GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

LOK SABHA

UNSTARRED QUESTION NO. 616

TO BE ANSWERED ON WEDNESDAY, DECEMBER 06, 2023

CHANDRAYAAN-3 LANDER

616. SHRI RAVIKUMAR D.:

Will the PRIME MINISTER be pleased to state:

(a) the details collected by Chandrayaan-3 Lander;

(b) the details of the next plan of ISRO; and

(c) the progress made in human space flight programme so far?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):

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(a) The Chandrayaan-3 lander, after landing on the lunar surface, had deployed the scientific instruments, and the rover was made to roll out. The scientific instruments onboard the lander and rover were operated till the completion of the lunar day. The major findings of the Chandrayaan-3 lander-rover duo include first-ever detection of Sulphur on the lunar regolith, along with trace constituents like Carbon, Nitrogen, Phosphorus, Titanium,

Manganese, Cromium, Nikel; first-ever temperature profiling of the lunar regolith up to ~ 10 cm depth, results show good thermal insulating properties of the lunar soil. In addition to these, the Instrument for Lunar Seismic Activity (ILSA) instrument onboard the lander recorded a few events of ground vibrations of the lunar surface. The Langmuir probe onboard the Chandrayaan-3 lander did the first-ever characterization of the near-surface lunar plasma at higher lunar latitude; the first-cut observations indicate that only a few tens to hundreds of electrons per cubic centimeter exist near the lunar surface.

(b) Building upon the success of Chandrayaan-3, future Chandrayaan missions are undergoing feasibility studies, which shall be put up for Government approval at an appropriate stage. As of now, future Chandrayaan Missions are undergoing the overall mission architecture design phase, wherein studies are being done towards finalizing the system configuration, flight profile, identification of critical technologies, required infrastructure, etc.

(c) The status of Indian human space flight programme 'Gaganyaan' is as follows;

I. Test Vehicle TV-D1 Mission: First test vehicle mission (TV-D1) successfully accomplished on 21st October, 2023.

II. Comprehensive Assessment of Gaganyaan Programme: A Special Committee reviewed and recommended

additional test programmes for ensuring high reliability and confidence to the mission.

III. **Human rating of launch vehicle: Testing of all propulsion systems completed.**

IV. **Crew Management: Crew training and associated evaluation are in progress with the selected astronauts.**

V. **Infrastructure for Gaganyaan Mission is getting ready to meet the overall schedules.**

VI. **With the finalised qualification programme prior to human space missions, 3 more Test Vehicle abort missions & 3 unmanned missions to orbit are planned. The overall schedule is to accomplish the Human space mission by end of 2025.**

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