



KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Perunthalsivam Kamarajar"

China launched three astronauts to replace crew on its space station

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Context

China launched three astronauts aboard Shenzhou-20 spaceship to the **Tiangong space station** for a six-month mission, replacing the current crew.

- The mission supports China's lunar and Mars ambitions, with astronauts conducting science experiments and maintenance tasks on the **fully Chinese-built station**.

Tiangong Space Station

- Tiangong (Chinese for "Heavenly Palace") is a modular space station being constructed by the China National Space Administration (CNSA).
- It is the **first space station built by China**.
- Tiangong is currently in **low Earth orbit (LEO)**, and it is expected to be operational until 2028.
- It is a **three-module space station**. The core module, Tianhe, launched in April 2021, followed by the Wentian and Mengtian experiment modules in 2022.
- Tiangong is significantly **smaller and lighter than the International Space Station (ISS)**, with only three modules compared to the ISS's 16 modules
- The new space station is planned to share its orbit with the Xuntian space telescope to allow astronauts to easily repair and upgrade the telescope.
- **China is only the third country to have put both astronauts into space and build a space station, after the Soviet Union (now Russia) and the US.**

International Space Station (ISS)

- The International Space Station (ISS) is the **largest man-made object in space** launched on November 20, **1998**. It serves as a habitat for astronauts in space. Since 2011, the ISS has been continuously inhabited.
- Participating States: ISS is a collaborative project of the United States (**NASA**), **Russia's (Roscosmos)**, **Europe's (ESA)**, **Japan's (JAXA)**, and **Canada's (CSA)** space agencies.
- Orbit: The International Space Station is in orbit about **400 kilometres above Earth**.
- Speed: It travels around Earth at a speed of about 28,000 kilometres per hour. This means that it **orbits Earth about every 90 minutes**.

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- Objectives: To expand our knowledge about space and microgravity and promote new scientific research. It also serves as an example of international cooperation.