

PARLIAMENT QUESTION: HUMAN SPACEFLIGHT MISSION

प्रविष्टि तिथि: 05 AUG 2026 2:28PM by PIB Delhi

The development activities of Gaganyaan mission validating human rating aspects include the following:

- **Human Rated Launch Vehicle (HLVM3):** Development and ground testing of all propulsion stages and structures completed.
- **Orbital Module:** Propulsion systems for Crew Module and Service Module developed, tested and qualified. Engineering model for Environmental Control & Life Support System (ECLSS) has been realized. Deceleration system, Crew Module Up-righting System, Thermal Protection System and end to end avionics have been developed and tested.
- **Crew Escape System (CES):** 5 types of motors developed and static tested. All the CES structures are realised and qualified.
- **Infrastructure established:** Orbital Module Preparation Facility, Gaganyaan Control Centre, Gaganyaan Control facility, Crew training facility, Second Launch pad modifications have been realised.
- **Test Missions:** First Test Vehicle mission (TV-D1) for inflight validation of Crew Escape System (CES) has been successfully completed. Integrated Air Drop Test- 01 (IADT-01) and Integrated Air Drop Test- 02 (IADT-02) with simulated Crew Module for validation of deceleration system have been completed successfully. Activities are in progress towards accomplishment of TV-D2 mission.
- **Flight Operations and Communication Network:** Ground network configuration finalized. IDRSS-1 feeder stations and terrestrial links established. MoUs have been signed with other space agencies for cross supports.
- **Crew Recovery Operations:** Recovery assets finalized. Recovery Plan worked out.

Parallely, various ground qualification tests towards demonstrating new systems realized for Gaganyaan are progressing.

Gaganyatris have completed generic training at Glavkosmos, Russia. Gaganyaan mission specific training is in progress at Astronaut Training facility, Bengaluru. The 1st test mission, TV-D1 is accomplished. Activities are in progress for 2nd test mission, TV-D2. Development and ground testing of all propulsion stages and structures completed for Human Rated Launch Vehicle (HLVM3).

1st crewed mission is targeted in 2027.

Operationalisation of Bharatiya Antariksh Station (BAS) is targeted by 2035. ISRO has worked out overall configuration of Bharatiya Antariksh Station comprising of five modules. Government has approved the development and launch of 1st module of BAS-01. Overall system engineering of BAS-01 module and technology development activities of various subsystems is progressing in ISRO Centres/Units.

Major critical technologies for human space programme have been identified including flight suit, view port, crew seat and docking technology. Govt of India has approved the indigenous development of these critical technologies. Design and development of proto hardware is in progress.

This information was given by the Minister of State (Ind. Charge) Science & Technology; Earth Sciences and Minister of State PMO; Personnel, Public Grievances and Pensions; Atomic Energy, Space Dr. Jitendra Singh in a written reply in Lok Sabha today.

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