

PARLIAMENT QUESTION: GAGANYAAN MISSION

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The following is the current status & key milestones achieved in Gaganyaan Programme:

1. New Developments

- i. **Human Rated Launch Vehicle (HLVM3):** Development and ground testing completed.
- ii. **Orbital Module:** Propulsion systems for Crew Module and Service Module developed and tested. ECLSS engineering model realized.
- iii. **Crew Escape System (CES):** 5 types of motors developed and static tested.
- iv. **Infrastructure established:** Orbital Module Preparation Facility, Gaganyaan Control Centre, Gaganyaan Control facility, Crew training facility, Second Launch pad modifications.
- v. **Precursor Missions:** A Test Vehicle developed for validating CES and flight tested in TV-D1. Activities are in progress for TV-D2 and IADT-01.
- vi. **Flight Operations and Communication Network:** Ground network configuration finalized. IDRSS-1 feeder stations and terrestrial links established.
- vii. **Crew Recovery Operations: Recovery assets finalized.** Recovery Plan worked out.

2. **First Uncrewed Mission (G1):** C32-G stage and CES motors realized. HS200 Motors and CES Fore end up to Crew Module Jettisoning Motor stacked. Crew Module and Service module structure realized. Crew Module Phase-1 checks completed.

The human spaceflight programme is aimed at fulfilling aspirations of an established space fairing nation. The technological and manufacturing capabilities towards the goal of 'Viksit Bharat' will hinge on a transformative shift in the national research and technology development landscape. After proving the basic capabilities for human space activities under Gaganyaan Programme, the next logical step is to initiate the development activities for a human habitat or a space station in the low earth orbit to enable longer human space missions. In this regard, the long-term vision of Indian Human Space Programme includes Bharatiya Antariksha Station (BAS) by 2035 and Indian Moon Landing by 2040.

Plans for establishing five modules of Bharatiya Antariksha Station (BAS) by 2035 towards which approval for development of 1st module of BAS is obtained.

As per the vision envisaged by Government of India to land an Indian on moon by 2040, the mission aspects, configuration of launch vehicle and orbital module systems have been taken up.

Training modules including incremental training for the ongoing Gaganyaan programme and proposed landing of an Indian on Moon is in line with the requirement of mission timelines.

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

NKR/PSM

