Gaganyaan G2: L&T delivers Coimbatore-made crew escape shroud

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News

Larsen & Toubro's (L&T) Precision Engineering and Systems unit in Coimbatore built and handed over to ISRO's Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram, the fourth set of the Crew Escape Ogive Shroud (CEOS) – part of Gaganyaan's Crew Escape System, which pulls the astronauts safely away from the rocket in an emergency. It is meant for G2, Gaganyaan's second uncrewed mission; L&T announced on 6 November 2026 that it was delivered ahead of schedule. Company officials said the firm has also built the pitch motor compartment, the crew module, the launch escape system structure and thrust transfer structures for the G1 and G2 missions. ISRO aims to send humans to space next year; four astronaut-designates are in training.

Key facts for the exam

Point	Details
Component	Crew Escape Ogive Shroud (CEOS) – 4th set
Maker	L&T Precision Engineering & Systems, Coimbatore
Received by	Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram
Mission	Gaganyaan G2 (uncrewed)
Announced	6 Nov 2026 – ahead of schedule

Point	Details
Function	Pulls the crew module away from the rocket in an emergency
Rocket	Human-rated LVM3 (HLVM3)
Crewed goal	3 crew, ~400 km low Earth orbit, 3 days

Background

- Gaganyaan is India's first human spaceflight programme, announced by the Prime Minister in his 2018 Independence Day speech. The Human Space Flight Centre (HSFC), set up in Bengaluru in January 2019, leads it. The human-rated LVM3 (HLVM3) will carry three astronauts to an orbit of about 400 km for three days. The first uncrewed flight, G1, will carry 'Vyommitra', a female-looking humanoid robot.
- Crew Escape System: if the rocket fails on the pad or during ascent, quick-burning solid motors pull the crew module away, and parachutes then bring it safely down into the sea. The cone-shaped 'ogive shroud' protects the crew module from aerodynamic pressure and heating during ascent. After the Pad Abort Test of 5 July 2018, an in-flight abort was successfully tested by Test Vehicle TV-D1, launched from Sriharikota on 21 October 2023.
- Astronauts: four Indian Air Force officers – Prasanth Balakrishnan Nair, Ajit Krishnan, Angad Pratap and Shubhanshu Shukla – were named on 27 February 2024. Rakesh Sharma, who flew on the Soviet Soyuz T-11 in 1984, was the first Indian in space. A 'Bharatiya Antariksh Station' by 2035 and an Indian on the Moon by 2040 are the next goals.

Tamil Nadu link: The L&T unit in Coimbatore building key Gaganyaan structures shows Tamil Nadu's engineering and manufacturing strength. The ISRO chairman when Gaganyaan was announced came from Kanyakumari district, and Group Captain Ajit Krishnan, one of the astronaut-designates, was born in Chennai.

Frequently asked questions

What is this news about?

Larsen & Toubro's (L&T) Precision Engineering and Systems unit in Coimbatore built and handed over to ISRO's Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram, the fourth set of the Crew Escape Ogive Shroud (CEOS) – part of Gaganyaan's Crew Escape System, which pulls the astronauts safely away from the rocket in an emergency.

What are the key facts to remember for the exam?

Component: Crew Escape Ogive Shroud (CEOS) – 4th set; Maker: L&T Precision Engineering & Systems, Coimbatore; Received by: Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram; Mission: Gaganyaan G2 (uncrewed).

What is the background to this news?

Gaganyaan is India's first human spaceflight programme, announced by the Prime Minister in his 2018 Independence Day speech.

Practice questions (with answers)

1. Which flight successfully tested an in-flight abort of Gaganyaan's Crew Escape System in October 2023?

A) PSLV-C58

B) RLV-LEX

C) SpaDeX

D) TV-D1

Answer: D – Explanation: Test Vehicle TV-D1 – 21 Oct 2023; the crew module separated and parachuted into the Bay of Bengal. Pad Abort Test – 5 July 2018.

2. Where is ISRO's Human Space Flight Centre (HSFC), which leads the Gaganyaan programme?

A) Bengaluru

B) Thiruvananthapuram

C) Sriharikota

D) Ahmedabad

Answer: A – Explanation: HSFC, Bengaluru – set up in January 2019. Rocket and escape-system structures are handled by VSSC, Thiruvananthapuram.

3. Which rocket will carry the Gaganyaan astronauts to space?

A) PSLV-XL

B) GSLV Mk II

C) Human-rated LVM3

D) SSLV

Answer: C – Explanation: HLVM3 – an LVM3 upgraded with extra safety; it will take 3 astronauts to an orbit of about 400 km for a 3-day mission.

4. What is the name of the female humanoid robot to fly on Gaganyaan's first uncrewed mission (G1)?

A) Robonaut

B) Vyommitra

C) Fedor

D) Kirobo

Answer: B – Explanation: Vyommitra (ISRO). Robonaut is NASA's; Fedor is Russia's (flew to the ISS in 2019); Kirobo is Japan's.

5. Who, born in Kanyakumari district, was ISRO chairman when Gaganyaan was announced in the 2018 Independence Day speech?

A) K. Sivan

B) Mylswamy Annadurai

C) S. Somanath

D) A.S. Kiran Kumar

Answer: A – Explanation: K. Sivan (Sarakkalvilai) – ISRO chairman 2018–22. V. Narayanan, chairman since 2025, is also from Kanyakumari. Annadurai is from Coimbatore.

Sources: Daily Thanthi; Dinamalar; Voice&Data; ISRO; PIB; Deccan Herald (astronaut-designates). © Shanmugam IAS Academy.