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News: India's third lunar odyssey commences with perfect launch

- India's **third moon mission, Chandrayaan-3, was successfully launched onboard a Launch Vehicle Mark 3 (LVM3) rocket from the Satish Dhawan Space Centre in Sriharikota at 2.35 p.m. on Friday.**
- This is India's second attempt at soft landing robotic instruments on the lunar surface after the previous attempt, Chandrayaan-2, failed in 2019.
- Thus far, only three countries, the U.S., Russia and China, have successfully soft landed on the moon.

Chandrayaan 3

- The Chandrayaan-3 mission is a **follow-up of Chandrayaan-2 of July 2019, which aimed to land a rover on the lunar South Pole.**
- 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.**
- It will have an **orbiter and a landing module.** However, this **orbiter won't be loaded with scientific instruments** like the Chandrayaan-2.

- Its job will only be confined to carry the lander to the moon, oversee the landing from its orbit and communicate between the lander and the earth station.
- Recently, Chandrayaan – 3 was successfully launched using a Launch Vehicle Mark – 3 (LMV – 3) with a calculated weight of 2145kgs.
- The vehicle uses a 3 stage solid – liquid – cryogenic engine to propel and is expected to reach the south pole of moon by August 23rd / 24th and is expected to operate for one lunar day / 14 earth days.

Chandrayaan-2 Mission

- Chandrayaan-2 consisted of an Orbiter, Lander and Rover, all equipped with scientific instruments to study the moon.
- The Orbiter would watch the moon from a 100-km orbit, while the Lander and Rover modules were to be separated to make a soft landing on the moon's surface.
- ISRO had named the Lander module as Vikram, after Vikram Sarabhai, the pioneer of India's space programme, and the Rover module as Pragyaan, meaning wisdom.
- It was sent aboard the country's most powerful geosynchronous launch vehicle, the GSLV-Mk 3.

- However, lander **Vikram**, instead of a controlled landing, ended up crash-landing and prevented rover **Pragyaan** from successfully travelling on the surface of the moon.