India’s Third Moon Mission

Why in News?

Recently, the Indian Space Research Organisation (ISRO) **has successfully conducted the flight acceptance hot test of the CE-20 cryogenic engine** that will power the cryogenic upper stage of the launch vehicle for the Chandrayaan-3 mission.

- The test was **successfully conducted at the ISRO Propulsion Complex, Mahendragiri in Tamil Nadu.**

What are the Highlights of the Test?

- The hot test was carried out **for a planned duration at the High Altitude Test Facility.**
- All the propulsion parameters during the test **were found satisfactory and closely matched with predictions.**
- The cryogenic engine will be further integrated with the propellant tanks, stage structures and associated fluid lines **to realise the fully integrated flight cryogenic stage.**

What is the Chandrayaan-3 Mission?

- Chandrayaan-3 is **India’s third moon mission and is a follow-up of** Chandrayaan-2 of July 2019, which aimed to land a rover on the lunar South Pole.
    - The mission is **scheduled to be launched later in 2023 by Launch Vehicle Mark 3 (LVM3)** from the Satish Dhawan Space Centre at Sriharikota.
- The **subsequent failure of the Vikram lander led to the pursuit of another mission to demonstrate the landing capabilities needed for the** Lunar Polar Exploration Mission proposed in partnership with Japan for 2024.
- **The Mission will have three major modules-** the Propulsion module, Lander module and Rover.
    - The propulsion module **will carry the lander and rover configuration till 100 km lunar orbit.**
    - The Lander **will have the capability to soft land at a specified lunar site and deploy the Rover which will carry out in-situ chemical analysis** of the lunar surface during the course of its mobility.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q.1 Consider the following statements: (2016)

The Mangalyaan launched by ISRO

1. is also called the Mars Orbiter Mission
2. made India the second country to have a spacecraft orbit the Mars after USA
3. made India the only country to be successful in making its spacecraft orbit the Mars in its very first attempt

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Ans: (c)

Mains

Q.1 What is India’s plan to have its own space station and how will it benefit our space programme? **(2019)**

Q.2 Discuss India’s achievements in the field of Space Science and Technology. How the application of this technology has helped India in its socio-economic development? **(2016)**

Source: TH