

LCA Tejas - UPSC Notes

The Light Combat Aircraft Tejas is an indigenous supersonic aircraft used by the Indian military. The Tejas is a fighter-jet and is frequently seen in the news. In this article, you can read all about the LCA Tejas from the [IAS exam](#) perspective.

Light Combat Aircraft Tejas

The Light Combat Aircraft (LCA) programme was started by the Government of India in 1984 when they established the Aeronautical Development Agency (ADA) for the purpose of managing the LCA programme.

- LCA Tejas was designed and developed by India's HAL (Hindustan Aeronautics Limited).
- It replaced the aging Mig 21 fighter planes.
- It was in 2003 that the Light Combat Aircraft programme was named 'Tejas' (meaning radiance in Sanskrit) by the then PM Atal Bihari Vajpayee.
- It is the second supersonic fighter jet that was developed by HAL (the first one being HAL HF-24 Marut).
- **LCA Tejas is a single-engine multirole light combat aircraft.**
 - It is the lightest and smallest multirole supersonic fighter aircraft in its class.
 - It is designed to carry a range of air-to-air, air-to-surface, precision-guided and standoff weaponry.
 - Tejas has a single engine, compound Delta wing and has a tailless design.
 - The idea behind the LCA programme was to expand and develop India's indigenous aerospace capabilities.
 - Since the 1970s, the MiG 21 planes were the mainstay of the Indian Air Force. The primary goal of the LCA programme was to replace the aging MiGs.
 - The secondary goal was the advancement of indigenous domestic aviation capabilities.

HAL plans to deliver 123 Tejas aircraft to the Indian Air Force by 2024-25.

Planned Variants of Tejas

The following table provides details of the variants of the LCA Tejas planned by HAL.

Tejas Trainer: 2-seater operational conversion trainer for training air force pilots.	LCA Navy: Twin- and single-seat carrier-capable for the Indian Navy. However, the Navy has declared that the Tejas is too heavy for it to be operational from aircraft carriers (like INS Vikrant, INS Vikramaditya, etc.)
LCA Tejas AF MK2: This is an improvement over the LCA Tejas Mk1 with a higher thrust engine.	LCA Tejas Navy MK2: This is phase 2 of the LCA Navy variant.

LCA Tejas Specifications

Tejas has a maximum payload capacity of 4000 kg. It is a single pilot single-engine aircraft that has a maximum takeoff weight of 13,300 kg. It can attain the maximum speed of Mach 1.8. It has a general range of 850 km and a combat range of 500 km.

Tejas is a low-cost aircraft with a simple design. Hence, it is very attractive to cost-conscious nations in Asia.

Although currently, HAL is not sold to other countries, Singapore, Egypt, Sri Lanka, the UAE, Turkmenistan and Malaysia have expressed interest in acquiring this aircraft.

UPSC Questions related to LCA Tejas

How many LCA Tejas does India have?

As of March 2019, India has 32 Tejas aircrafts built.

Is Tejas 4th generation?

Tejas uses fourth generation technology.

Is Tejas better than Rafale?

Tejas is a light combat aircraft whereas Rafale is a medium multi-role combat aircraft. Rafale has a better range than Tejas and can also carry heavier weapons. However, Tejas is cheaper to operate.

Is Tejas better than MiG 21?

In every technical parameter, Tejas outperforms MiG 21.