and most powerful space telescope and placed it successfully into orbit to make breakthrough discoveries on the origins of the Universe and Earth-like planets beyond our solar system.

- The James Webb Space Telescope, NASA's premier space observatory of the next decade, was launched in an Ariane rocket from the European Space Agency's base in French Guiana on 25th December.
- The Webb telescope will reach its destination in solar orbit some 1.5 million km from Earth - about four times farther away than the moon.
- It will see farther into our origins, from the formation of stars and planets, to the birth of the first galaxies in the early Universe.
- It intends to show humans what the Universe looked like even closer to its birth nearly 14 billion years ago.
- NASA Administrator Bill Nelson called Webb a time machine that will provide a better understanding of our universe and our place in it, who we are, what we are, the search that is eternal.

## ENERGY SECTOR

### CHALLENGES IN INDIA'S ROOFTOP SOLAR PROGRAM

#### Why in News

According to the data available on the website of the Union Ministry of New and Renewable Energy (MNRE), India could install just 6GW of Rooftop Solar (RTS) power by the end of October 2021 under the rooftop solar scheme.

- Although utility-scale solar has seen tremendous progress with leading players lining up for projects, tariffs spiralling down and government agencies pushing mega projects, RTS has continued to remain neglected.

#### Rooftop Solar

- Rooftop solar is a photovoltaic system that has its electricity-generating solar panels mounted on the rooftop of a residential or commercial building or structure.
- Rooftop mounted systems are small compared to ground-mounted photovoltaic power stations with capacities in the megawatt range.



- Rooftop PV systems on residential buildings typically feature a capacity of about 5 to 20 kilowatts (kW), while those mounted on commercial buildings often reach 100 kilowatts or more.



## KEY POINTS

### Rooftop Solar Scheme:

- The major objective of the scheme is to generate solar power through the installation of solar panels on the roof of the houses.
- Also, the Ministry of New and Renewable Energy has announced the implementation of Phase 2 of the grid-connected Rooftop Solar Scheme.
- The aim of the scheme is to achieve the final capacity of 40 GW from Rooftop Solar Projects by 2022.
- The 40GW goal is part of India's ambitious target to achieve 175GW renewable energy (RE) capacity that includes 100GW of solar power by 2022.
  - ✓ According to a report released in September, 2021, the lockdowns slowed renewable energy installations in the country and the pace of such installations is lagging India's 2022 target.

### Challenges:

#### Flip-Flopping Policies:

- Although many companies began using solar energy, flip-flopping (sudden real or apparent change of policy) policies remained a major hurdle, especially when it came to power distribution companies (discoms).
- Industry executives point out RTS was becoming attractive for several consumer segments when discoms and state governments started tightening regulations for the sector.

- ✓ India's Goods and Service Tax (GST) Council recently hiked the GST of many components of the solar system from 5% to 12%.
- ✓ It will increase RTS's capital cost by 4-5%.

### **Regulatory Framework:**

- The growth of the RTS segment is highly dependent on the regulatory framework.
- Slow growth has been primarily caused by the absence or withdrawal of state-level policy support for the RTS segment, especially for the business and industrial segment, which makes up the bulk of target consumers.

### **Inconsistent Rules on Net and Gross Metering:**

- Net metering regulations are one of the major obstacles facing the sector.
- According to a report, Power ministry's new rules that excludes rooftop solar systems above 10 kilowatts (kW) from net-metering would stall adoption of larger installations in India affecting the country's rooftop solar target.
  - ✓ The new rules mandate net-metering for rooftop solar projects up to 10 kW and gross metering for systems with loads above 10 kW.
  - ✓ Net metering allows surplus power produced by RTS systems to be fed back into the grid.,,
  - ✓ Under the gross metering scheme, state power Distribution Companies (DISCOMS) compensate consumers with a fixed feed-in-tariff for the solar power supplied to the grid by the consumer.

### **Low Financing:**

- Commercial, institutions, and residential sectors are keen to install grid-connected RTS by getting bank loans.
- The Union Ministry of New and Renewable Energy (MNRE) has advised banks to give loans for RTS at subsidised rates. However, nationalised banks hardly offer loans to RTS.
- Thus, many private players have come into the market that offer loans for RTS at higher rates like 10-12%.

**SCHEMES****PMFME SCHEME****Why in News**

Recently, the Ministry of Food Processing Industries and NAFED (National Agricultural Cooperative Marketing Federation of India Limited) launched six, One District One Product (ODOP) brands under the Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) Scheme.

- The Ministry has signed an agreement with NAFED for developing 10 brands of selected ODOPs under the branding and marketing component of the PMFME scheme. Out of these, six brands are Amrit Phal, Cori Gold, Kashmiri Mantra, Madhu Mantra, Somdana, and Whole Wheat Cookies of Dilli Bakes.

**KEY POINTS****About:**

- Launched under Atma Nirbhar Abhiyan, it aims to enhance the competitiveness of existing individual micro-enterprises in the unorganised segment of the food processing industry and to promote formalisation of the sector and provide support to Farmer Producer Organisations, Self Help Groups, and Producers Cooperatives along their entire value chain.
- The scheme adopts the One District One Product (ODOP) approach to reap the benefit of scale in terms of procurement of inputs, availing common services and marketing of products.
- It will be implemented over a period of five years from 2020-21 to 2024-25.

**Features:****One District One Product (ODOP) Approach:**

- ODOP for the scheme will provide the framework for value chain development and alignment of support infrastructure. There may be more than one cluster of ODOP products in one district.
  - ✓ There may be a cluster of ODOP products consisting of more than one adjacent district in a State.
- The States would identify food products for districts keeping in view the existing clusters and availability of raw material.
- The ODOP could be a perishable produce based or cereal based or a food item widely produced in an area. E.g. mango, potato, pickle, millet based products, fisheries, poultry, etc.

## ENVIRONMENTAL AND ECOLOGY

### DOMESTIC HAZARDOUS WASTE

#### Why in News

Segregation of domestic hazardous waste remains a distant dream for most Indian cities in absence of robust framework and infrastructure.

- Indore is the only city in the country that safely handles its domestic hazardous waste.



#### KEY POINTS

##### About:

- Domestic Hazardous Waste is any chemical or product that can cause serious illness or pose stored, transported or disposed of.
- When hazardous waste is disposed of in the trash, down the drain, or on the ground, our water and soils can be contaminated or trash collectors can be harmed.
- Most products labeled dangerous, flammable, poison, combustible and corrosive are considered hazardous waste.
- Examples: Auto batteries, Fertilizers, Batteries (non-alkaline), Paint.

### Domestic Hazardous Waste in India:

- In 2020, a significant level of toxic heavy metals and persistent organic contaminants like pesticides have been found by the researchers from the Indian Institute of Technology (IIT) Delhi and IIT Bombay.
  - ✓ They analysed fine particles from eight dump sites across the country.

### INDIAN ENVIRONMENT SERVICE (IES)

#### Why in News

Recently, the Supreme Court asked the Centre to establish a dedicated Indian Environment Service (IES) at the all-India level.

- The creation of IES was recommended by a committee headed by former Cabinet Secretary TSR Subramanian in 2014.

#### Note:

- The high-level committee was constituted in August 2014 under the chairmanship of Subramanian by the Ministry of Environment, Forests And Climate Change (MoEF & CC).
- The committee was established to review environmental laws in the country and to bring them in line with the then required needs.

### KEY POINTS

#### About:

- It will act as an expert group in the public and quasi-governmental sectors over the next decades, regarding environmental matters.
- Need: The constant environmental degradation, ecological imbalance, climate change, water scarcity, etc. are a great concern for India.
  - ✓ The citizens are facing many environmental issues such as air pollution, water pollution, non-eradication of solid waste and garbage and pollution of the natural environment.
  - ✓ One of the major causes of environmental degradation is the flaw of the existing system that lies in the enforcement capabilities of environmental institutions at various levels.
- **Observations of TSR Subramanian Committee:** Looking at the current administrative set-up, it can be inferred that the government servants might not be able to spare special time for environmental causes.



- ✓ Lack of Specialised Cadre: There is a lack of trained personnel involved in the administration, policy formulation, and supervising the implementation of policies of the state and central governments.
- ✓ India had a strong environmental policy and legislative framework but weak implementation has resulted in environmental governance being criticised by conservation experts and the judiciary.
- ✓ It pointed out that there was no effective coordination amongst various Ministries/ institutions regarding the integration of environmental concerns.
- **Associated Challenges:** IES will overlap with the already existing one All India Service (Indian Forest Service).
  - ✓ Apart from this, IES will also pose the challenge to federal structure.

## RANKING OF STATES ON FASTER GREEN NODS

### Why in News

The Union Ministry of Environment, Forests and Climate Change has decided to rank states, specifically State Environment Impact Assessment Authorities (SEIAAs), on the speed with which they accord Environmental Clearances (EC) to development projects.

- The issue of action taken to enable “ease of doing business”, especially in the context of “ranking of states based on the time taken in accordance with clearances” was raised in November 2021.
- The average time to grant environmental clearances in all sectors has reduced significantly from over 150 days in 2019 to less than 90 days in 2021.

### SEIAAs

- The SEIAAs are responsible for providing environmental clearance for a bulk of the infrastructure, developmental and industrial projects.
- Their main purpose is to assess the impact of the proposed project on the environment and people, and to try and minimise this impact.

## KEY POINTS

### About:

- It has been decided to incentivise the states through a star-rating system, based on efficiency and timeliness in grant of EC.

- This is intended as a mode of recognition and encouragement as well as for prompting improvements where needed.
- The SEIAA, which clears projects in the shortest period of time, has a high rate of clearance, and seeks fewer “essential details”, will be ranked the highest.

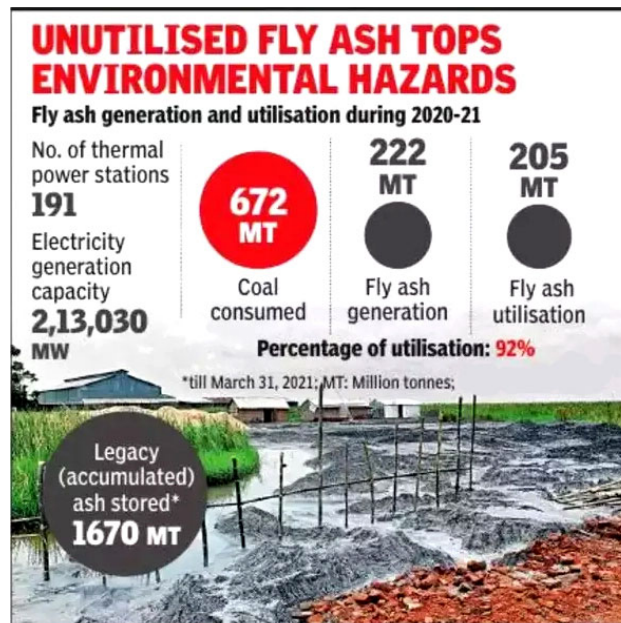
### Parameters for the Rating System:

SEIAAs will be graded between 0 and 1 on five parameters, and 0 and 2 on one (for granting EC).

## FLY ASH MANAGEMENT AND UTILISATION MISSION

### Why in News

Recently, the National Green Tribunal (NGT) directed the constitution of a ‘Fly Ash Management and Utilisation Mission.



## KEY POINTS

### About:

- The order by the NGT takes note of the ‘unscientific handling and storage’ of the fly ash by coal thermal power stations.
  - ✓ For example, the draining of industrial effluents and fly ash in the Rihand Reservoir.

- The Fly Ash Management and Utilisation Mission, besides monitoring the disposal of annual stock of unutilised fly ash, will also see how 1,670 million tonnes of legacy (accumulated) fly ash could be utilized in the least hazardous manner and how all safety measures could be taken by the power plants.
- The Mission will hold its first meeting within one month to assess the fly ash management situation in coal power plants and to prepare action plans to build road maps for ash utilisation by individual plants.
  - ✓ These meetings shall be conducted each month, for a year.

### Aim:

To ‘coordinate and monitor issues relating to the handling and disposal of fly ash and associated issues.’

## ENVIRONMENTAL EMERGENCY IN PERU

### Why in News

The Peruvian government declared a 90-day “environmental emergency” in damaged coastal territories, after an oil spill that saw 6,000 barrels of crude oil pour into the sea.

- The spill was caused by freak waves, which resulted from the eruption of a volcano in Tonga.
- The oil spill came out of a tanker belonging to the Spanish energy firm Repsol. The incident occurred at the La Pampilla refinery, some 30 kilometers north of the Peruvian capital of Lima in the Ventanilla district of the port city of Callao.

## KEY POINTS

### About Freak Waves:

- A freak wave or rogue wave is usually defined as a wave that is two times the significant wave height of the area.
- The significant wave height is the average of the highest one-third of waves that occur over a given period.
  - ✓ Rogue waves can disable and sink even the largest ships and oil rigs.
  - ✓ These so-called “freak waves” are not confined to the Atlantic Ocean or North Sea.
  - ✓ One of the places rogue waves appear to happen most frequently is off the southeast coast of South Africa.

## SOLAR WASTE

### Why in News

According to a report by the National Solar Energy Federation of India (NSEFI), India could generate over 34,600 tonnes of cumulative solar waste in India by 2030.

- India does not have a solar waste management policy, but it does have ambitious solar power installation targets.
- NSEFI is an umbrella organisation of all solar energy stakeholders of India. Which works in the area of policy advocacy and is a National Platform for addressing all issues connected with solar energy growth in India.



### KEY POINTS

#### About:

- Solar wastes are the electronic waste generated by discarded solar panels. They are sold as scrap in the country.
- It can increase by at least four-five-fold by the next decade. India should focus its attention on drafting comprehensive rules to deal with solar waste.

## VEHICULAR EMISSIONS IN INDIA

### Why in News

The annual car sales in India are projected to increase from the current 3.5 million to about 10.5 million – a three times increase - by 2030, which will increase exposure to vehicular exhaust emissions.

- India is the fifth-largest global car manufacturer with one of the highest compound annual growth rates (10%) of vehicle registration as of 2019.

### KEY POINTS:

#### Vehicular Emissions in India:

- Vehicular emission is a major cause of air pollution in urban areas.
- Typically, vehicular emission contributes 20-30% of Particulate Matter (PM) 2.5 at the breathing level of air quality.
  - ✓ PM2.5 refers to particles that have a diameter less than 2.5 micrometres (more than 100 times thinner than a human hair) and remain suspended for longer.
- According to studies, vehicles annually contribute about 290 gigagrams (Gg) of PM2.5.
- At the same time, around 8% of total Greenhouse Gas (GHG) Emissions in India are from the transport sector, and in Delhi, it exceeds 30%.

## BIOENERGY CROPS CREATE COOLING EFFECT ON CULTIVATED AREAS

### Why in News

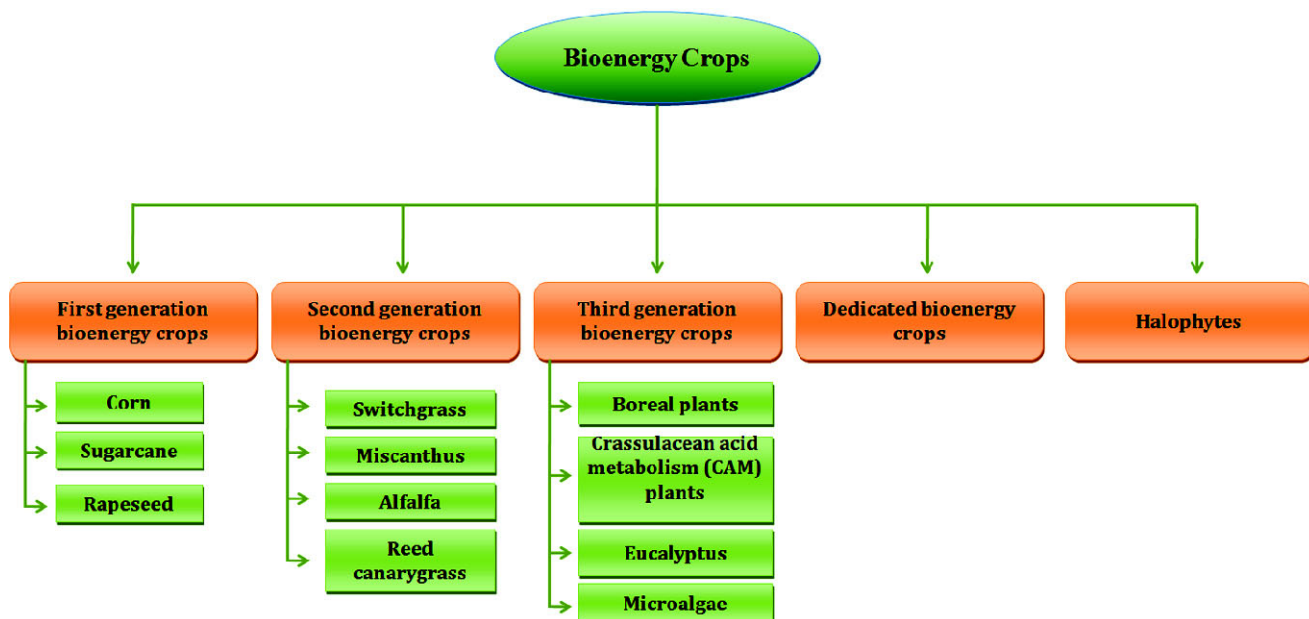
A new study has found that converting annual crops to perennial bioenergy crops can induce a cooling effect on the areas where they are cultivated.

- The researchers simulated the biophysical climate impact of a range of future bioenergy crop cultivation scenarios. Eucalyptus, poplar, willow, miscanthus and switchgrass were the bioenergy crops used in the study.
- The study also demonstrated the importance of the crop type choice, the original land use type upon which bioenergy crops are expanded, the total cultivation area and its spatial distribution patterns.



## Bioenergy Crops

- Crops from which Biofuels are produced or manufactured are called Biofuel crops or Bioenergy Crops. “Energy crops” is a term used to describe biofuel crops.  
✓ Wheat, corn, main edible oilseeds/edible oils, sugarcane, and other crops are among them.
- Biofuels have a number of advantages over fossil fuels, including the ability to burn cleaner and emit fewer pollutants and greenhouse gases, such as carbon dioxide, into the sky. They’re also environmentally friendly, and energy corporations frequently mix Biofuels with gasoline.



## KEY POINTS

### −0.08 ~ +0.05 Global Net Energy Change:

- Cultivation area under bioenergy crops occupies  $3.8\% \pm 0.5\%$  of the global total land area, but they exert strong regional biophysical effects, leading to a global net change in air temperature of  $-0.08 \sim +0.05$  degrees Celsius.
- Global air temperature will decrease by  $0.03 \sim 0.08$  °C, with strong regional contrasts and inter-annual variability, after 50 years of large-scale bioenergy crop cultivation.

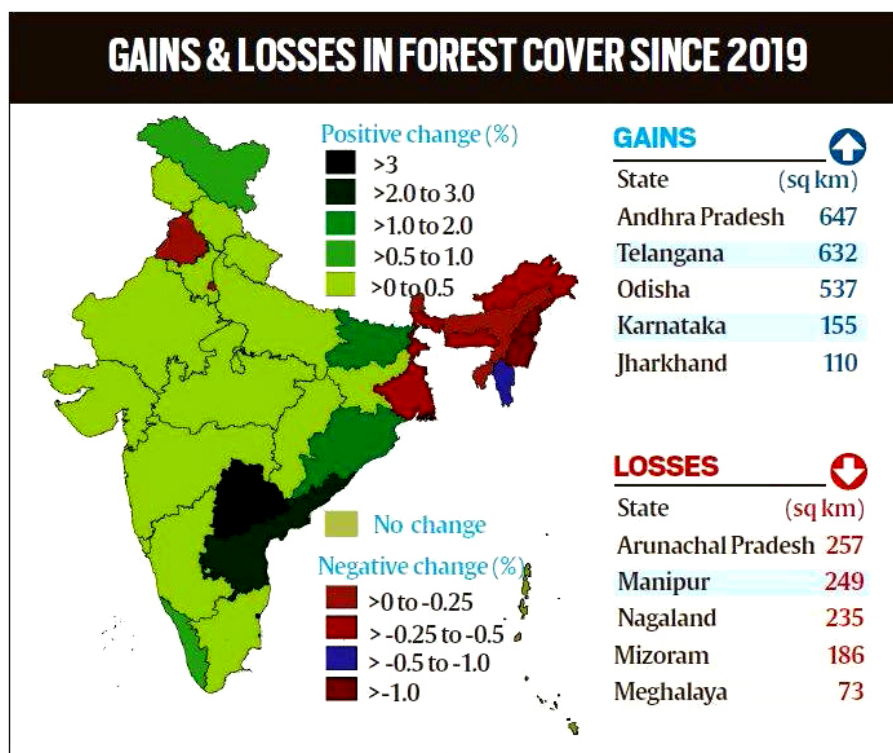
## REPORTS

### INDIA STATE OF FOREST REPORT-2021

#### Why in News

Recently, the Union Ministry of Environment, Forests and Climate Change (MoEFCC) released the India State of Forest Report-2021.

- In October, 2021 an amendment was proposed by MoEFCC to the Forest (Conservation) Act, 1980 to bring significant changes to forest governance in India.



#### KEY POINTS

##### About:

- It is an assessment of India's forest and tree cover, published every two years by the Forest Survey of India.
- The first survey was published in 1987, and ISFR 2021 is the 17th.
- India is one of the few countries in the world that brings out such a survey every two years, and this is widely considered comprehensive and robust.

- The ISFR is used in planning and formulation of policies in forest management as well as forestry and agroforestry sectors.
- Three categories of forests are surveyed – very dense forests (canopy density over 70%), moderately dense forests (40-70%) and open forests (10-40%).
- Scrubs (canopy density less than 10%) are also surveyed but not categorised as forests.

### New Features of ISFR 2021:

- It has for the first time assessed forest cover in tiger reserves, tiger corridors and the Gir forest which houses the Asiatic lion.
- The forest cover in tiger corridors has increased by 37.15 sq km (0.32%) between 2011-2021, but decreased by 22.6 sq km (0.04%) in tiger reserves.
- Forest cover has increased in 20 tiger reserves in these 10 years, and decreased in 32.
- Buxa (West Bengal), Anamalai (Tamil Nadu) and Indravati reserves (Chhattisgarh) have shown an increase in forest cover while the highest losses have been found in Kawal (Telangana), Bhadra (Karnataka) and the Sunderbans reserves (West Bengal).
- Pakke Tiger Reserve in Arunachal Pradesh has the highest forest cover, at nearly 97%.

### Findings of the Report:

#### Increment in Area:

- The forest and tree cover in the country continues to increase with an additional cover of 1,540 square kilometres over the past two years.
- India's forest cover is now 7,13,789 square kilometres, 21.71% of the country's geographical area, an increase from 21.67% in 2019.
- Tree cover has increased by 721 sq km.
  - ✓ Tree cover is defined as all tree patches of size less than one hectare occurring outside the recorded forest area. This covers trees in all formations including scattered trees.

#### Increase/Decrease in Forests:

The states that have shown the highest increase in forest cover are Telangana (3.07%), Andhra Pradesh (2.22%) and Odisha (1.04%).

Five states in the Northeast – Arunachal Pradesh, Manipur, Meghalaya, Mizoram and Nagaland have all shown loss in forest cover.

#### States with Highest Forest Area/Cover:

- **Area-wise:** Madhya Pradesh has the largest forest cover in the country followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.

- In terms of forest cover as percentage of total geographical area, the top five States are Mizoram, Arunachal Pradesh, Meghalaya, Manipur and Nagaland.
  - ✓ The term ‘forest area’ denotes the legal status of the land as per the government records, whereas the term ‘forest cover’ indicates presence of trees over any land.

### **Mangroves:**

- Mangroves have shown an increase of 17 sq km. India’s total mangrove cover is now 4,992 sq km.

### **Forest Prone to Fires:**

35.46% of the forest cover is prone to forest fires. Out of this, 2.81% is extremely prone, 7.85% is very highly prone and 11.51% is highly prone.

- ✓ By 2030, 45-64% of forests in India will experience the effects of climate change and rising temperatures.
- ✓ Forests in all states (except Assam, Meghalaya, Tripura and Nagaland) will be highly vulnerable climate hot spots. Ladakh (forest cover 0.1- 0.2%) is likely to be the most affected.

### **Total Carbon Stock:**

- The total carbon stock in the country’s forests is estimated at 7,204 million tonnes, an increase of 79.4 million tonnes since 2019.
  - ✓ Forest carbon stock is the amount of carbon that has been sequestered from the atmosphere and is now stored within the forest ecosystem, mainly within living biomass and soil, and to a lesser extent also in dead wood and litter.

### **Bamboo Forests:**

- Bamboo forests have grown from 13,882 million culms (stems) in 2019 to 53,336 million culms in 2021.

### **Concerns:**

- **Decline in Natural Forests:**
  - There is a 1,582 sq km decline in moderately dense forests, or “natural forests”.
  - The decline, in conjunction with an increase of 2,621 sq km in open forest areas – shows a degradation of forests in the country.
  - Also, scrub area has increased by 5,320 sq km – indicating the complete degradation of forests in these areas.
  - Very dense forests have increased by 501 sq km.

### Decline in Northeast Forest Cover:

- The forest cover in the region has shown an overall decline of 1,020 sq km in forest cover.
- The Northeast states account for 7.98% of total geographical area but 23.75% of total forest cover.
- The decline in the Northeastern states has been attributed to a spate of natural calamities, particularly landslides and heavy rains, in the region as well as to anthropogenic activities such as shifting agriculture, pressure of developmental activities and felling of trees.

## DEFORESTATION IN CERRADO: BRAZIL

### Why in News

Deforestation in 2021 rose to the highest level since 2015 in Brazil's Cerrado, prompting scientists to raise alarm over the state of the world's most species-rich savanna.

- Earlier, it was also found that the area deforested in Brazil's Amazon reached a 15-year high after a 22% jump from the prior year (2020).



## KEY POINTS

### About:

- The Cerrado is spread across several states of Brazil and is one of the world's largest savannas, is often called an "upside-down forest" because of the deep roots its plants sink into the ground to survive seasonal droughts and fires.
- Cerrado is a major carbon sink that helps to stave off climate change.



### **Destruction of Cerrado:**

- Destruction of these trees, grasses and other plants in the Cerrado is a major source of Brazil's greenhouse gas emissions, although it is far less densely forested than the more famous Amazon rainforest that it borders.
  - ✓ Deforestation and other clearances of native vegetation in the Cerrado rose 8% to 8,531 square kilometers in the 12 months through July 2021.
- Scientists blame the government for encouraging deforestation with his pro-development rhetoric and for rolling back environmental enforcement.

## **ECONOMY SCENARIO**

### **CAGE CULTURE IN AQUACULTURE**

#### **Why in News**

The Ministry of Fisheries, Animal Husbandry and Dairying organised a webinar on “Cage aquaculture in Reservoir: Sleeping Giants” as a part of “Azadi Ka Amrit Mahotsav”.

- Department of Fisheries, GOI earmarked the investment targets for promoting cage aquaculture under flagship scheme Pradhan Mantri Matsya Sampada Yojana (PMMSY).

### **KEY POINTS**

#### **About:**

- Cage aquaculture involves the growing of fishes in existing water resources while being enclosed in a net cage which allows free flow of water.



- It is an aquaculture production system made of a floating frame, net materials and mooring system (with rope, buoy, anchor etc.) with a round or square shaped floating net to hold and culture large numbers of fishes and can be installed in reservoir, river, lake or sea.
- Cage farms are positioned in such a way to utilize natural currents, which provide the fish with oxygen and other appropriate natural conditions.

### Factors Causing Cage Culture:

- Factors such as increasing consumption of fish, declining stocks of wild fishes and poor farm economy have increased interest in fish production in cages.
- Many small or limited resource farmers are looking for alternatives to traditional agricultural crops.
- In view of the high production attainable in the cage culture system, it can play a significant role in increasing the overall fish production in India.

### Significance:

#### Removes Constraints of fish farming on land:

- Farming of fish in an existing water body removes one of the biggest constraints of fish farming on land, ie., the need for a constant flow of clean, oxygenated water.

#### Least Carbon Emission:

- Cage culture is a low impact farming practice with high returns and least carbon emission activity.

#### Expanding Opportunities:

- Aquaculture appears to be a rapidly expanding industry and it offers opportunities even on a small scale.

#### Better Utilization of India's long Coastline:

- Suitable locations in India's long coastline, vast brackish water areas available in coastal states and other underutilized water bodies can be better utilized by adopting cage culture.

#### Offers alternative income Source:

- Since the investment is low and requires very little/no land area, this farming method is ideal for small-scale fisherfolks as an alternative income source.

- This can be taken up as a household/women activity since labour involved is minimal and can be managed by a small family.
- The design of the cage and its accessories can be tailor-made in accordance to the individual farmer's requirements.

### Challenges:

- ✓ Feed to the caged fish must be nutritionally complete and kept fresh.
- ✓ Low Dissolved Oxygen Syndrome (LODOS) is an ever present problem and may require mechanical aeration.
- ✓ Fouling of the net cage.
- ✓ Vandalism or poaching is a potential problem.
- ✓ Navigation issues.
- ✓ Accumulation of unused feed and excreta will lead to water pollution as well as eutrophication.
- ✓ Change in water quality parameters.
- ✓ Conflicts within the local community.
- ✓ Predation by aquatic mammals and birds.
- ✓ Escapement.
- ✓ Overcrowding of aquatic organisms in cages.

### GLOBAL RISKS REPORT 2022

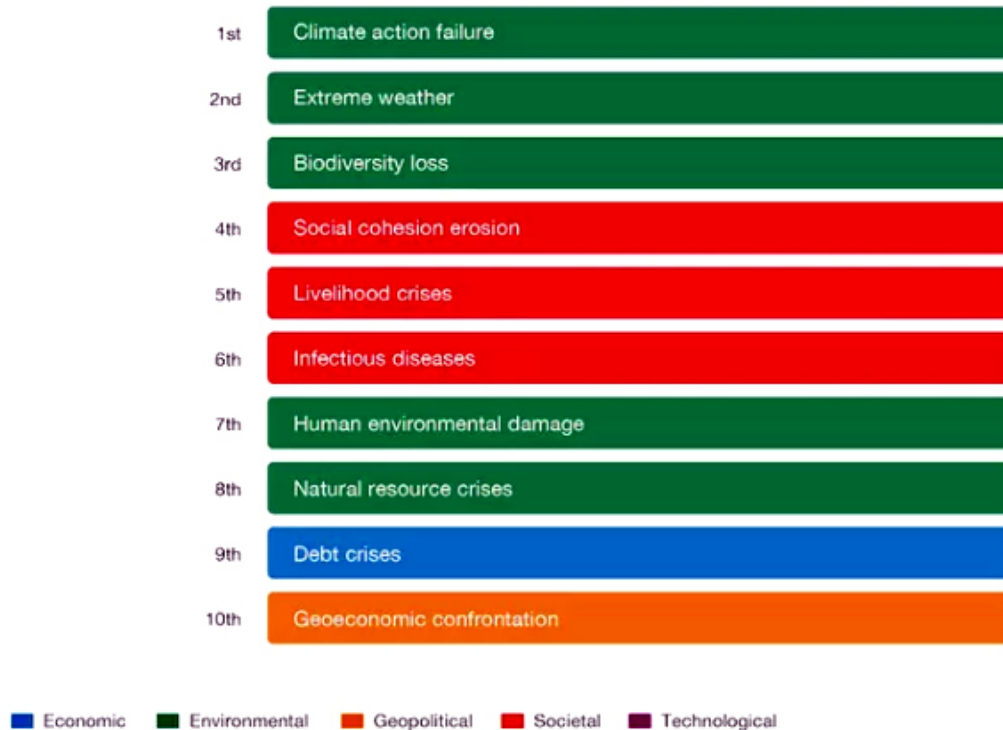
#### Why in News

Recently, the Global Risks Report 2022, an annual report, was released by the World Economic Forum. It tracks global risk perceptions among risk experts and world leaders in business, government, and civil society.

- It examines risks across five categories: economic, environmental, geopolitical, societal, and technological.

## Top 10 Global Risks by Severity

Over the next 10 years



### KEY POINTS

- Impact of Covid-19: The societal and environmental risks have worsened the most since the start of the pandemic.
  - ✓ “Social cohesion erosion”, “livelihood crises” and “mental health deterioration” are three of the five risks seen as the most concerning threats to the world in the next two years.
  - ✓ Apart from this, it has significantly contributed to “debt crises”, “cybersecurity failures”, “digital inequality” and “backlash against science”.
- **Global Economic Outlook:** It majorly perceived the short-term economic outlook to be volatile, fractured, or increasingly catastrophic.
  - ✓ The most serious challenge persisting from the pandemic is economic stagnation.
- **Environmental Risks:** “Extreme weather” and “climate action failure” - appear as top risks in the short-, medium-and long-term outlooks.
  - ✓ Governments, businesses, and societies are facing increasing pressure to transition to net-zero economies.

- **Geopolitical and Technological Risks:** In the longerterm horizon, geopolitical and technological risks are of concern too—including “gEOeconomic confrontations”, “geopolitical resource contestation” and “cybersecurity failure”.
- **International Risks:** Artificial intelligence, space exploitation, cross-border cyberattacks and misinformation and migration and refugees were rated as the top areas of international concerns.
  - ✓ Growing insecurity in the forms of economic hardship, worsening impacts of climate change and political persecution will force millions to leave their homes in search of a better future.
- The prospect of 70,000 satellite launches in coming decades, in addition to space tourism, raises risks of collisions and increasing debris in space, amid a lack of regulation.

## World Economic Forum

### About:

- The World Economic Forum (WEF) is a Swiss nonprofit foundation established in 1971, based in Geneva, Switzerland.
- Recognized by the Swiss authorities as the international institution for public-private cooperation.

### Mission:

- Committed to improving the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas.

**Founder and Executive Chairman:** Klaus Schwab.

**Some major reports published by WEF are:**

- Energy Transition Index.
- Global Competitiveness Report.
- Global IT Report
  - ✓ WEF along with INSEAD, and Cornell University publishes this report.
- Global Gender Gap Report.
- Global Risk Report.
- Global Travel and Tourism Report.



## INDIA & FREE TRADE AGREEMENTS

### Why in News

Recently, the Commerce and Industry Ministry said that India is in dialogue with Israel for concluding a Free Trade Agreement (FTA).

- The announcement coincides with the 30th anniversary of the establishment of diplomatic ties between the two countries.

### KEY POINTS

#### Free Trade Agreement (FTA):

- It is a pact between two or more nations to reduce barriers to imports and exports among them.
- Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.
- The concept of free trade is the opposite of trade protectionism or economic isolationism.

#### India and FTAs:

- After India opted out of the Regional Comprehensive Economic Partnership (RCEP) in November 2019, the 15-member FTA grouping that includes Japan, China and Australia, FTAs went into cold storage for India.
- But in May 2021 came the announcement that India-European Union talks, which had stalled in 2013, would be resumed.
  - ✓ Both sides are now engaged in internal preparations to take these various strands of work forward.
- Bilateral free trade agreements of India are being negotiated with the United Arab Emirates, the United Kingdom, Australia and Canada.
- The agreement with the UAE was ‘close to finalisation’ while the FTA with Australia was at a ‘very advanced stage.’

## INDIA TO BECOME ASIA’S 2ND LARGEST ECONOMY BY 2030

### Why in News

According to the Information Handling Services (IHS) Markit report, India is likely to overtake Japan as Asia’s second-largest economy by 2030.

- Currently, India is the sixth-largest economy, behind the U.S., China, Japan, Germany and the U.K.

- IHS Markit is a global leader in information, analytics and solutions for the major industries and markets that drive economies worldwide.

**Note:** The size of a nation's overall economy is typically measured by its Gross Domestic Product, or GDP, which is the value of all final goods and services produced within a country in a given year.

## KEY POINTS

### GDP Projection:

- In terms of value, the size of the Indian economy stood at USD 2.7 trillion in 2021, which is projected to grow to USD 8.4 trillion by 2030.
  - ✓ This boom is enough to overtake Japan, making India the second largest economy in the Asia-Pacific region by 2030.
  - ✓ India's growth rate is projected to be 8.2% in 2021-22, compared to a decline of 7.3% in the previous fiscal.
  - ✓ However, the momentum of the current financial year (FY) will continue in 2022-23 as well and India will achieve 6.7% growth.

### Role of Different Sectors:

- The manufacturing, infrastructure and services sector along with the e-commerce sector have a big role to play in boosting India's growth rate.
- Not only this, due to increasing digitization, the e-commerce market will become bigger in the coming times.
  - ✓ According to a report, 1.1 billion Indians will have internet by 2030, in 2020 this number was 500 million.

### Growth Rate:

- Overall the future of the Indian economy looks strong and stable, making it the fastest growing country in the country for the next decade.
- In the long term also, technological developments like infrastructure sector and startups will play a big role in sustaining India's rapid growth rate.
  - ✓ Being one of the world's fastest-growing economies will make India one of the most important long-term growth markets for multinationals in a wide range of industries, including manufacturing industries such as autos, electronics and chemicals, and services industries such as banking, insurance, asset management, healthcare and information technology.

### Middle Class Support:

- India gets the most help from its vast middle class, which is its main consumer force.
  - ✓ Indian consumer spending will also double in the next decade. This could increase from USD1.5 trillion in 2020 to USD3 trillion in 2030.

### FDI Inflows:

- The large increase in Foreign Direct Investment (FDI) inflows to India that has been evident over the past five years is also continuing with strong momentum in 2020 and 2021.
- It is being boosted by large inflows of investments from global technology Multinational Companies (MNCs) such as Google and Facebook that are attracted to India's large domestic consumer market.

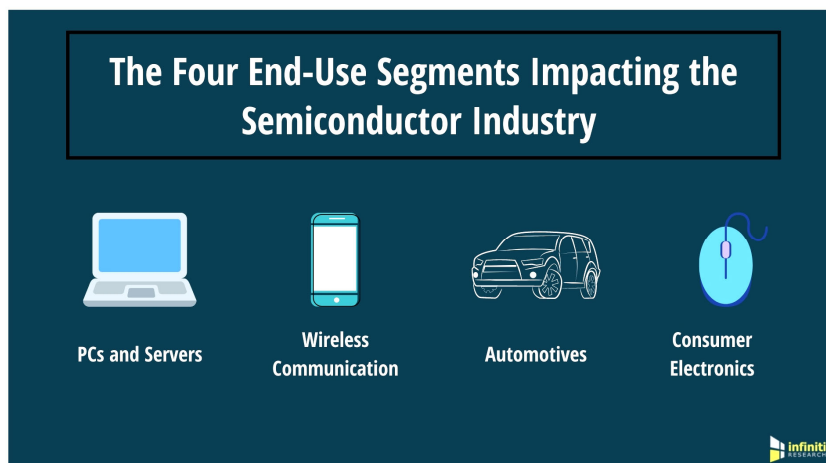
### Current State of India's Economy:

- India's GDP at current prices stood at USD 694.93 billion in the first quarter of FY22, as per the provisional estimates of gross domestic product for the first quarter of 2021-22.
- India is the fourth-largest unicorn base in the world with over 21 unicorns collectively valued at USD 73.2 billion.

## SEMICONDUCTOR SHORTAGE

### Why in News

Recently, there has been an abrupt and cascading shortage of semiconductors worldwide.



## KEY POINTS

### About Semiconductors:

- Semiconductors are materials which have a conductivity between conductors (generally metals) and nonconductors or insulators (such as most ceramics). Semiconductors can be pure elements, such as silicon or germanium, or compounds such as gallium arsenide or cadmium selenide.
- ✓ Conductivity is the measure of the ease at which an electric charge or heat can pass through a material.
- They are also known as integrated circuits or more commonly just chips, they may be the tiniest yet most exacting product ever manufactured on a global scale.

| S.No | Conductors  | Semiconductors  | Insulators   |
|------|---|---|--|
| 1    | Easily conducts the electrical current.               | Conducts the electric current less than conductor and greater than insulator. | Does not conduct any current.  |
| 2    | Has only one valence electron in its outermost orbit. | Has four valence electron in its outermost orbit.                             | Has eight valence electron in its outermost orbit.                               |
| 3    | Conductor formed using metallic bonding.              | Semiconductors are formed due to covalent bonding.                            | Insulators are formed due to ionic bonding.                                      |
| 4    | Valence and conduction bands are overlapped.          | Valence and conduction bands are separated by forbidden energy gap of 1.1eV.  | Valence and conduction bands are separated by forbidden energy gap of 6 to 10eV. |
| 5    | Resistance is very small                              | Resistance is high  | Resistance is very high  |
| 6    | It has positive temperature coefficient               | It has negative temperature coefficient                                       | It has negative temperature coefficient  |
| 7    | Ex: copper, aluminium, etc                            | Ex: silicon, germanium, etc   | Ex: Mica, Paper, etc   |

- It's an electric circuit with many components such as transistors and wiring formed on a semiconductor wafer. An electronic device comprising numerous of these components is called Integrated Circuit (IC), and can be found in electronic devices such as computers, smartphones, appliances, gaming hardware and medical equipment.

- ✓ These devices find widespread use in almost all industries, especially in the automobile industry.
- Electronic parts and components today account for 40% of the cost of a new internal combustion engine car, up from less than 20% two decades ago.
- ✓ Semiconductor Chips account for a bulk of this increase.

## GST COMPENSATION EXTENSION

### Why in News

- Many states have demanded that the GST compensation cess regime be extended for another five years. Also, states have demanded that the share of the Union government in the centrally-sponsored schemes should be raised.
- ✓ These demands are made as Covid-19 pandemic has impacted their revenues.
- ✓ The provision for GST compensation is going to end in June 2022.

## KEY POINTS

### About:

- **GST Taxation:** The GST became applicable from 1st July 2017 after the enactment of the 101<sup>st</sup> Constitution Amendment Act, 2016.
- ✓ With GST, a large number of central and state indirect taxes merged into a single tax.
- **GST Compensation:** In theory the GST should generate as much revenue as the previous tax regime. However, the new tax regime is taxed on consumption and not manufacturing.
- ✓ This means that tax won't be levied at the place of production which also means manufacturing states would lose out and hence several states strongly opposed the idea of GST.
- ✓ It was to assuage these states that the idea of compensation was mooted.
- ✓ The Centre promised compensation to the States for any shortfall in tax revenue due to GST implementation for a period of five years.
- ✓ This promise convinced a large number of reluctant States to sign on to the new indirect tax regime.



## **CABINET APPROVES INFUSION OF RS 1500 CR IN IREDA**

### **KEY POINTS**

- The Union Cabinet has approved infusion of Rs.1500 crore in the Indian Renewable Energy Development Agency Limited (IREDA).
- It will enable IREDA to lend 12,000 crore rupees to the renewable energy sector.
- It will also improve the capital-to-risk weighted assets ratio to facilitate its lending and borrowing operations.
- The decision will generate over ten thousand jobs every year.

## **NATIONAL TECHNICAL TEXTILES MISSION: 20 STRATEGIC RESEARCH PROJECTS SANCTIONED**



### **KEY POINTS**

- The Textiles Ministry has cleared 20 strategic research projects worth Rs.30 crore in areas of specialty fibers and geotextiles.
- These strategic research projects come under the flagship programme National Technical Textiles Mission.
- Textiles Minister Piyush Goya said that industry-academia connect is essential for the growth of research and development of technical textiles in the country.
- He stressed that building convergence with academicians, scientists and researchers is the need of the hour.

## **AMAZON INDIA TO SELL GRASSROOTS INNOVATIONS, STUDENT'S INNOVATIONS AND TRADITIONAL KNOWLEDGE-BASED PRODUCTS**

### **KEY POINTS**

- National Innovation Foundation's Incubation and Entrepreneurship Council and Amazon India have signed an MoU (Memorandum of Understanding) for online sale of grassroots innovations, student innovations and outstanding traditional knowledge-based products.
- The MoU will make innovations from rural parts of India available universally.
- Science and Technology Ministry said that since these innovations have their genesis in addressing an unmet need in a particular locality, it can initiate a journey towards providing inclusive innovations to the world at large.
- Post successful on boarding of these businesses, Amazon will also create a storefront to boost the discoverability of these rural innovations among customers.
- Also, through this MoU, capacity building of grassroots innovators by engaging industry and subject matter experts would be ensured.

## **WORLD BANK PREDICTS 8.3% GROWTH FOR INDIAN ECONOMY**

### **KEY POINTS**

- The World Bank has said that the Indian economy is expected to grow at 8.3 percent in the current financial year.
- It has upgraded India's GDP growth for the next fiscal to 8.7 percent, reflecting higher investment from the private sector and in infrastructure, and dividends from ongoing reforms.
- In its latest Global Economic Prospects, World Bank said, the growth outlook will also be supported by ongoing structural reforms, a better-than-expected financial sector recovery, and measures to resolve financial sector challenges despite ongoing risks.
- It said, global economic growth will dip to 4.1 percent in current financial year and 3.2 percent in the next fiscal.

## CCEA APPROVES INTRA-STATE TRANSMISSION SYSTEM-GREEN ENERGY CORRIDOR PHASE-II



**GREEN ENERGY CORRIDOR PHASE-II**

**Cabinet approves Intra-State Transmission System – Green Energy Corridor Phase-II**

- To facilitate grid integration and power evacuation of approximately **20 GW of Renewable Energy projects in 7 States**
- Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh
- Total estimated cost **Rs. 12,031 crore**
- Central Financial Assistance at **33% of project cost** i.e. Rs. 3970.34 crore
- To be created **over a period of five years**

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### KEY POINTS

- The Cabinet Committee on Economic Affairs, CCEA has approved the Intra-State Transmission System - Green Energy Corridor Phase-II.
- Information and Broadcasting Minister Anurag Thakur said, the scheme will add approximately 10,750 circuit kilometres of transmission lines and around 27,500 Megavolt-Amperes transformation capacity of substations.
- The scheme will facilitate grid integration and power evacuation of approximately 20 GW of Renewable Energy power projects in seven states.
- These states are Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh.
- The scheme is targeted to be set up with a total estimated cost of over Rs 12,031 crore and Central Financial Assistance at 33 percent of the project cost, that amounts to over Rs. 3970 crore.
- The transmission systems will be created over a period of five year from Financial Year 2021-22 to 2025-26.
- The scheme will help in achieving the target of 450 GW installed Renewable Energy capacity by 2030.
- The scheme will also contribute to long term energy security of the country and promote ecologically sustainable growth by reducing carbon footprint.
- It will generate large direct and indirect employment opportunities for both skilled and unskilled personnel in power and other related sectors.

## SOCIAL ISSUES

### FAECAL SLUDGE AND SEPTAGE MANAGEMENT

#### Why in News

According to the NITI Aayog report Faecal sludge and septage management in urban areas, Service and business models, by 2021 more than 700 cities/towns are in various stages of Faecal Sludge and Septage Management (FSSM) implementation..

#### KEY POINTS

#### Faecal Sludge and Septage Management (FSSM):

##### About:

- India has recognized the gaps in sanitation coverage and embarked purposefully to address them, becoming one of the first countries to announce a national policy on FSSM in 2017.
- FSSM prioritizes human excreta management, a waste stream with the highest potential for spreading diseases.
- It is a low-cost and easily scalable sanitation solution that focuses on safe collection, transportation, treatment, and reuse of human waste.
- As a result, FSSM promises a means to achieve the Sustainable Development Goals (SDG) target 6.2 of adequate and inclusive sanitation for all in a time bound manner.

##### Related Initiatives:

- India has continued to show its commitment towards FSSM through the launch of Open Defecation-Free (ODF) + and ODF++ protocols, an emphasis on FSSM in Swachh Survekshan, as well as financial allocations for FSSM across Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and National Mission for Clean Ganga (NMCG) missions.

## **GUIDELINES FOR UNIVERSAL ACCESSIBILITY**

### **Why in News**

Recently, the Central Public Works Department (CPWD) released the new Harmonised Guidelines and Standards for Universal Accessibility in India 2021.

- The new rules envisage changes from the design plan to the implementation.
- Apart from this, various aspects of the built environment have been covered under the new guidelines for universal accessibility.
- Earlier, in 2021 the Ministry of Information and Broadcasting had issued draft guidelines for new accessibility standards.

### **Central Public Works Department of India**

- The Central Public Works Department of India (CPWD), is a premier Central Government authority in charge of public sector works.
- It comes under the Ministry of Housing and Urban Affairs (MoHUA).
- It deals with buildings, roads, bridges, flyovers, complicated structures like stadiums, auditoriums, laboratories, bunkers, border fencing, border roads (hill roads), etc.
- It was established by Lord Dalhousie in 1854.

## **KEY POINTS**

### **About the New Guidelines:**

- The guidelines are a revision of the Harmonised Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons released in 2016.
- Earlier, the guidelines were for creating a barrierfree environment, but now we are focusing on universal accessibility.
  - ✓ Universal Accessibility refers to the degree to which the environment, products, and services are accessible to people with disabilities.
  - ✓ The term barrier-free design used to describe the effort of removing physical barriers from the “built environment” for people with disabilities.
- The guidelines are not just for Persons with Disabilities (PwD), but for those involved in planning projects, from the construction of government buildings to master-planning cities.
- Nodal Ministry: Ministry of Housing and Urban Affairs (MoHUA).



## NEAT Initiative

### Why in News

Recently, the Ministry of Human Resource Development (MHRD) has announced a new National Educational Alliance for Technology (NEAT 3.0) to use technology for better learning outcomes in Higher Education.

### KEY POINTS

- **Model of NEAT Scheme:** It is based on a Public-Private Partnership model between the Government and the Education Technology (Ed-Tech) companies of India.
- **Objective:** The objectives of NEAT are to bring the best technological solutions in education pedagogy on a single platform for the convenience of Economically and Socially weaker sections of society.
- **Target Areas:** Technology solutions using Artificial Intelligence for customised learning or e-content in niche areas having highly employable skills are being identified for showcasing on the portal.
- **Modus Operandi:** Under this, the government plans to distribute free coupons for an array of courses offered by ed-tech companies.
- **Implementing Agency:** All India Council for Technical Education (AICTE).

### All India Council for Technical Education (AICTE)

- It was set up in November 1945 as a national-level apex advisory body.
- Its purpose was to conduct a survey on the facilities available for technical education and to promote development in the country in a coordinated and integrated manner.
- According to the National Policy of Education (1986), AICTE is vested with:
  - ✓ Statutory authority for planning, formulation, and maintenance of norms & standards,
  - ✓ Quality assurance through accreditation,
  - ✓ Funding in priority areas, monitoring, and evaluation,
  - ✓ Maintaining parity of certification & awards,
  - ✓ The management of technical education in the country.

## Ed-Tech

- **About:** Edtech is the practice of introducing IT tools into the classroom to create a more engaging, inclusive and individualized learning experience.
- **Intended Benefits of Ed-Tech:** Technology holds promise and has incredible potential. It can help in:
  - ✓ Enabling greater personalisation of education
  - ✓ Enhancing educational productivity by improving rates of learning,
  - ✓ Reducing costs of instructional material and service delivery at scale
  - ✓ Better utilisation of teacher/instructor time.
- **National Education Policy 2020:** India's new National Education Policy (NEP) 2020 is responsive to the clarion call to integrate technology at every level of instruction.
  - ✓ It envisions the establishment of an autonomous body, the National Education Technology Forum (NETF), to spearhead efforts towards providing a strategic thrust to the deployment and use of technology.
- **Scope:** The Indian ed-tech ecosystem has a lot of potential for innovation.
  - ✓ With over 4,500 start-ups and a current valuation of around USD 700 million, the market is geared for exponential growth - estimates project an astounding market size of USD 30 billion in the next 10 years.

## Associated Issues With Ed-Tech:

- **Lack of Technology Access:** Not everyone who can afford to go to school can afford to have phones, computers, or even a quality internet connection for attending classes online.
  - ✓ According to National Sample Survey data for 2017-18, only 42% of urban and 15% of rural households had internet access.
  - ✓ In this case, Ed-tech can increase the already existing digital divide.
- **Contradiction with Right to Education:** Technology is not affordable to all, shifting towards online education completely is like taking away the Right to Education of those who cannot access the technology.

## Related Steps Taken:

- Digital Infrastructure for Knowledge Sharing (DIKSHA).
- PM eVidya.
- Swayam Prabha TV Channel
- SWAYAM portal