Tejas Adds Python-5 Air to Air Missile Capability

Why in News

Recently, India's Indigenous **Light Combat Aircraft Tejas** has added capability of firing **Israeli-origin Python-5 air-to-air missile (AAM)** after concluding successful tests.

- The same set of tests were also aimed to validate the enhanced capability of the already integrated Israeli-origin **Derby beyond visual range AAM** on Tejas.
- The tests were conducted by [Defence Research and Development Organisation (DRDO)](#)**.**

Key Points

- **Python-5 Missile:**

  - It has been **developed by the Israeli defence company Rafael Advanced Defense Systems.** It is the **newest member of the Python family.**
  - This **fifth generation air-to-air missile** provides the pilot engaging an enemy aircraft with a revolutionary full sphere launch capability.
  - It can be **launched from very short to beyond-visual ranges** with greater kill probability, excellent resistance to countermeasures, irrespective of evasive target manoeuvers or deployment of countermeasures.
  - It is a **dual use missile suitable for air-to-air and surface-to-air missions.**
  - It is powered by a solid propellant **rocket engine.** The propulsion system provides a **speed of Mach 4** and an operational **range of more than 20 km.**
  - It is also equipped with **lock-on-before launch (LOBL)** and **lock-on-after launch (LOAL) capabilities.**
- **Light Combat Aircraft Tejas:**

  - [**Tejas**](#) is a **single engined, light weight, highly agile, multi-role supersonic fighter.**
  - The **indigenously-developed aircraft** has been **manufactured at the Hindustan Aeronautics Limited (HAL)** and **designed by the Aeronautical Development Agency (ADA)** for the Indian Air Force and the Indian Navy.
  - It is **designed to carry** a range of air-to-air, air-to-surface, precision-guided, weapons.

Beyond Visual Range AAM

- A beyond-visual-range missile (BVR) is an air-to-air missile (BVRAAM) that is **capable of engaging at ranges of 37 km or beyond.** This range has been achieved using dual pulse rocket motors or booster rocket motors and ramjet sustainer motors.
- In addition to the range capability, the missile is also capable of tracking its target at this range or of acquiring the target in flight.
- Beyond Visual Range Air-to-Air Missile (BVRAAM) technology enables the fighter-pilots to shoot precisely at the enemy targets which are beyond their visual range.

  - [**Astra missile**](#) works on BVRAAM.

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