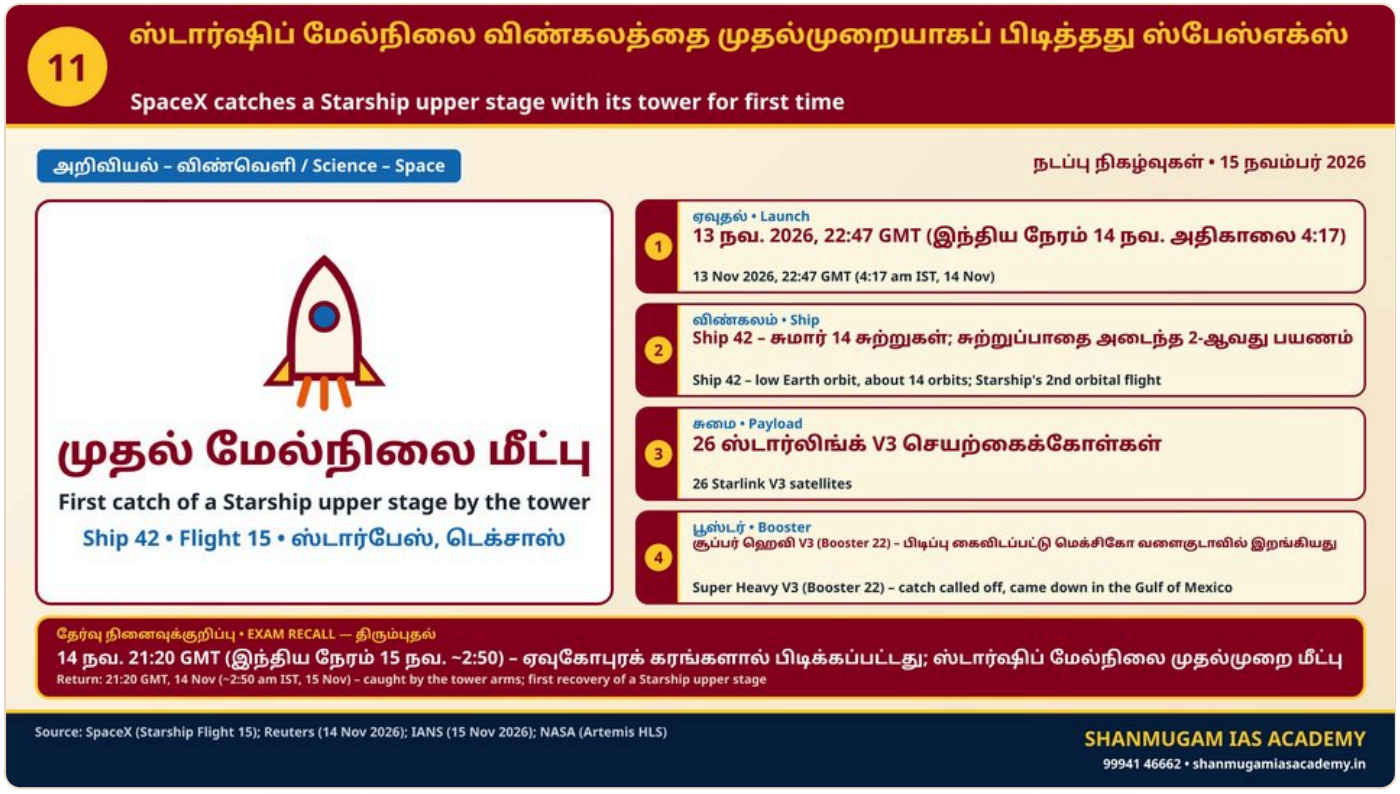
SpaceX catches a Starship upper stage with its tower for first time

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News

US company SpaceX caught the upper stage (Ship 42) of Starship, the world's largest rocket, with its launch tower's mechanical arms ('chopsticks') after it returned from space – the first time a Starship upper stage has been recovered intact (earlier Ships ended their flights with controlled ocean splashdowns and were lost). Launched on Flight 15 from the 'Starbase' site at the southern tip of Texas on 13 November 2026 (4:17 am IST on 14 Nov), the Ship reached low Earth orbit, released 26 Starlink V3 internet satellites, circled Earth about 14 times and re-entered the atmosphere at close to orbital speed. About 22.5 hours after lift-off – at 21:20 GMT on 14 November (about 2:50 am IST on 15 Nov) – the Starbase tower caught it. Until now only the lower 'Super Heavy' boosters had been caught this way (on three flights); this is the first recovery of the upper stage. On this flight the booster's catch was called off automatically and it came down in the Gulf of Mexico. It is a major step towards Starship's goal of reusing both stages.

Key facts for the exam

Point	Details
Mission	Starship Flight 15 (15th test flight)
Launch	13 Nov 2026, 22:47 GMT (4:17 am IST, 14 Nov)
Site	Starbase, South Texas, USA

Point	Details
Booster	Super Heavy V3 (Booster 22) – catch called off, came down in the Gulf of Mexico
Ship	Ship 42 – low Earth orbit, about 14 orbits; Starship's 2nd orbital flight
Payload	26 Starlink V3 satellites
Return	21:20 GMT, 14 Nov (~2:50 am IST, 15 Nov) – caught by the tower arms; first recovery of a Starship upper stage
Propellant	Liquid methane + liquid oxygen ('methalox')

Background

- Starship: a rocket designed so that both stages are fully reusable – the lower 'Super Heavy' booster and the upper 'Ship'. Both are made of stainless steel; the 'Raptor' engines burn liquid methane and liquid oxygen. Falcon 9's 'Merlin' engine uses a kerosene-type fuel.
- Technology: 'hot staging' means the upper-stage engines ignite before it separates from the booster. A booster was first caught by the tower arms in October 2024 (Flight 5); the upper-stage Ship was caught for the first time in November 2026 (Flight 15).
- Moon mission: in 2021 NASA chose a version of Starship as the Human Landing System to put astronauts near the Moon's south pole under the 'Artemis' programme. This needs capabilities such as refuelling in orbit.
- Science: in low Earth orbit (a few hundred km up) one orbit takes roughly 90 minutes; that is why the Ship completed about 14 orbits in some 22 hours. Heat-shield tiles protect the Ship during re-entry; on this flight three modified Starlink satellites were set to photograph the heat shield in orbit.

Tamil Nadu link: Starship has no direct Tamil Nadu link. The closest TN news: ISRO's second spaceport is being built at Kulasekarapattinam, Thoothukudi district, for Small Satellite Launch Vehicles (SSLV); ISRO Chairman V. Narayanan has said launches from there will begin in 2027. Rocket engines are tested at the ISRO Propulsion Complex, Mahendragiri, Tirunelveli district.

Frequently asked questions

What is this news about?

US company SpaceX caught the upper stage (Ship 42) of Starship, the world's largest rocket, with its launch tower's mechanical arms ('chopsticks') after it returned from space – the first time a Starship upper stage has been recovered intact (earlier Ships ended their flights with controlled ocean splashdowns and were lost).

What are the key facts to remember for the exam?

Mission: Starship Flight 15 (15th test flight); Launch: 13 Nov 2026, 22:47 GMT (4:17 am IST, 14 Nov); Site: Starbase, South Texas, USA; Booster: Super Heavy V3 (Booster 22) – catch called off, came down in the Gulf of Mexico.

What is the background to this news?

Starship: a rocket designed so that both stages are fully reusable – the lower 'Super Heavy' booster and the upper 'Ship'.

Practice questions (with answers)

1. SpaceX's 'Starbase', the launch site of Starship, is in which US State?

A) Florida

B) California

C) Texas

D) New Mexico

Answer: C – Explanation: Texas – its southern tip on the Gulf of Mexico, near Brownsville. Florida has Cape Canaveral and NASA's Kennedy centre.

2. Which propellant combination do Starship's 'Raptor' engines burn?

A) LOX + kerosene

B) LH2 + LOX

C) UDMH + N2O4

D) Methane + LOX

Answer: D – Explanation: Methane + oxygen ('methalox') – less soot, suits reuse. Falcon 9's Merlin engine burns a kerosene-type fuel.

3. In November 2026 (Flight 15), which part of Starship did SpaceX catch with its launch-tower arms for the first time?

A) Super Heavy booster

B) Upper-stage Ship

C) Falcon 9 first stage

D) Dragon capsule

Answer: B – Explanation: The upper-stage Ship (Ship 42) – a first for Starship. A Super Heavy booster was first caught in October 2024 (Flight 5).

4. NASA has chosen a version of Starship as the crewed Moon lander for which programme?

A) Apollo

B) Artemis

C) Constellation

D) Gemini

Answer: B – Explanation: Artemis – Human Landing System contract in 2021, aiming at the lunar south pole. Apollo landed humans on the Moon in 1969–72.

5. A spacecraft in low Earth orbit (a few hundred km up) takes roughly how long to circle Earth once?

A) About 24 hours

B) About 90 minutes

C) About 12 hours

D) About 45 minutes

Answer: B – Explanation: About 90 minutes – hence about 14 orbits in some 22 hours. A geostationary orbit (about 35,786 km) takes about 24 hours.

Sources: SpaceX – spacex.com/launches (Starship Flight 15); Reuters (14 Nov 2026); IANS (15 Nov 2026); NASA – nasa.gov (Artemis Human Landing System, 2021); DT Next / PTI (Kulasekarapattinam). © Shanmugam IAS Academy.