

**GOVERNMENT OF INDIA
SPACE
LOK SABHA**

UNSTARRED QUESTION NO:1008

ANSWERED ON:11.12.2013

MARS MISSION

Krishnaswamy Shri M.;Owaisi Shri Asaduddin;Ponnam Shri Prabhakar;Singh Shri Rakesh;Yadav Shri Ranjan Prasad

Will the Minister of SPACE be pleased to state:

- (a) whether India has recently launched Mars Orbiter mission and if so, the details thereof;
- (b) whether the mission has been successful so far and if so, the details thereof;
- (c) the total expenditure incurred on this mission?
- (d) the benefits likely to be derived from this mission and the future plans of the ISRO to launch more such missions; and
- (e) the challenges likely to be faced by ISRO in this mission in days to come?

Answer

MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY):

(a) Yes, Sir. India's first interplanetary spacecraft, Mars Orbiter was successfully launched on November 05, 2013 at 14:38 hrs (IST), by India's Polar Satellite Launch Vehicle PSLV-C25, from Satish Dhawan Space Centre.

(b) Yes, Sir. The mission has been successful so far and has progressed as planned. Subsequent to the injection of Mars Orbiter Spacecraft into the elliptical orbit (perigee of 248.4 km and apogee of 23,550 km) by PSLV-C25, a series of orbit raising maneuvers were performed from Spacecraft Control Centre at ISRO's Telemetry, Tracking and Command Network, Bangalore. The critical maneuver to place Mars Orbiter in the Mars Transfer Trajectory was successfully carried out in the early hours of December 1, 2013. The Earth orbiting phase of the Mars Orbiter has been completed and Mars Orbiter has successfully escaped the Earth's Sphere Of Influence on December 04, 2013. The Orbiter is now on a course to encounter Mars after a journey of about 300 days. Besides these maneuvers, health checks of the Mars Orbiter as well as its payloads have been performed and all systems on-board Mars Orbiter are performing normally.

(c) The total funds sanctioned by the Government for this mission is ` 450 Crores, which includes cost towards Mars Orbiter Spacecraft, Launch Vehicle and the Ground Segment. The actual expenditure incurred on this mission up to 31.10. 2013 is ` 244.06 Crores. The balance amount is planned to be spent during the remaining period of current financial year and next financial year.

(d) The Mars Orbiter Mission would enable technological up-gradation for the country. It would provide excellent opportunities in planetary research for the scientific community of the country. It would generate national pride and excitement in the young minds. The 12th Five Year Plan envisages initiation of Mars Orbiter follow-on mission studies including identification of scientific instruments.

(e) The challenges likely to be faced by ISRO in this mission in the days to come include –

Perform in-orbit maintenance of the Mars Orbiter and few mid course corrections in the trajectory during a voyage of 300 days.

Mars orbit capture / insertion and to orbit Mars in an elliptical orbit of 366 km x 80000 km.

Explore Mars surface features, morphology, mineralogy and Martian atmosphere by indigenous five scientific instruments on board the Mars Orbiter.