

GOVERNMENT OF INDIA
DEPARTMENT OF SPACE

RAJYA SABHA

UNSTARRED QUESTION NO. 1732

TO BE ANSWERED ON THURSDAY, AUGUST 03, 2023

LAUNCH OF CHANDRAYAAN-3

1732. SHRI VAIKO:

SHRI M. SHANMUGAM:

Will the PRIME MINISTER be pleased to state:

- (a) the status of Chandrayaan-3 which was launched in the orbit recently;
- (b) in what way, its lander and rover are different from that of Chandrayaan-2; and
- (c) the details of activities and tests on the lunar surface like collecting data, series of scientific experiments to know about Moon's composition that are planned once the Lander successfully lands on the Moon?

ANSWER

**MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC
GRIEVANCES & PENSIONS AND IN THE PRIME MINISTER'S OFFICE**

(DR. JITENDRA SINGH):

- (a) Chandrayaan-3 spacecraft was successfully launched onboard LVM-3 on 14th July, 2023 at 14:35 hrs from the Satish Dhawan Space Centre, SHAR. The spacecraft is currently undergoing a series of orbit maneuvers in order to reach the moon's orbit.
- (b) Chandrayaan-3 has been made more robust by improvements in Lander to handle more dispersion, improvements in sensors, software and propulsion systems, full level redundancies in addition to exhaustive simulations and additional tests being conducted, towards ensuring a higher degree of ruggedness in the lander.
The Rover of Chandrayaan-3 and Chandrayaan-2 are identical.
- (c) The Chandrayaan-3 spacecraft comprising of a propulsion module, lander and rover, collectively house seven scientific instruments.

The lander carries four instruments, namely,

- i. ILSA (a seismometer)
- ii. RAMBHA-LP (a Langmuir Probe)
- iii. CHASTE (a thermal probe) and
- iv. LRA (a Retroreflector from NASA).

The rover has two instruments viz.,

- (i) APXS (an X-ray spectrometer) and
- (ii) LIBS (a laser-based spectrometer)

The propulsion module has SHAPE (a spectro - polarimeter) instrument.

Major scientific experiments planned once the Lander successfully lands on the Moon include studying the (i) vibrations on the lunar surface due to seismic events, and / or due to the impact of meteorites, rover movement etc. (ii) near – surface plasma environment (iii) temperature and thermal conductivity upto the depth of 10 cm (iv) elemental composition in and around the landing site (v) spectral signatures of Earth from lunar orbit.
