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Bharatiya Antariksh Station (BAS)

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Bharatiya Antariksh Station (BAS)

Practice MCQs

At a glance

India plans its own space station in orbit. It will have five modules, and the full station is targeted for 2035.

01 **5**The Bharatiya Antariksh Station (BAS) will have five modules, joined in orbit.
02 **2028**The first module, BAS-01, is targeted for launch.
03 **2035**The full station is targeted for completion.
04 **₹20,193 crore**The Cabinet approved this outlay in September 2024 for eight missions.

- BAS shares its budget with Gaganyaan, India’s crewed spaceflight programme.
- The Gaganyaan crew technology will also serve the station.
- UPSC Mains 2019 asked about India’s plan for its own space station.

Source: PIB, Lok Sabha reply on Gaganyaan and BAS, 5 Aug 2026.

ModuleA sealed section of the station, joined to the others in orbit.
Low Earth Orbit The region close to the Earth where most crewed flights travel.
MicrogravityNear-weightless conditions inside a spacecraft in orbit.
DockingJoining two spacecraft together in orbit.
India plans to build its own space station. The Indian Space Research Organisation (ISRO) calls it the Bharatiya Antariksh Station, or BAS. This lesson shows what a space station is and how BAS will be built. It then shows why India wants one and how UPSC asked about it.

Contents

1. What BAS is
2. How it is built
3. Other stations
4. What BAS does
5. How UPSC tested this
6. 4 questions to think through
7. 7 understanding checks
8. Related topics
9. Practice MCQs

What is the Bharatiya Antariksh Station?

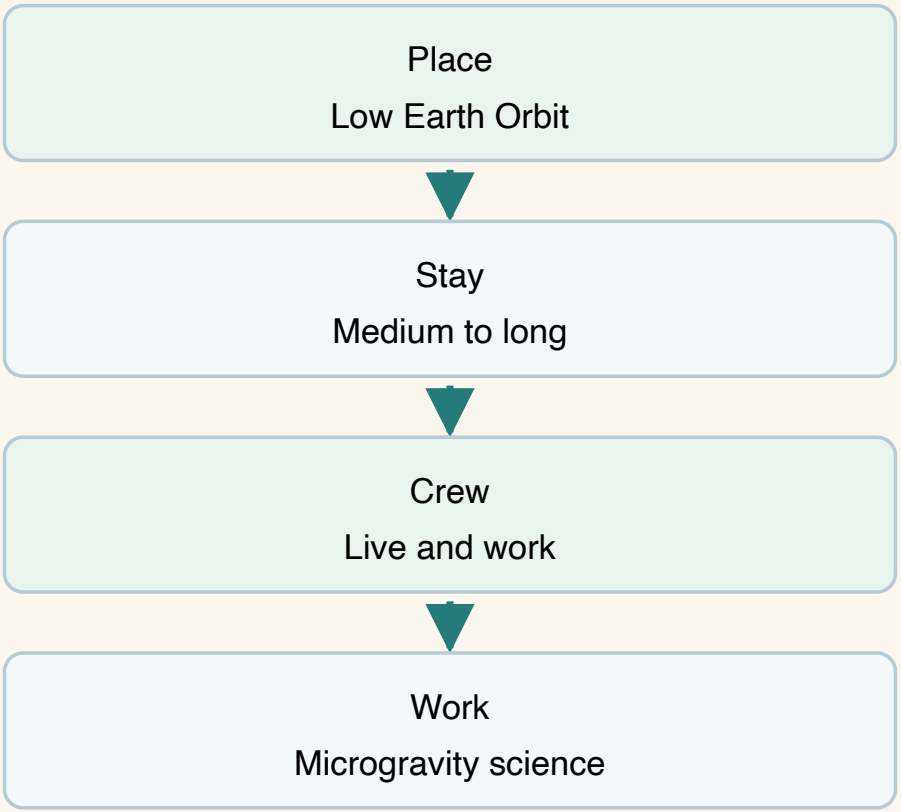
BAS is India's planned space station. Three official texts tell us what it is, how big it will be and what it will cost.

1. What is a space station, and why does India want one?

A space station is a base that circles the Earth, and India wants one to keep crews in space for months. A short flight cannot offer this.

India calls BAS a platform in Low Earth Orbit (LEO). That is the region close to the Earth where most crewed flights travel. The platform will allow medium and long human spaceflight missions. It will do research in microgravity, which means near-weightless conditions.

A station turns single flights into a lasting human presence in space.



A station is a base that circles the Earth.

Short flight	Station
Brief stay	Long stays
One mission	Lasting base
Returns soon	Research lab

A station gives a lasting human presence.

Source: PIB, Lok Sabha reply on BAS, 18 Dec 2024, item 1

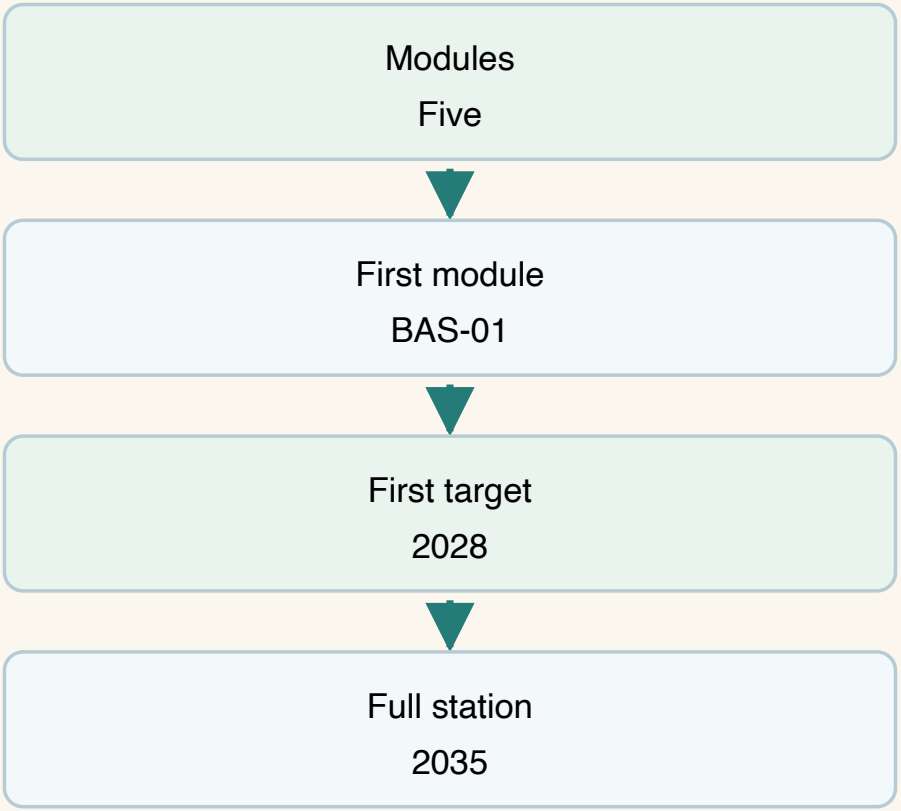
Source: NASA, International Space Station, item 1

2. How many modules will BAS have, and when?

BAS will have five modules, and the target year is 2035. The Department of Space calls it India’s first indigenous space station. Indigenous means made in India.

Each module is a sealed section of the station. Crews join the sections together in orbit. The first module is called BAS-01. The government has approved it. It is targeted for launch by 2028.

The remaining four modules follow later. ISRO plans to complete the station by 2035.



BAS-01 comes first, with four more modules planned by 2035, making five in total.

True or False: BAS is planned to have five modules, with the full station targeted for 2035.
Source: PIB, Rajya Sabha reply on BAS, 30 Jul 2026, item 2

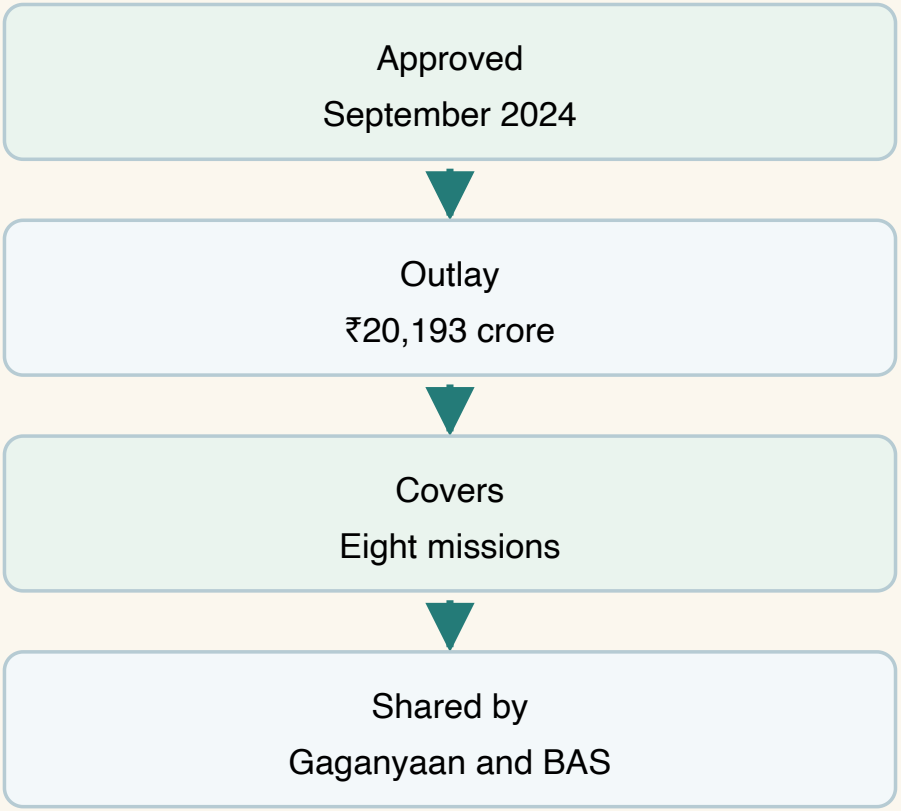
Source: PIB, Lok Sabha reply on Gaganyaan and BAS, 5 Aug 2026, item 2

3. How did the Cabinet fund BAS?

The Union Cabinet approved ₹20,193 crore in September 2024. The money covers eight missions. BAS shares this budget with the Gaganyaan programme.

Gaganyaan is India’s own crewed spaceflight mission. The Cabinet widened its scope so it could also cover early BAS work. That is why one budget serves both.

The Prime Minister linked the decision to two goals. One is a self-sustained space station by 2035. The other is a crewed lunar mission by 2040.



One budget serves both programmes.



The Prime Minister named both goals.

True or False: BAS has its own separate budget and does not share money with Gaganyaan.
Source: PIB, Lok Sabha reply on Gaganyaan and BAS, 5 Aug 2026, item 3

Source: PM India, Cabinet decision on BAS, 18 Sep 2024, item 3

How is BAS being built?

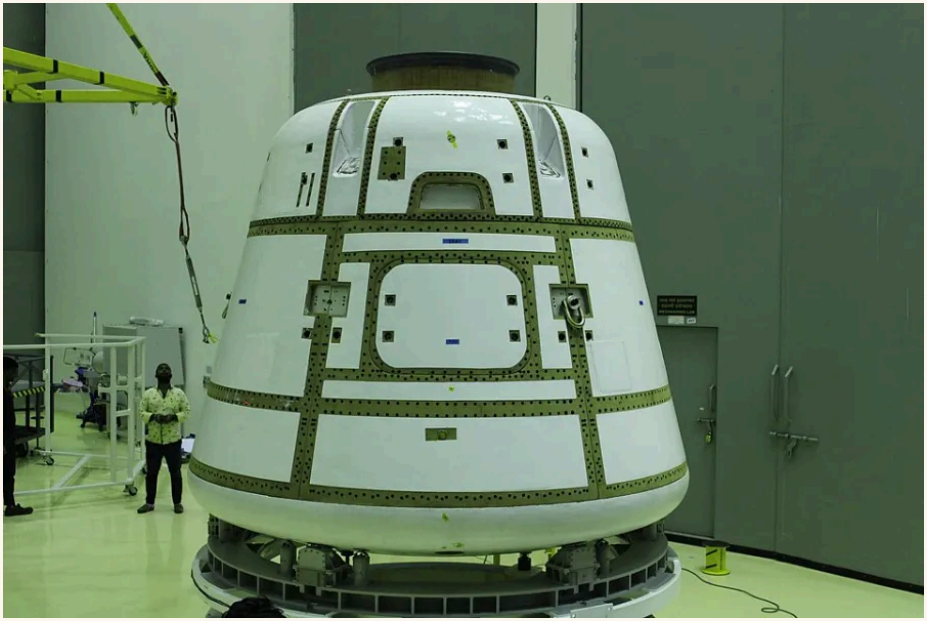
ISRO builds BAS step by step. It first proves the crew technology, then the station parts.

4. Why does BAS depend on Gaganyaan?

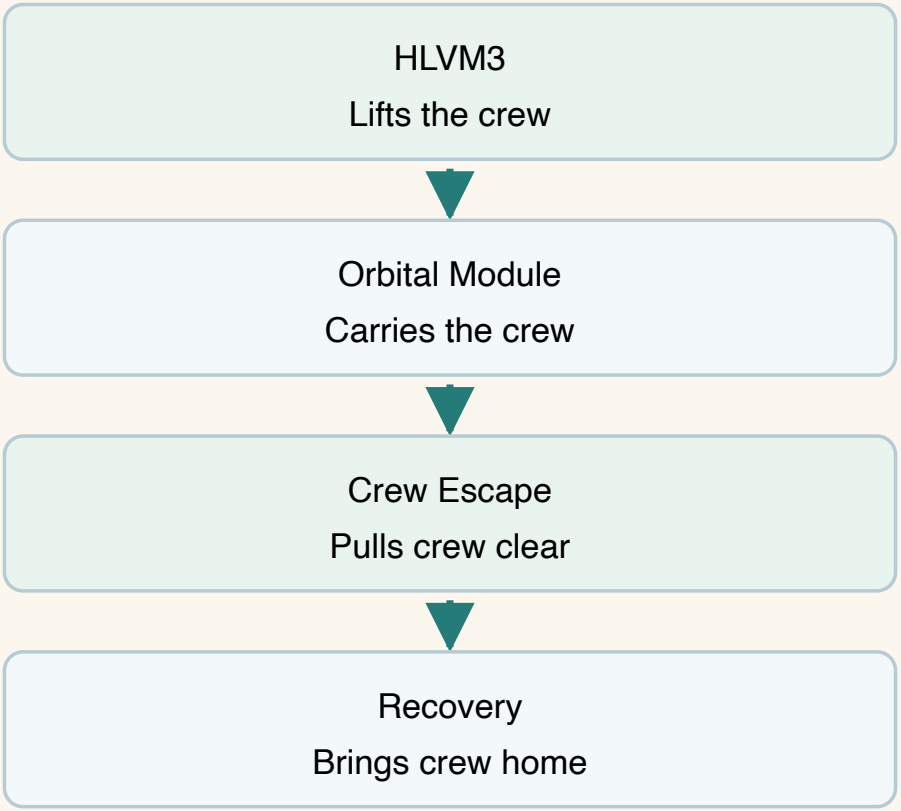
BAS needs the same crew technology that Gaganyaan builds. Gaganyaan must show that India can carry people to orbit and bring them home safely.

Three parts matter most. The Human Rated Launch Vehicle (HLVM3) lifts the crew. The orbital module is the spacecraft that carries them. The Crew Escape System can pull the crew away if a launch fails.

The Lok Sabha reply of 5 August 2026 lists the progress. Ground testing of all HLVM3 propulsion stages and structures is complete. The first uncrewed experimental mission is targeted for the last quarter of 2026. The first crewed mission is targeted by 2027.



A dummy Gaganyaan crew module used for the TV-D1 abort test. BAS will use the same crew technology. Photo: ISRO, GODL-India, via Wikimedia Commons. File page. Licence: GODL-India.



BAS will use this crew technology.

Source: PIB, Lok Sabha reply on Gaganyaan and BAS, 5 Aug 2026, item 4

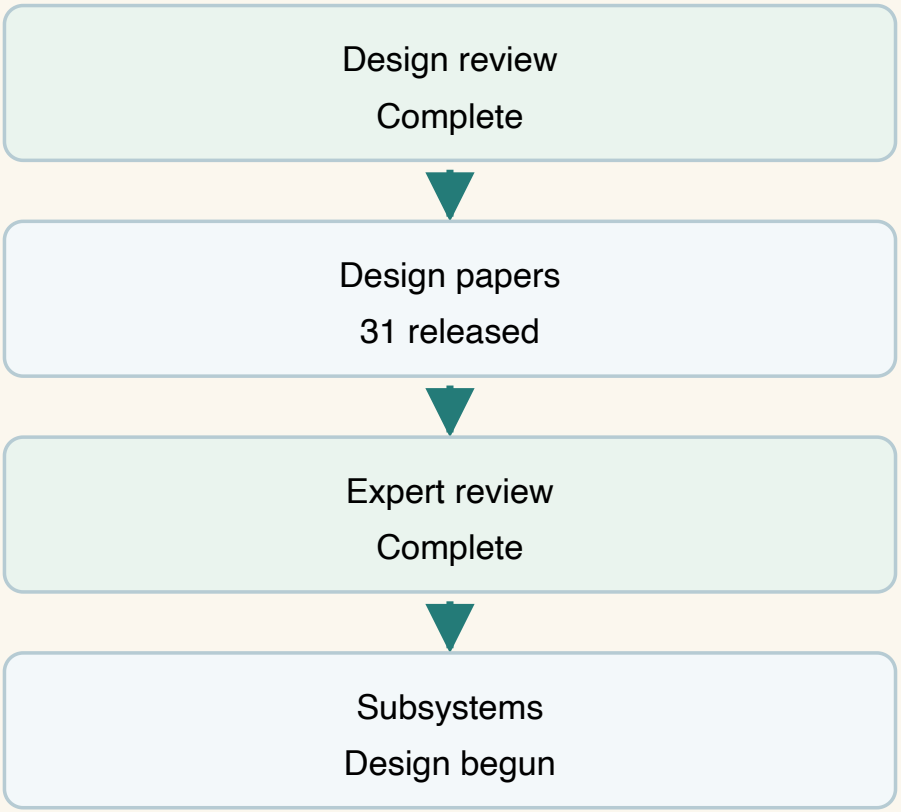
Source: ISRO, Gaganyaan, item 4

5. How far has the design of BAS-01 gone?

The first design review is complete. The Rajya Sabha reply of 30 July 2026 says the Baseline Design Review and System Engineering of BAS-01 are done. ISRO has released 31 baseline design documents.

An expert committee has also reviewed the design. Design of the subsystems has now begun. A subsystem is one working part of the module, such as power or life support.

So BAS-01 has moved from paper plans to detailed design.



BAS-01 has moved to detailed design.

True or False: ISRO has released 31 baseline design documents for BAS-01.
Source: PIB, Rajya Sabha reply on BAS, 30 Jul 2026, item 5

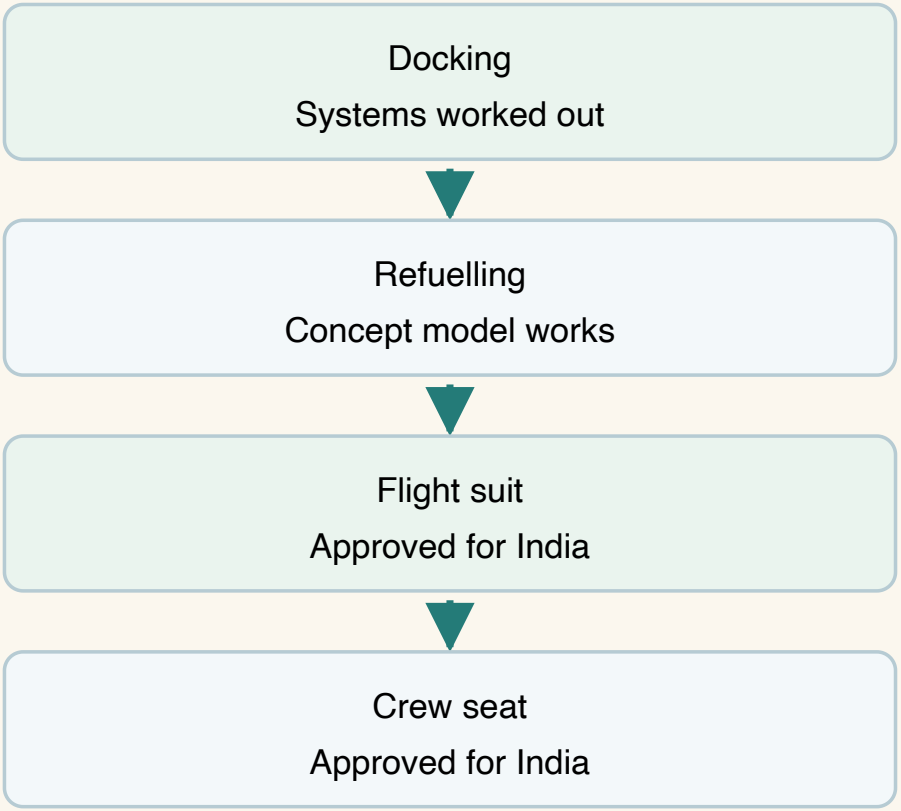
Source: PIB, Lok Sabha reply on Gaganyaan and BAS, 5 Aug 2026, item 5

6. Which technologies must India prove before BAS flies?

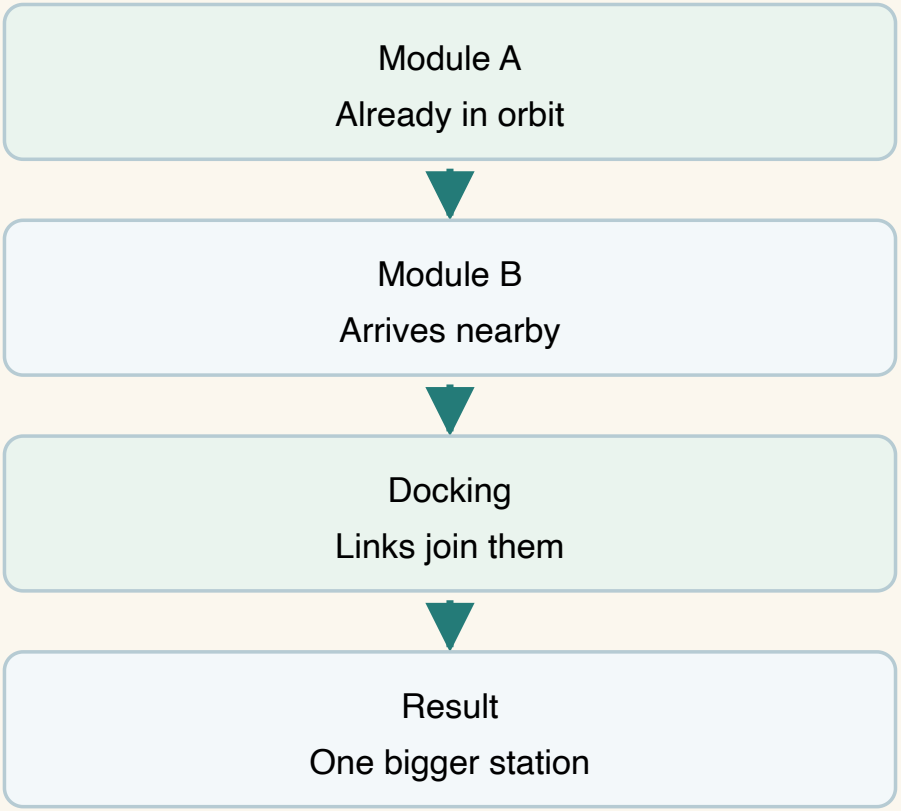
India must prove docking, refuelling and crew-safety gear. Docking means joining two spacecraft in orbit. A station needs it because modules and visiting ships must link up.

ISRO says the docking systems are worked out, with their electrical and mechanical links. A concept model of a refuelling mechanism has been shown to work.

Other critical items are the flight suit, the view port and the crew seat. For Gaganyaan these came from outside sources. The government has now approved making them in India.



These items are critical for human spaceflight.



Docking joins spacecraft in orbit.

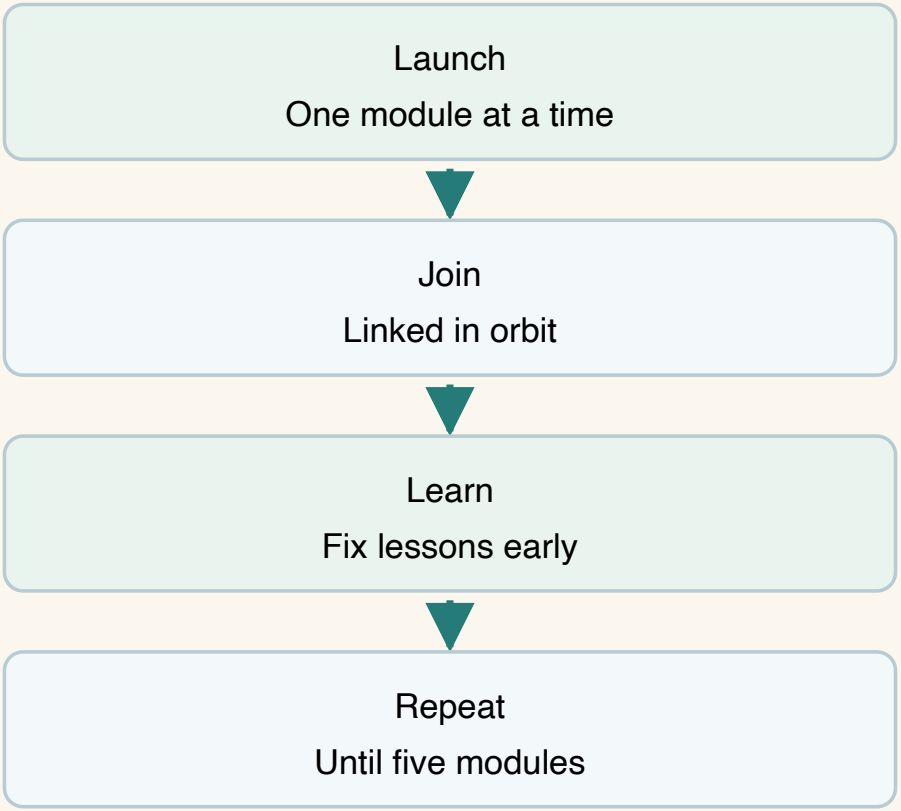
True or False: Docking means joining two spacecraft in orbit.
Source: PIB, Rajya Sabha reply on BAS, 30 Jul 2026, item 6

7. Why build a station in modules?

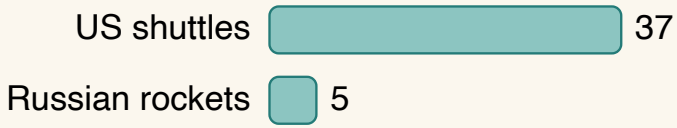
A station is too big to launch in one piece. So engineers build it from modules. Each module goes up on its own rocket and joins the earlier ones in orbit.

The International Space Station (ISS) shows how this works. Its large modules and other pieces went up on 42 assembly flights. BAS follows the same broad idea with five modules.

The modular plan has one more gain. ISRO can learn from BAS-01 before it builds the next four.



Each module flies on its own rocket.



The ISS needed 42 assembly flights in all.

Source: NASA, Space Station facts and figures, item 7

Source: PIB, Rajya Sabha reply on BAS, 30 Jul 2026, item 7

What can India learn from other stations?

The ISS is the best-known station. It shows both the gains and the limits of a shared project.

8. What is the International Space Station?

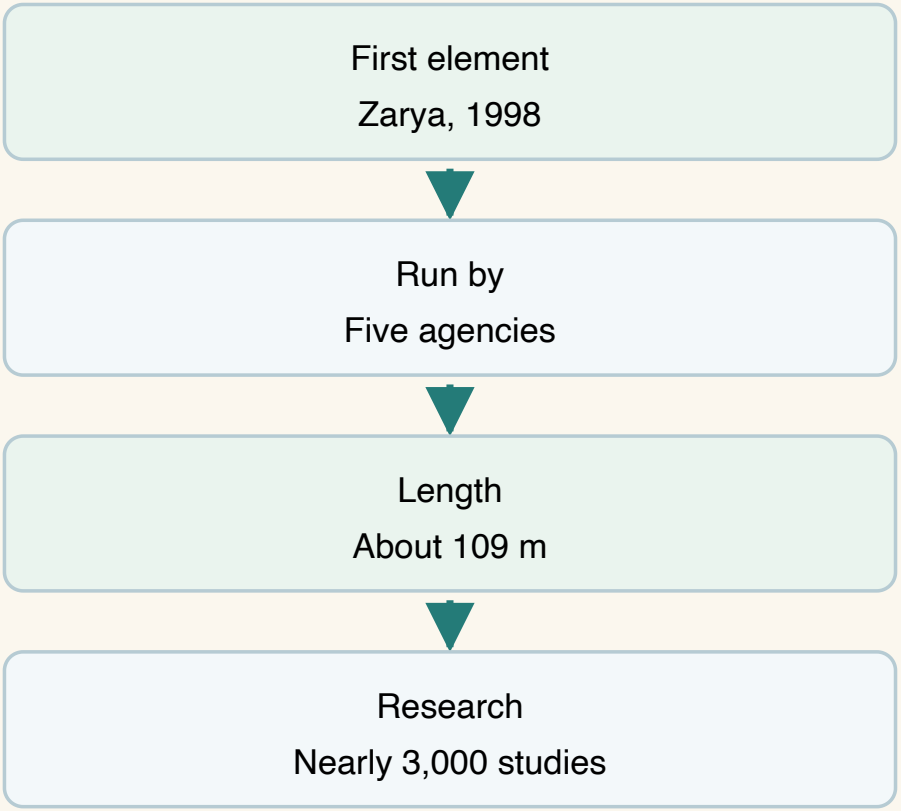
The ISS is a joint station run by five space agencies. They come from the United States, Russia, Europe, Japan and Canada. Its first element, Zarya, launched in 1998.

It is about 109 metres end to end. NASA says it has hosted nearly 3,000 research investigations. Researchers from more than 108 countries took part.

BAS is different in one key way. It will be India’s own station, run by ISRO.



The International Space Station, photographed from a Soyuz spacecraft. Five space agencies run it. Photo: NASA/Roscosmos, public domain, via Wikimedia Commons. File page.



The ISS shows how a modular station works.

ISS	BAS
US, Russia	India only
Europe, Japan	Run by ISRO
Canada	India's own

The ISS is shared. BAS is India's own.

True or False: The International Space Station is run by India and Russia alone.
Source: NASA, International Space Station, item 8

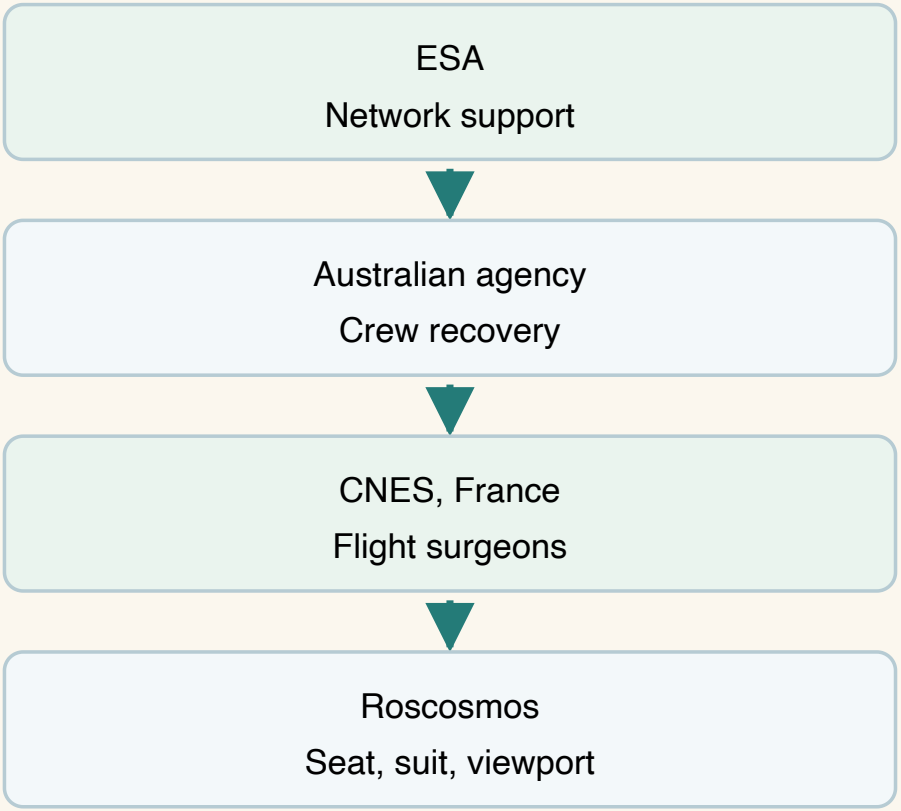
Source: NASA, Space Station facts and figures, item 8

9. How does cooperation help India's crew programme?

Partner agencies give India support, training and parts. The Lok Sabha reply of 5 August 2026 names them. The European Space Agency (ESA) supports network operations for Gaganyaan.

The Australian Space Agency helps with crew and crew-module recovery. The French space agency, the Centre National d'Études Spatiales (CNES), trained ISRO's flight surgeons. Russia's space agency, Roscosmos, signed a pact for joint human spaceflight work.

That pact led to contracts for a crew seat, a viewport and flight suits. It also trained the first batch of Indian astronauts at the Gagarin training centre.



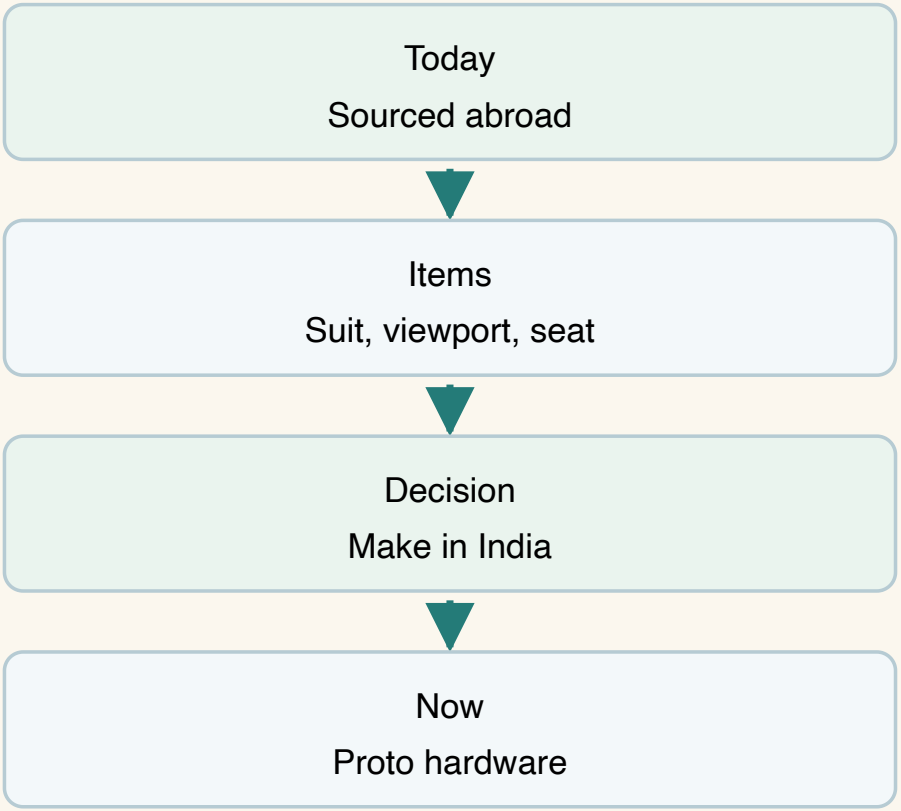
Each partner helps in a different area.

Source: PIB, Lok Sabha reply on Gaganyaan and BAS, 5 Aug 2026, item 9

10. Why does India still build its own parts?

Some key parts came from outside for the first Gaganyaan flights. The Rajya Sabha reply names the flight suit, view port and crew seat. Relying on others for such items is a risk.

So the government has approved making these items in India. Proto hardware is now being designed and built. India wants to control the full chain for human spaceflight.



India wants control of the full chain.

Source: PIB, Rajya Sabha reply on BAS, 30 Jul 2026, item 10

What will BAS do for India?

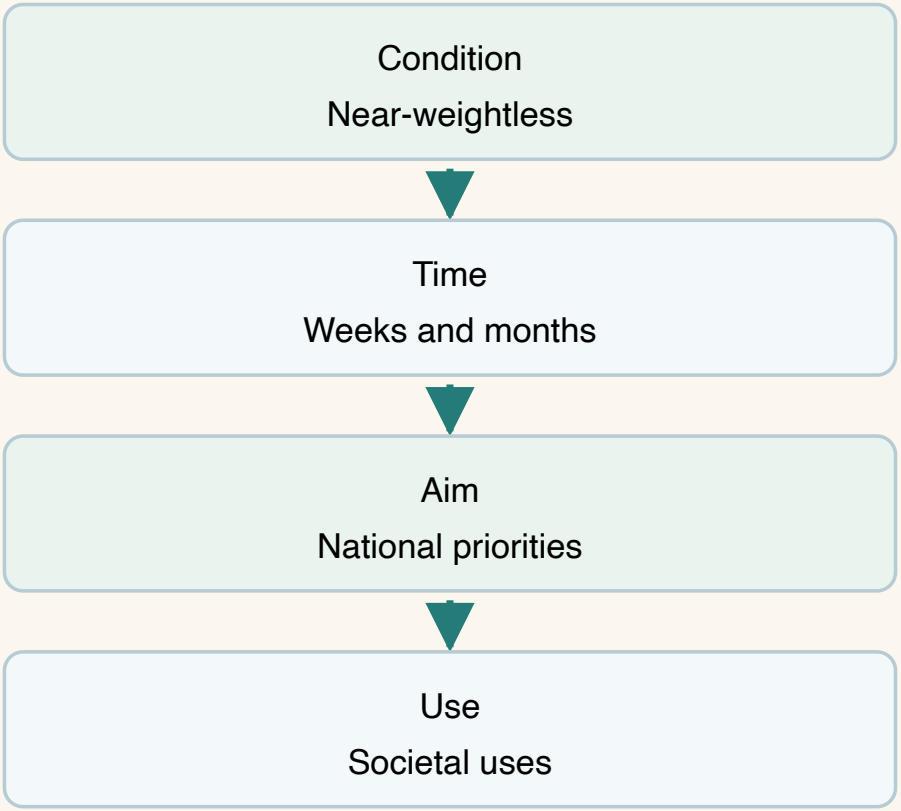
BAS is more than a prestige project. It gives India a research lab in orbit and a base of skills.

11. What science can a station support?

A station gives scientists weeks and months of microgravity. Microgravity means near-weightless conditions. Short flights give far less time for such work.

The Department of Space says BAS will support cutting-edge research and technology work in microgravity. The work is aimed at national priorities and social uses.

NASA's ISS shows the scale. It is a microgravity laboratory hosting science from many fields.



A station gives long spells of microgravity.

True or False: A station can give scientists weeks and months of microgravity.
Source: PIB, Lok Sabha reply on BAS, 18 Dec 2024, item 11

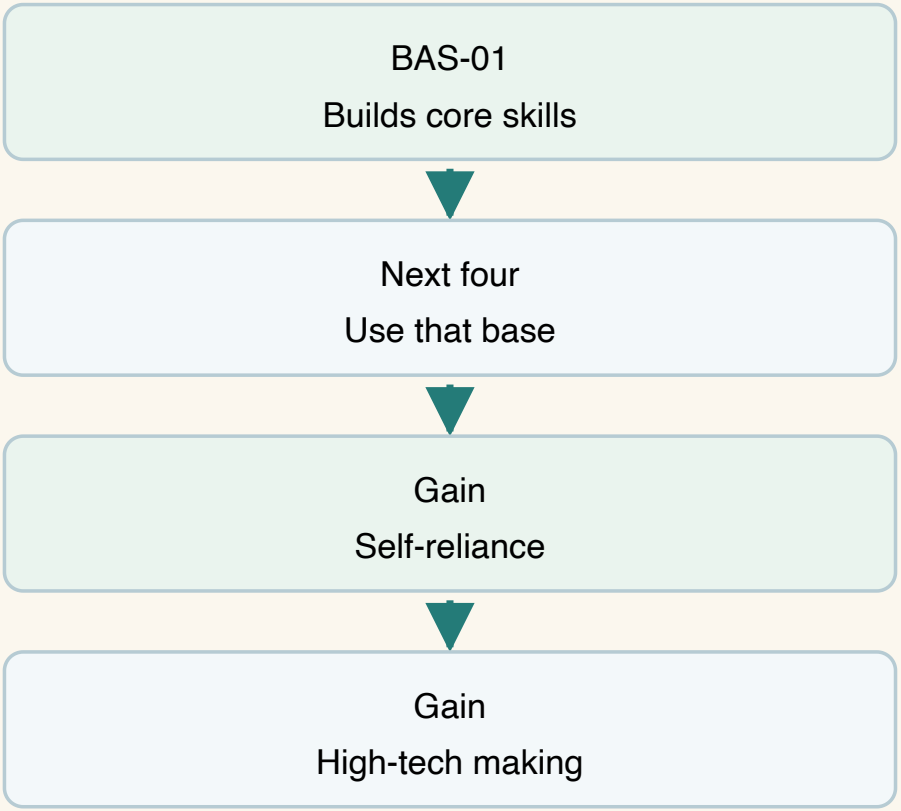
Source: NASA, Station research and technology, item 11

12. How does BAS build self-reliance?

BAS-01 builds the skills for the other four modules. The Rajya Sabha reply says these steps lay the technology base for the remaining four modules.

The reply adds two gains. India gains self-reliance in critical human spaceflight technology. It also gains the high-tech manufacturing needed for such flights.

So each part made in India cuts future dependence. That also helps Indian industry grow.



Each part made in India cuts dependence.

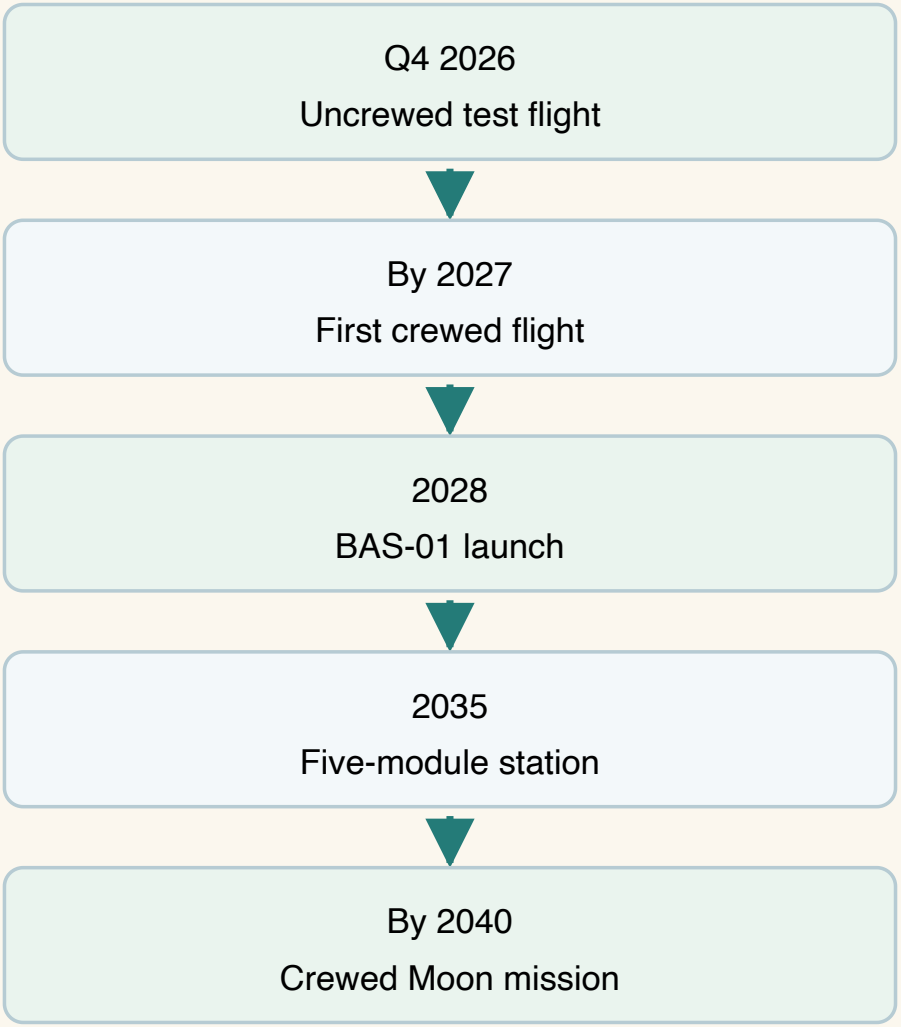
Source: PIB, Rajya Sabha reply on BAS, 30 Jul 2026, item 12

13. What is the timeline from now to 2040?

The targets run in order, from late 2026 to a crewed Moon mission by 2040. The first uncrewed Gaganyaan mission is targeted for the last quarter of 2026. It will carry the Vyommitra half-humanoid robot. Two more uncrewed flights and the first crewed flight are targeted by 2027.

BAS-01 is targeted for 2028. The full five-module station is targeted for 2035. The Prime Minister has also named a crewed lunar mission by 2040.

Each step depends on the one before it.



Each step depends on the one before.

True or False: The first crewed Gaganyaan mission is targeted by 2027.
Source: PIB, Lok Sabha reply on Gaganyaan and BAS, 5 Aug 2026, item 13

Source: PIB, Rajya Sabha reply on BAS, 30 Jul 2026, item 13

Source: PM India, Cabinet decision on BAS, 18 Sep 2024, item 13

How did UPSC ask about the space station?

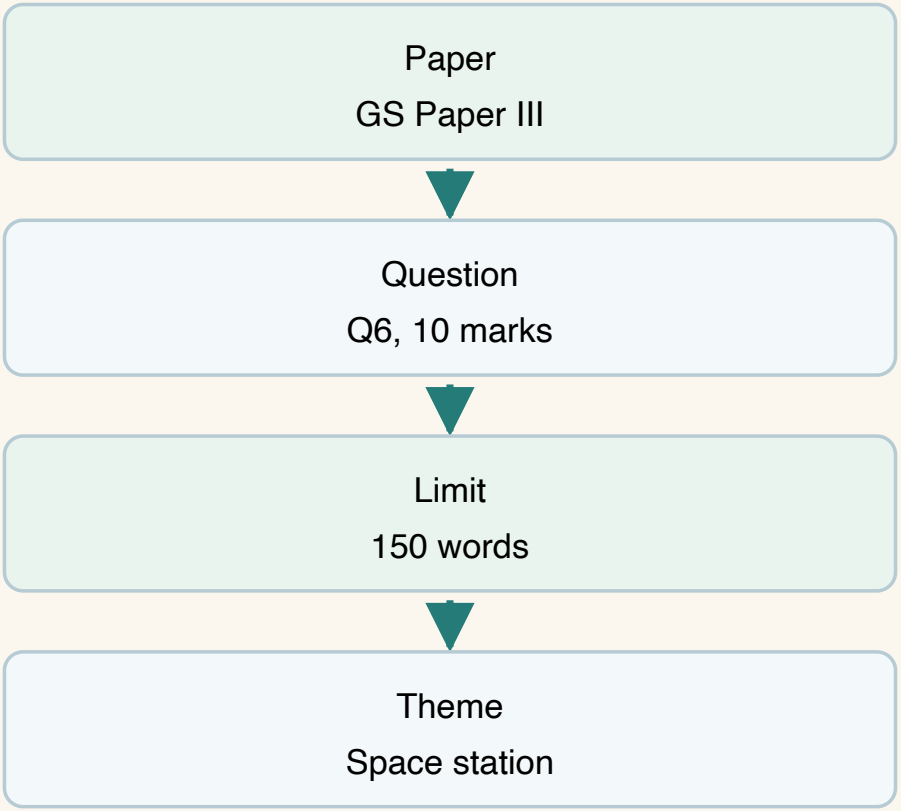
UPSC asked about India’s own space station in the Mains of 2019. The question asked for the plan and the benefit.

14. What did UPSC Mains 2019 ask, and how do you answer it?

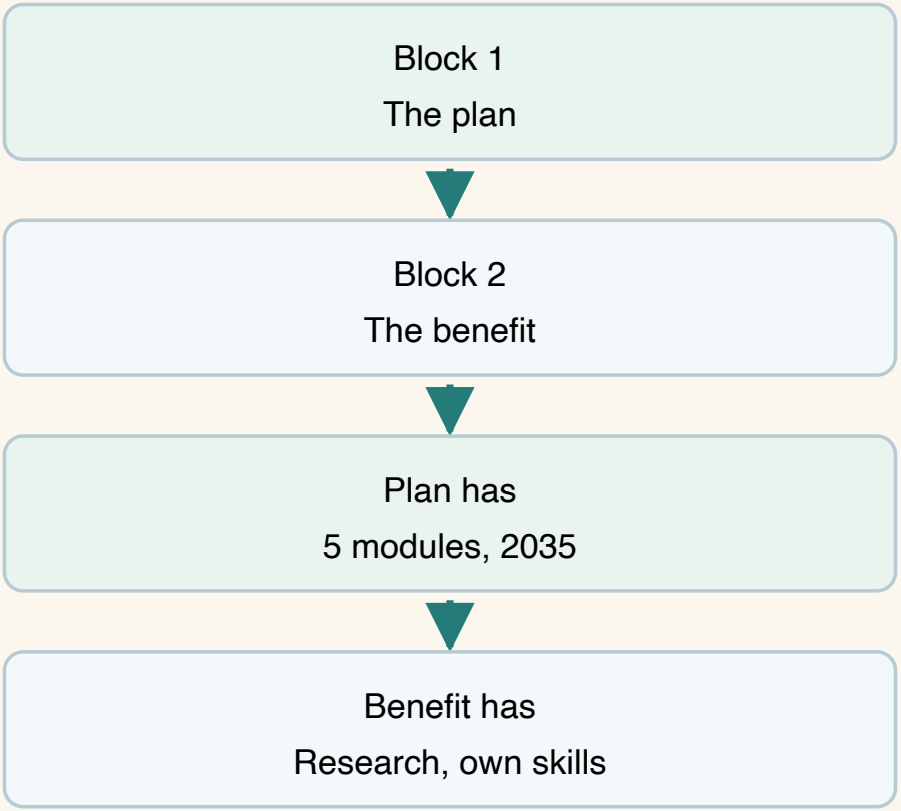
The question came in the Union Public Service Commission (UPSC) Civil Services Mains 2019, General Studies Paper III, as Q6. It carried 10 marks and a 150-word limit.

Answer in two blocks. First give the plan. Say BAS has five modules, BAS-01 comes first, and the target is 2035. Mention that it builds on Gaganyaan technology. Then give the benefit. Cover microgravity research, self-reliance in crew technology and room for future partnerships.

Do not mix BAS up with the ISS or with China’s Tiangong. BAS is India’s own station.



The question asked about India's own station.



Give each block a few short lines.

Source: UPSC CSM 2019 GS Paper III paper page, item 14

Source: PIB, Lok Sabha reply on BAS, 18 Dec 2024, item 14

Four questions to think through

Why does India want a station, not just more short flights?

A short flight ends in days. A station lets crews stay for months. That gives time for research in microgravity and a lasting human presence in space.

Why must Gaganyaan succeed before BAS can fly?

BAS needs a safe way to carry people up and bring them home. Gaganyaan builds that launch vehicle, spacecraft and escape system. BAS then uses the same crew technology.

Why is a station built in modules?

A whole station is too large for one launch. So each module flies on its own rocket. Crews then join them in orbit. The ISS needed 42 assembly flights.

How do you build a 150-word answer to the Mains 2019 question?

First give the plan: five modules, BAS-01 first, target 2035, built on Gaganyaan. Then give the benefit: microgravity research, self-reliance and room for partners. Keep each block short.

Check your understanding

Your 7 quick checks Answered 0 of · Correct
This score resets when the page reloads.

Continue to the practice MCQs

✅ Test Yourself

Try practice questions on the station, its modules, Gaganyaan and the UPSC link.

Practice MCQs

1. How many modules will the complete Bharatiya Antariksh Station (BAS) have, per ISRO's finalised configuration?

A. Seven

B. Two

C. Three

D. Five

See answer ↓

2. What total outlay did the Union Cabinet approve in September 2024 for eight missions, covering Gaganyaan and early BAS work?

A. ₹20,193 crore

B. ₹12,500 crore

C. ₹30,000 crore

D. ₹9,000 crore

See answer ↓

3. By which year is BAS-01, the first module of the Bharatiya Antariksh Station, targeted for launch?

A. 2040

B. 2028

C. 2026

D. 2035

See answer ↓

4. What does docking mean in a space station?

A. Sending a crew into a lab on Earth

B. Joining two spacecraft together in orbit

C. Landing a capsule in the sea

D. Refuelling a rocket on the ground

See answer ↓

5. Which space agency's pact with ISRO led to contracts for a crew seat, a viewport and flight suits for Gaganyaan?

A. The Australian Space Agency

B. The French space agency CNES

C. The European Space Agency

D. Roscosmos of Russia

See answer ↓

6. In which year was the first element of the International Space Station, Zarya, launched?

A. 1988

B. 2000

C. 2011

D. 1998

See answer ↓

7. Which part of the Gaganyaan system can pull the crew away if a launch goes wrong?

A. The deceleration parachute system

B. The Orbital Module

C. The Crew Escape System

D. The Human Rated Launch Vehicle

See answer ↓

8. The Prime Minister linked the Cabinet's September 2024 decision on BAS to a crewed lunar mission by which year?

A. 2047

B. 2035

C. 2028

D. 2040

See answer ↓

Answer Key

1. **D.** Five is the answer. ISRO has worked out the overall station as five modules. Each module is a sealed section that crews join in orbit. The first one, BAS-01, is approved and targeted for 2028. The full station is targeted for 2035. Three, seven and two are not the planned count. Memory hook: five modules by 2035. ↑ Q1
2. **A.** ₹20,193 crore is the answer. The Union Cabinet approved it in September 2024. The money covers eight missions. BAS shares this budget with the Gaganyaan programme. The Cabinet widened Gaganyaan's scope to include early BAS work. The other three amounts are not the approved outlay. Memory hook: one budget, two programmes. ↑ Q2
3. **B.** 2028 is the answer. The government has approved BAS-01. It is targeted for launch by 2028. The full five-module station is targeted for 2035, which is a different milestone. A crewed lunar mission is named for 2040. Memory hook: first module 2028, full station 2035. ↑ Q3
4. **B.** Joining two spacecraft in orbit is the answer. A station needs docking because modules and visiting ships must link up. ISRO says its docking systems are worked out. They include electrical and mechanical links. Landing in the sea is recovery, not docking. Memory hook: dock means join. ↑ Q4
5. **D.** Roscosmos of Russia is the answer. ISRO signed a pact with it for joint human spaceflight work. The pact led to contracts for a crew seat, a viewport and flight suits. It also covered training of the first batch of Indian astronauts. ESA helps with network operations. CNES trained flight surgeons. The Australian agency helps with crew recovery. Memory hook: Russia supplied the seat. ↑ Q5
6. **D.** 1998 is the answer. The ISS was launched in 1998, starting with the Zarya element. Five space agencies run it. They come from the United States, Russia, Europe, Japan and Canada. The 1988 and 2011 options are not the launch year. Memory hook: Zarya in 1998. ↑ Q6
7. **C.** The Crew Escape System is the answer. It is built to carry the crew away from the rocket in an emergency. The Human Rated Launch Vehicle lifts the crew. The Orbital Module is the spacecraft that carries them. The parachute system slows the capsule on return. Memory hook: escape means rescue. ↑ Q7

8. **D.** 2040 is the answer. The Prime Minister named two goals. One is a self-sustained space station by 2035. The other is a crewed lunar mission by 2040. So 2035 is the station year, not the lunar year. 2028 is the first-module year. Memory hook: station 2035, Moon 2040. ↑ Q8

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