ISRO’s SpaDex Mission

- ☐ Docking and Undocking Capability demonstrated mission
- ☐ India became the fourth country after the United State of America, Russia and China to acquire docking and undocking capabilities.
- ☐ Space Docking is a process by which two fast moving spacecraft are put into the same orbit, progressively brought closer and finally joined together.
- ☐ Two 220 kg satellites SDX01 (Chaser) and SDX02 (Target) were put in a 470 km circular orbit with a small relative velocity between the two.
- ☐ They used a stop and go approach to bring the two satellites closer. When they are too near then using the extended docking mechanism, pulled closer together, and locked in place.
- ☐ **Why is it needed?**
    - ☐ To achieve a common mission objective, it's essential for multiple rocket launches.
    - ☐ It helps in carrying astronauts and supplies to the space station.
    - ☐ It helps in Chandrayan 4 mission which is designed to bring back the lunar soil and rock sample.
    - ☐ It also help in india’s mission to send human in space
    - ☐ It also help in set up its own space station by 2035
- ☐ **Past History**
    - ☐ The United States became the first country to demonstrate the space docking capabilities in 1966.
    - ☐ The first autonomous docking was demonstrated by the USSR in 1967.

- ☐ China carried out unmanned docking in 2011 and a year later the country also demonstrated the first crew space docking.