

## **EVERYDAY CURRENT AFFAIRS – JAN 7, 2020**

### **TAMIL NADU**

- **Greater Chennai Corporation - declared Elliot's Beach in Besant Nagar a 'litter-free zone' on January 6**
- ✓ The Corporation has set up various colour-coded bins to collect different types of dry waste from along the shore and on the adjoining road near the beach.
- ✓ The collected waste will be sent to the material recovery facilities for further action.



- ✓ The civic body has also installed a giant fish-shaped transparent enclosure in which plastic pet bottles and other plastic waste littered on the beach will be collected and stored
- **The Tamil Nadu government – is planning to launch a common portal soon for all Government services, including Tangedco, civic services, kavalan, digi-cop, traffic police, viewing of FIR, and lost document reporting**
- ✓ It will soon announce the tenders for launching the portal
- ✓ The portal will be designed in such a way that it can also be accessed through an exclusive mobile app to be developed
- ✓ The project will be handled by the Commissionerate of e-governance

- ✓ It will be completed within three months by subsuming all mobile applications currently in use.
- ✓ For instance, the TN police have been using apps such as 'digi-cop' and traffic police app for assisting the public, which will be replaced now by the proposed single portal
- **The Directorate of Public Health and Preventive Medicine - is targeting the vaccinating of around 70.50 lakh children in the age group of 0 to 5 years in a single round of the Intensified Pulse polio immunisation campaign on January 19.**



- ✓ This year, Tamil Nadu has entered the 16th polio-free year.
- ✓ On January 19, the directorate would administer oral polio drops to children through 43,051 booths.
- ✓ These booths would be set up in all primary health centres, government hospitals, ICDS centres, noon meal centres, schools and other important places in the State.
- ✓ To cover children on travel, there would be 1,652 transit booths in major bus stands, railway stations, toll plazas, check posts and airports.
- ✓ The immunisation booths would function from 7 a.m. to 5 p.m.

## STATES

- **The Election Commission – announced that the assembly polls in Delhi will be held on February 8**
- ✓ Chief election commissioner Sunil Arora along with election commissioner Ashok Lavasa announced the poll schedule in New Delhi



- ✓ Over 1.47 crore voters will exercise their right to vote in 70 assembly seats across the state on February 8
- ✓ The counting of votes and the announcing of results will be on February 11
- ✓ The current Delhi assembly expires on February 22.

- ✓ The last assembly election in 2015 delivered a massive win for Aam Aadmi Party which won 67 seats, leaving only 3 for BJP.
- ✓ Congress, which was in power for 15 years before that, could not win even a single seat.
- ✓ As in the Jharkhand election, postal ballot facilities would be provided to disabled persons and senior citizens over the age of 80 in select constituencies in Delhi too.


## NATIONAL

- **India Meteorological Department – announced that the decade 2010-2019 is the country’s warmest decade with temperatures in the country 0.36°Celsius higher than the average**
  - ✓ This is as per the “State of Climate Report” released by the IMD for the year 2019
  - ✓ According to the report, the climate change has claimed 1,659 lives in India in the year 2019, with Bihar registering the highest with 650 deaths due to floods and heatwaves in 2019
  - ✓ The last year was also the seventh warmest on record, again 0.36°Celsius higher than the 1981-2010 average, and was the 22nd straight year of higher-than-average annual temperatures across the country
  - ✓ The warmest year in India on record was 2016, when the mean temperature in the country was 0.71°C higher than average
  - ✓ New Delhi recorded the longest cold wave duration of 18 days, since 1902, this year
  - ✓ There were 8 cyclonic storms that were formed in the Indian seas, of which 5 were formed in Arabian sea.
  
- **Researchers from two Chennai laboratories — National Centre for Coastal Research (NCCR) and National Institute of Ocean Technology (NIOT) — will be mapping the shores of the slowly eroding islands of Lakshadweep to provide a solution**

**WHAT'S THE PLAN?**

City labs NCCR and NIOT have begun conducting surveys along Lakshadweep coast to provide solutions to eroding coast

- A shoreline management plan will be prepared with data on shoreline changes, sand movement and wave activity along the coast
- Based on the plan, intervention measures like artificial reefs or dykes may be suggested and implemented
- Deep sea studies have been completed while shallow water survey underway



- ✓ Research vessel Sagar Manjusha was deployed to conduct the initial round of studies in the deep sea around the Lakshadweep islands.
- ✓ Another vessel Sagar Tara is being used for shallow water survey to be undertaken along with the help from fishing trawlers
- ✓ The shoreline management plan will provide a comprehensive data on the changes along the shoreline of the group of islands as well as sand movement and wave activity
- ✓ Earlier, the two labs had provided solutions to eroding coasts in Puduchery, where a massive steel caisson was deployed closer to the coast, and Kadalur villages located near Kalpakkam, where dykes were submerged near the coast, to reduce wave activity.
- ✓ Lakshadweep has 36 small islands.

## SUPREME COURT VERDICT

- **A nine-judge constitution bench – will start to hear the review petitions regarding the entry of women in the 10-50 year age group into Sabarimala Ayyappa temple from January 13, 2020**



- ✓ On September 28, 2018, a five-judge constitution bench had permitted the entry of women of all ages into Sabarimala temple.
- ✓ Without staying the earlier decision, another five-judge bench, by 3-2 majority, had referred the issue to a seven-judge bench on November 14, 2019
- ✓ It had delivered the verdict with a request to SC to provide further guidelines to deal with future litigations involving clashes between faith and fundamental rights.

## INTERNATIONAL

- **Finland's new Prime Minister, Sanna Marin – proposes a four day working week to enable people spend more time with their families.**
- ✓ Sanna Marin, a social democrat, assumed office in December, leading a broad coalition in Finland



- ✓ Marin, who is the world's youngest serving national leader, also announced the standard working day should be reduced to 6 hours, down from the current 8 hours.
- ✓ An earlier attempt by French prime minister Lionel Jospin to bring in a 35-hour work week at beginning of the 21st century met with limited success
- ✓ Similarly, a policy to work for 6 hours was brought in Sweden in 2015



- ✓ The working week in Europe was progressively shortened under pressure from the labour movement with the gradual introduction of the modern two-day weekend and the eight-hour day, which has become a standard bench-mark across the globe.

## SCIENCE, TECHNOLOGY & ENVIRONMENT

- **Pathanga Suchaka, a new artificial intelligence (AI) based system – was unveiled on the sidelines of the 107th Indian Science Congress on January 6**
- ✓ The system is designed to identify about 800 species of butterflies and 500 species of moths using the AI technology
- ✓ It was developed by Ecologist and writer, KN Ganeshiah, who was formerly associated with University of Agricultural Sciences (UAS)
- ✓ Once the users take a photograph of a butterfly/moth and upload it onto the system, the Software will provide the scientific and common name of the species within seconds
- ✓ The app uses information from the Indian bio-resource information programme, which has an extensive database, and other open sources including the internet
- ✓ There are around 1,600 butterfly and 800 moth species in the country

## DEFENCE

- **India - is all set to kick off the “Naseem-Al-Bahr” (sea breeze) naval combat exercise with Oman on the western coast off Goa from January 7.**



- ✓ The warships from Oman, corvette RNOV Al Rasikh and patrol vessel RNOV Khassab, arrived at the Mormugao Port in Goa
- ✓ India has deployed frigate INS Beas and patrol vessel INS Subhadra for the exercise
- ✓ The exercise will first have a harbour phase followed by a sea phase.
- ✓ The naval war games follows the deployment of IAF's MiG-29 fighters and C-17 Globemaster-III strategic airlift aircraft for the very first time outside India at the “Eastern Bridge” air combat exercise at the Masirah airbase in Oman last October
- ✓ The Indo-Oman Naval Exercises are being conducted since 1993.
- ✓ “Al Najah” is the army exercise conducted between the countries.
- ✓ “Ex Eastern Bridge” is the Air Force exercise that is held between the countries.
- ✓ India recently signed a pact with Oman in 2018 to access the Duqm port of Oman.
- ✓ Oman has provided berth rights to Indian vessels, which is crucial for the Indian Navy to carry out anti-piracy operations in the Gulf of Aden.

- ✓ Oman is at the gateway of Strait of Hormuz through which India imports one-fifth of its oil imports.
- ✓ Being a defence partner, India has supplied rifles to Oman and plans to set up a defence production unit in the country.

## ECONOMY

- **Shivalik Mercantile Co-operative Bank - has become the first co-operative bank in the country to get permission from the RBI to convert into a small finance bank (SFB)**



- ✓ The Saharanpur-headquartered Shivalik MCB is a multi-state co-operative lender with significant presence in Uttar Pradesh, Delhi, Madhya Pradesh and Uttarakhand.
- ✓ The bank had deposits of ₹1,051 crore and advances of ₹715 crore as of end-March 2019.
- ✓ The RBI's 'in-principle' approval will be valid for 18 months, within which Shivalik Mercantile Co-operative Bank had to comply with the norms of a SFB.
- ✓ In general, Co-operatives are governed under state laws as well as by RBI norms.
- ✓ They are owned by the customers with significant restrictions on their activities.
- ✓ SFBs are like corporate entities limited by shares.
- ✓ They have much more flexibility in raising finances from the banking system.
- ✓ They are a new category of commercial banks that will cater to small borrowers.
- ✓ Initially, only microfinance companies could convert into SFBs.
- ✓ Later, the RBI had announced a scheme on voluntary transition of UCB into a SFB on September 27, 2018.
- ✓ Further, in December 2019, the RBI came out with guidelines allowing co-operatives also to convert.

## SPORTS

- **India's P. Magesh Chandran – wins the 95th edition of the prestigious Hastings International Chess Congress in Hastings, England.**
- ✓ The 36-year-old GM with a FIDE-rating of 2479, remained unbeaten and finished first with 7.5 points from 9 games
- ✓ The US-based Magesh, hailing from Madurai in Tamil Nadu, posted 6 wins and secured 3 draws to emerge as the winner in the event
- ✓ Mahesh had become a GM in 2006 and shifted to the US for higher studies at the University of Texas.

# ALL ABOUT ASTRONAUT'S FOR GAGANYAAN

## What it will take to be a 'Gagannaut'

Racing as it is to meet the deadline set by PM Narendra Modi, Isro has been working overtime on the Gaganyaan programme, India's first human spaceflight mission slated for 2022 that aims to send Indian astronauts, or 'gagannauts', to space and bringing them back safely. Isro chairman K Sivan has said that four of the initial 12 candidates for the mission have been finalised and they begin their training in Russia later this month. **Chethan Kumar** explains the training process for the selected astronauts, whose identities are being kept secret, other than the fact that they are Indian Air Force (IAF) test pilots

### First up for gagannauts: Weighty problem of weightlessness

For the four people selected for the mission, the real work begins now. Astronauts experience gravitational loads ranging from 1g on Earth to much higher during flight and re-entry. They will have to endure motion sickness upon entering weightlessness, while change in gravity affects blood circulation and can make them unconscious unless they're trained

### Water tanks, simulators, centrifuge machines

Handling microgravity, isolation and disorientation are key to astronaut training. The Institute of Aerospace Medicine (IAM) in India and the Yu A Gagarin Research & Test Cosmonaut Training Centre in Russia have multiple simulators to prepare the space travellers for it

**IAM has simulators** that can simulate from -20 degree centigrade to 60 degrees. Its dry flotation simulators can simulate microgravity with the "head down tilt" simulator serving the same purpose

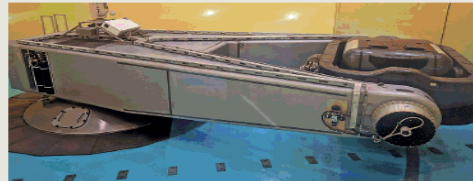
Another simulator can create pressure six times that of atmospheric pressure (60 metres depth of sea water) and pressures at 1 lakh feet, which is one of the definitions of beginning of space

**IAM also has isolation and disorientation chambers** while the Gagarin centre further boasts of astro-navigational facilities and low-pressure chambers



### Prepping for G-Force

To improve their G-force tolerance capabilities, astronauts are put in centrifuges and centrifuge-based simulators



**IAM has developed a human centrifuge** – not too many countries have this – which creates high G-forces. The Gagarin centre has two such centrifuges

The **CF-18** is for training under the effect of simulated spaceflight factors, including G-loads, physiological weightlessness, reduced pressure, humidity and temperature variations, etc.



Russian Photos: Yu A Gagarin Centre

The **CF-7** helps test G-tolerance during selection and study influence of spaceflight extreme factors on a human body.

It helps research on methods to improve G-tolerance and reduce negative effects of acceleration, etc.



### Learning to float in air



The Gagarin centre's **weightless environment training facility, or hydro lab**, is intended for training in conditions of simulated weightlessness in water and provides help for, among other things, astronaut activity in outer space



**Gagarin centre also offers aircraft-laboratories (flying laboratories)** for testing various space engineering systems and conducting medical experiments. The flying lab will be part of the Gaganyaan astronauts' training

### Handling the spacecraft

➤ Above all else, of course, the selected gagannauts have to get acquainted with various systems, navigation and thermal controls, orbital mechanics and Earth observation, etc. that make up the key aspects of the mission

➤ Isro and IAF would both wish that the gagannauts would never need to use this training and all systems perform as planned. But such training is essential for manual intervention and during emergencies. The space flyers will also be trained in basic biology, physics and medicine, etc.

➤ Once the astronauts have learnt all the above, they will have to be acquainted with the systems that will be used in Gaganyaan. For this, IAM will prepare specific modules with the help of several experts