

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

A) Indian space Research Organisation (ISRO) is planning to launch its own space station by the year 2030 as per the information given by the chairman of ISRO Dr. K. Sivan. India would be fourth country to launch a space station as the USA and Russia already launched their space stations and China is planning to launch it in 2020.

→ International Space Station (ISS):-

- The ISS is launched its first piece in 1988.
- The ISS is a multinational collaborative project of NASA (US), Russia (Roscosmos), JAXA (Japan), ESA (Europe) and CSA (Canada).
- It is a largest spacecraft which is the home of crews of astronauts and cosmonauts.
- The space station is divided into two parts: Russian orbital segments and US orbital segments.

→ The Indian Space Station:-

- The India space station would be stationed at an altitude of 400 kilometers from earth.
- There will be no collaboration with any other country for this project.
- The space station is an artificial satellite placed in orbit.
- It is used as a long-term base for manned operations in space.

- The preliminary plan for the space station is to accommodate astronauts for up to 15-20 days in space.
  - The Indian space station will be established in lower Earth orbit (LEO).
  - The Indian space station will rotate about 15 times around the Earth with a speed of 27,600 km per hour.
- How will Indian space station benefit our space programme.

- Constructing a space station after being able to safely orbit a crew in low Earth orbit (LEO) is a natural progression that many advanced space-faring countries have pursued to expand their space capabilities. So the announcement of ISRO also falls under such progression.
- Indian space station will help ISRO to carry-out manned operations more efficiently and easily.
- Though India has the option of joining the ISS, rather than making its own space station, it will not enough significance for India.
- ISRO will be launching the space station a small module of the space station and will be used to carry-out microgravity experiments.
- This will help allow scaling up of infrastructure on orbit and it is must to provide more room for astronauts to live and carry-out

Experiments over time frame.

- Owning a ~~space~~ space station will offer the Indian scientific community a range of subjects to conduct research.

→ Budget and challenges:-

- The Budget is not yet disclosed by the ISRO chairman Dr. K. Sivan. This may pose important challenges to the Indian Space Station project. The finances of such magnitude is very difficult to provide for any Indian space research project.
- NASA Budget of NASA alone in maintenance and has exceeded more than \$100 billion (Rs. 6,50,000 crore) in assembling it.
- This project of Indian space station shall be made after the Gaganyaan project.

→ Conclusion:-

ISRO had launched many space research programmes/machines successfully, ~~from~~ and ISRO believes that it had reached the technological point. Now Indian ~~is~~ space research organisation is planning to launch the Indian space station by 2030, which will be a milestone in the history of ISRO. India will be the 4<sup>th</sup> country to launch the space station. Indian space station will help in the manned operations (like sending and bringing back the astronauts to the earth).