

# Where is Antrix Corporation located?

## Science & Technology

### Vyoma Mitra

- It is ISRO'S first woman astronaut. It will be used for an unmanned flight of ISRO'S GSLV-III rocket in December 2020 which along with a second unmanned flight in July 2021. Vyoma mitra equipped with ahead, two arms and a torso, is built to crew activity inside the crew module of Gaganyaan.
  - About ISRO
  - ISRO founded on 1969, Aug 15
  - Head quarter Bangalore
  - Present Chairman K Shivan
  - Father of ISRO (Indian Space Research Organisation)/Father of Space Technology India- Vikram Sarabhai
- Some important milestones of ISRO**
- ISRO successfully launched first satellite 'Aryabhata' on 1975, Aug 19
  - ISRO successfully launched Chandrayaan-I on 2008, October 22
  - ISRO successfully launched 104 satellites at a time on 2017, February 15
  - ISRO successfully launched 'Mangalyaan(Mom)' on 2013, Nov 5. Mangalyaan reached mars orbiter on 2014, September 24

### Some of the important associated institutes/bodies ISRO

- Master Control Facility- Hasan, Bhopal
- Vikram sarabhai space centre- Thumba in Thiruvananthapuram
- Liquid propulsion system centre- Mahendragiri, Bengalure and Thiruvananthapuram
- Human space flight centre- Bengalure
- Antrix corporation- Bengalure
- Satish Dawan Space centre- Sriharikota
- Physical Research laboratory- Ahmedabad
- National Atmospheric Research laboratory- Gadanki
- Indian institute of space science and technology (IIST)/India's space university- Thiruvananthapuram
- Space application centre- Ahmedabad
- North eastern space application centre- Shillong
- UR Rao satellite centre- Bengalure
- National remote sensing centre- Hyderabad
- Indian institute of remote sensing- Dehradun.

### MILAN- 2020

- It will be held in Vishakhapatnam in March 2020. It is a multilateral naval exercise aimed to enhance professional interaction between friendly foreign navies and learn from each other's strengths and best practices in the maritime domain of the '41' navies invited, confemations from over 30 navies have been received towards their participation in MILAN-2020
- MILAN stands for Multilateral naval exercise.
- Recently, Tiger Triumph & SLINEX lite naval exercises are held in Vishakapatnam in 2019. Tiger Triumph exercise is held jointly between India and USA Vishakapatnam and Kakinada. SLINEX exercise jointly conducted by India and Srilanka.
- The present chief of Indian Navy staff is Admiral Karambir singh
- National navy day is observed every year

on December 4.

- Operation sankalp, It is a maritime security operation launched by India to promptly respond to the emergency situations for Indian sea vessels in the middle east region. It has been launched in order to ensure safe passage of Indian flag vessels through the strait of Hormuz.



### Turtle rehabilitation centre in Bihar

- A first of its kind rehabilitation centre for freshwater turtles is inaugurated in Bhagalpur forest division in Bihar in January 2020. The rehabilitation centre, spread over half a hectare will be able to shelter 500 turtles at a time.
- The need to build such a centre was felt after several turtles were found severally wounded and sick when rescued from smuggles by rescue teams.

### New and emerging strategic technologies (NEST)

- With India grappling with issues like the security implications of the introduction of 5G and artificial intelligence, the Indian foreign ministry has announced the setting up of new division on new and emerging strategic technologies.

#### About NEST and its functions

- It will help assess foreign policy and international legal implications of emerging technology and technology based resources.
- The division will act as the nodal point in India's foreign ministry for all matters connected to new and emerging strategic technologies including exchange of views with foreign government and coordination with domestic ministries and departments.
- The desk will also be involved in negotiations to safeguard Indian interests at multilateral fora like the united nations or the G-20 where rules governing the use and access to such technologies could be decided.

### Ramsar sites in India

- India has added 10 more wetlands to sites protected by the Ramsar convention. With this, a total of '37' sites in the country, have been recognised under the international treaty.

#### About Ramsar convention

- It is an international treaty for the conservation and wise use of wetlands. It is named after the Iranian city of Ramsar, on the Caspian sea, where the treaty was signed on February 2nd 1971. Known officially as the convention on wetlands of international importance especially as waterfowl habitat, it came into force in 1975.
- The '10' new Ramsar sites in India are..

  - Beas conservation reserve- Punjab
  - Keshopur miani community reserve- Punjab
  - Nangal wildlife sanctuary- Punjab

- Nandur madhmeshwar- Maharashtra
- Nawabganj bird sanctuary- Uttarpradesh
- Parvati agra bird sanctuary- Uttarpradesh
- Saman bird sanctuary- Uttarpradesh
- Samaspur bird sanctuary- Uttarpradesh
- Sandi bird sanctuary- Uttarpradesh
- Sarsai nawar jheel- Uttarpradesh

### Thirty meter telescope (TMT)

- India, a partner in the construction of one of the largest telescopes on the world, TMT has said it wants the project to be moved out of the proposed site at mouna kea, a dormant volcano in Hawaii.
- TMT is an astronomical observatory with an extremely large telescope.
- It is an international project being funded by scientific organisations of Canada, China, India, Japan and USA.
- The TMT is designed for near ultraviolet to mid-infrared observations, featuring adaptive optics to assist in correcting image blur.
- TMT will enable scientists to study objects far away from us in the universe, which gives the formation about early stages of evolution of the universe.
- It will give us finer details of not so far away objects like undiscovered planets and other objects in solar system and planets around other stars.

### ARTEMIS mission

- ARTEMIS stands for 'Acceleration, Reconnection, Turbulence and Electro dynamics of Moon's Interaction with the sun'. NASA announces graduating class of '11' astronauts for upcoming space mission including the ARTEMIS mission. The team includes Indian American Rajachari.
- NASA wants to send the first women and the next man to the moon by the year 2024, which it plans on doing through the ARTEMIS lunar exploration programme.
- The mission was named 'ARTEMIS' after the Greek Mythological goddess of the moon and twin sister to apollo, namesake of the programme that send 12 American astronauts to the moon between 1969 and 1972. The main objective of ARTEMIS mission is to measure what happens when the sun's radiation hits our rocky moon, where there is no magnetic field to protect it.
- Apart from the USA, the European space agency, Japan, China and India have sent missions to explore the Moon. China landed two rovers on the surface, which includes the first ever landing on the Moon's far side in 2019.
- The Indian space research organisation recently announced India's third lunar mission Chandrayaan-3 which will comprise a lander and a rover.

### G SAT-30

- The first mission of the Indian space research organisation (ISRO) in 2020, India's latest telecommunications satellite GSAT-30 was successfully launched on 2020, January 17. The launch took place from the spaceport in French Guiana. The launch vehicle is named Ariane 5VA-251.
- GSAT-30 derives its heritage from ISRO's earlier INSAT satellite series and will replace INSAT-4A in orbit.
- GSAT-30 gives the Indian mainland and islands coverage in the 'KU' band, and extended coverage in a wide area stretching from Australia to Europe in the



**M. Bhikshapathi**  
Sr. Faculty  
Shine India Academy  
Hyderabad



- lower-frequency C-band.
- The KU and C bands are part of a spectrum of frequencies, ranging from 1 to 40 gigahertz, that are used in satellite communications.
- With a mission life of over 15 years, GSAT-30 will provide DTH television services, connectivity to very small aperture terminals for ATM, stock exchange, television uplinking and telyport services, Digital satellite News Gathering and e-governance applications.

### Project NETRA

- Indian space research organisation has linked a pact with Indian institute of Astrophysics to pave the way for collaboration in establishing optical telescope facilities under project 'NETRA' for tracking space objects.
- In project NETRA, NETRA stands for network for space object tracking and analysis.
- Under the project NETRA, the ISRO plans to put up many observational facilities i.e. connected radars, telescopes, data processing units and a control centre. They can, among others, spot, track and catalogue objects as small as 10cm, upto orange of 3,400 km and equal to a space orbit of around 2000 km.

### Model Questions

- ISRO successfully launched GSAT-30 satellite from French Guiana. Then GSAT-30 replaced the which of the following satellite in orbit?  
1) INSAT-1A      2) INSAT-2A  
3) INSAT-3A      4) INSAT-4A
- India has added ..... wetlands to sites protected by the Ramsar convention so far.  
1) 27    2) 37    3) 47    4) 57
- Where is UR Rao satellite centre located in?  
1) Ahmedabad      2) Hasan  
3) Bengalure      4) Shillong
- ISRO launched 'Chandrayaan-2' on 2019, July 22. Then, which of the following rocket was used for launching of Chandrayaan-2?  
1) GSLV MK-3MI    2) PSLV C-48  
3) INSAI-47A      4) IRSS-IA
- Project NETRA is associated to?  
1) NASA              2) ESA  
3) ISRO              4) None