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Isro tests Gaganyaan crew module systems

NEW DELHI: The Indian Space Research Organisation (ISRO) on Sunday said it had successfully carried out three major tests of the Gaganyaan crew module systems.

The first test pertained to ensuring an upright position for the crew module after splash-down in the sea, considered one of the most important crew safety requirements. To do this, a stored cold-gas-based uprighting system was developed and tested.

"A system-level qualification test setup consisting of all the elements of CMUS (crew module uprighting system) was realised and successfully conducted inflation tests for the primary inflation module wherein stored gas in the high-pressure gas bottle was made to inflate the floatation by operating the control valves," the ISRO said.

The second test involved examining the separation of the umbilical mechanism that

serves as a link between the crew module, where astronauts live, and the service module, which provides power and propulsion.

The mechanism consists of two parts, each located at the crew module side, called CSU-1, and the service module side, called CSU-2.

During the crew module's Earth re-entry stage, the service module first separates from the crew module after the CSU-1 disconnects. Subsequently, just before re-entry, the CSU-2 is also separated.

"Separation test of CSU-2 from simulated crew module was carried out. The test demonstrated the clean separation of CSU-2 as well as structural stability of the crew module panel and their interfaces," the space agency said.

The third test validated the structural integrity of the crew module during the apex crew separation event.

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