



## Space Research in India for Competitive Exams

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### Space Research in India

The first Indian-developed rocket was Rohini-RH 75. It was launched from the Thumba equation rocket Launching Station (Kerala) in 1967. Its purpose was to conduct meteorological experiments.

For carrying out experiments on the celestial x-ray sources a centaur rocket was successfully launched from the thumba station (in Kerala) in 1968.

**Sriharikota Range (SHAR):** It is the second rocket launching station set up at Sriharikota Island in Nellore District of Andhra Pradesh. It serves as a rocket launching base and is used for testing rockets developed at the science and technology centre at thumba.

The first satellite of India named Aryabhata (weight 360 kg.) was launched from Russia in 1975 by means of a Russian rocket. India's second Satellite, Bhaskara-I was launched in 1979. Bhaskara-II was launched in 1981.

**SLV-3:** The main objective of the SLV-3 project (Satellite Launch Vehicle Project) was to gain experience in the design, development and launching of vehicles capable of placing scientific and experimental satellites in near earth orbits.

**Rohini-I (RS-I, weight 35 kg.):** The first Indian satellite put into a near earth orbit successfully from SHAR in 1980 by the second experimental launching of SLV-3.

**Rohini-II (RS-II, weight 35 kg.):** was injected from SHAR by the SLV-3 rocket on its developmental flight in 1981. It was originally designed to live for 300 days but met its premature end after nine days due to its unexpectedly low orbit.

**APPLE (Ariane Passenger Payload Experiment):** It is India's first geostationary experimental communication satellite which was put into an elliptical orbit in 1981 from French Guyana by Arian rocket of European space Agency (ESA).

**INSAT-I (Indian National Satellite-I):** It is a series of geostationary satellites planned by India. The INSAT-I satellites are designed to meet the telecommunication, telecasting radiobroadcasting and meteorological requirement of India. All of them are designed for a life span of seven years.

**INSAT-IA:** The first satellite of the series launched in 1982 was switched off after 150 days due to malfunctioning.

**INSAT-IB:** was launched in 1983 from the US space shuttle "Challenger". Its functions are: whether surveillance and beaming of telephone calls and television across India. Weather monitoring including advance warning of floods and cyclones is rendered possible through its meteorological payloads.

**ANURADHA:** It is an Indian instrument which was taken into orbit (and retrieved successfully) by the US space shuttle "Challenger" in 1985. The experiment was designed to study particles coming from outer space, mainly oxygen with low energies.

**Experimental Satellite Communications Earth Station:** India's first station was set up at Arvin near Pune.

The second such station was commissioned in 1977 at Dehradun. It is meant to improve substantially the country's overseas telecommunication facilities.

**Indo-Soviet Joint space flight:** Squadron leader Rakesh Sharma became India's first man in space on April 3, 1984, when he was launched aboard Soyuz T-11 spaceship from the U.S.S.R. along with two Soviet Cosmonants. India is the 14<sup>th</sup> nation to have sent its citizen into space.

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