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ISRO Successfully Completes Gaganyaan Tests

Chennai, 18 Oct 2026: The Indian Space Research Organi sation (I S R O) has successfully com pleted a series of Crew Module (CM)-Service Module (SM) Separa tion Tests for the maiden Gaganyaan human flight manned mission.

Gaganyaan Orbital Module comprises of Crew Module (CM) and Service Module (SM) which are connected using a separation system. Electrical & fluid servicing between CM & SM is ensured through umbilical connections. These modules are integrated prior to the launch and function as a single integrated module from launch till the completion of the on-orbit phase of the mission.

Prior to commen cing re-entry into the earth's atmosphere, the CM is separated from the SM. Separation of CM from SM involves multiple precisely sequenced separation events involving pyro technic devices and jettisoning systems, ISRO said on Friday.

In order to validate the overall design adequacy of the separa tion system, a test set up was realized at Vikram Sarabhai Space Centre, Thiruvanantha puram, for simulating the overall CMSM assembly with exten sive inst rumentation. The tests simulated the scenario of CMSM separation involving the severing of several umbilical connections between CM & SM.

Besides validating the design adequacy of the overall CM-SM separation systems, these tests have also demonstrated robust ness and shock-surviva bility of various critical subsystems in the CM. These include various Avionics systems, Inertial Navigation Systems, Thermal Protection System in the Aft & Conical Heat Shield, Crew Module Deployable Umbilical Shield as well as pyrotechnic devices of Crew Module Upright ing System and Thermal & Humidity Control System. This provides necessary confidence in the functioning of the implemented CMSM separation system for the upcom ing 1st uncrewed Gaganyaan Mission (G1) mission which is targeted for launch in 2027.