

GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

RAJYA SABHA

UNSTARRED QUESTION NO. 2210

TO BE ANSWERED ON THURSDAY, AUGUST 06, 2026

SPACE EXPLORATION OBJECTIVES

2210. SHRI RAJESH PARMANAND SHUKLA:

SHRI LAHAR SINGH SIROYA:

SMT. SEEMA DWIVEDI:

Will the PRIME MINISTER be pleased to state:

- (a) the details of Gaganyaan mission milestones validating domestic human spaceflight, including the status of terrestrial evaluations, structural trials and crew safety and recovery verifications;
- (b) the schedule for inaugural uncrewed mission with the Vyommitra half-humanoid and the developmental roadmap to a manned orbital flight;
- (c) whether Government would operationalize the Bharatiya Antariksh Station by 2035, following successful autonomous docking in early 2025 SpaDeX mission;
- (d) if so, the details thereof; and
- (e) the details of increased fiscal allocation and international collaborations implemented to ensure the safety and success of India's strategic human space exploration objectives?

ANSWER

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

(DR. JITENDRA SINGH):

- (a) 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.

- (b) The first uncrewed experimental mission to validate various technologies that are being developed for the first time including Vyommitra half-humanoid is targeted in Q4 of 2026. Further, two uncrewed mission in identical configuration of first crewed mission are targeted by 2027.
- (c) It is planned to operationalise Bharatiya Antariksh Station (BAS) by 2035.
- (d) 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.

- (e) The budgetary allocation of ₹20,193Cr towards accomplishment of 8 missions was approved by Union Cabinet in September, 2024.

ISRO is collaborating with international space agencies in various areas. Network operations support for the Gaganyaan missions is being enabled through collaboration with European Space Agency (ESA). Through an Implementing Arrangement with Australian Space Agency (ASA), cooperation on Crew and Crew Module Recovery for Gaganyaan missions is being pursued. ISRO's collaboration with French National Space Agency (CNES) has enabled training of ISRO's Flight Surgeons and Ground Support Teams in CNES/European facilities. Further, ISRO and State Space Corporation Roscosmos of Russia entered into a MoU for joint activities in Human Spaceflight Programme. This has enabled contracts for delivery of subsystems such as Crew Seat, Viewport, Flight Suits, Wind Tunnel Testing as well as Generic Space Flight Training of the first batch of Gaganyatris in Gagarin Cosmonaut Training Centre.
