Science & Technology · GS - III

What is India’s plan to have its own space station and how will it benefit our space programme?

EXAM YEAR	PAPER	SUBJECT
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MARKS	WORD LIMIT
10	~150 words

Answer Hint

Human spaceflight; indigenous space station; microgravity research; long-duration missions; technology development; international cooperation; strategic autonomy

Model Answer

Introduction

An indigenous space station is a crewed orbital platform where astronauts can live and conduct scientific experiments for extended periods. India’s space-station ambition builds on its human spaceflight programme.

India’s Plan

- India announced plans for an indigenous space station, with an initial target of around 2035.
- The proposed Bharatiya Antariksh Station is intended to support human spaceflight and sustained orbital research.
- Its development depends on technologies such as crew modules, life-support systems, docking, power generation and reliable launch vehicles.

Potential Benefits

- **Scientific research:** Enables experiments in microgravity, materials science, biology and medicine.
- **Human spaceflight:** Develops expertise in long-duration missions and astronaut health management.
- **Technological progress:** Strengthens robotics, autonomous systems, life support and orbital assembly.

- **Economic opportunities:** Encourages private-sector participation and high-technology industries.
- **Strategic autonomy:** Reduces dependence on foreign platforms and expands India’s role in international space cooperation.
- **Future exploration:** Builds capabilities relevant to lunar missions and deeper-space exploration.

Conclusion

A space station could transform India from a launch-service and satellite power into a sustained human-spaceflight nation, provided costs, safety and scientific priorities are carefully managed.

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