

# Rafale Fighter Jet

The Dassault Rafale Jet is a multirole fighter jet designed and built by Dassault Aviation, a French aircraft manufacturer. The name Rafale means 'gust of wind' or 'burst of fire' in a military sense.

This article will give details about the Rafale fighter jet within the context of the IAS Exam.

## Origins of the Rafale Fighter Jet

Towards the closing decades of the Cold War in the 1970s, the French military was looking to replace their current fleets of aircraft. To mitigate development costs and earn a hefty profit, France signed deals with the United Kingdom, Germany, Italy to produce a multirole fighter jet, the Eurofighter Typhoon.

However, multiple disagreements over intellectual property rights, workshare and difference in requirements led France to back out of the deal and pursue its own aircraft development programme.

The French government released a tender where they invited major defence contractors to demonstrate their technology. The tender was awarded to Dassault in July 1986 as a part of an eight-year-flight-test programme, laying the groundwork of the Rafale fighter jet project.

The Rafale is unique in the sense that it is the only aircraft of its time to be solely built by France, that involved major French defence contractors, such as Dassault and Thales.

## Acquisition by the Indian Airforce

In order to boost its air superiority parameters, the Indian Force placed orders for Rafale jets in April 2011, following a technology demonstration during that year. Following multiple rounds of negotiations between the French and the Indian governments, an agreement was reached on 23 September 2016 between Indian Defence Minister Manohar Parrikar and his French counterpart Jean-Yves Le Drian. The agreement stipulated that 36 Rafales would be delivered to the Indian Air Force for €7.8 billion with an option for 18 more to be delivered.

To counter the latest versions of the Pakistani F-16s, the Indian government wanted their Mig-21 fleet to be replaced by the Rafale jet. Ahead of the Indian Air Force Day on 8 October 2019, a ceremony was conducted for the first formal hand over of the Rafale at the Dassault's manufacturing facility in Bordeaux. The aircraft had the tail number "RB-001" to mark IAF chief-designate Air Chief Marshal RKS Bhadauria's role in the 2016 deal.

Delivery of 36 Rafales started on 27 July 2020 with first 5 Rafales delivered to Indian Airforce from France.

India is set to have all 36 by the end of 2021

## Specifications of the Rafale Fighter Jet

The combat specifications of the Rafale fighter jet is given in the table below:

<b>Specification of Dassault Rafale Jet</b>	
Wingspan	10.90 m
Length	15.30 m
Height	5.30 m
Overall empty weight	10 t
Max takeoff weight	24.5 t
Internal Fuel	4.7 t
External Fuel	Up to 6.7 t
Max Thrust	2 x 7.5 t
Max Speed	M = 1.8 / 750 knots
Approach speed	Less than 120 knots
Service Ceiling	50,000 ft
Fuel Capacity	Capacity to carry up to three 2000 litres tanks on each of the wet points
Armament	<ul style="list-style-type: none"><li>● SCALP, an air-to-ground missile with a range of 300 km</li><li>● HAMMER (Highly Agile and Manoeuvrable Munitions Extended Range) for hardened structures with a range of 70 km.</li><li>● METEOR, an air-to-air missile with a range of 100 km</li><li>● Twin gun pod as well as a 30mm cannon which can fire over 2500 rounds in a minute</li></ul>
Engine	The Rafale is fitted with twin M88-2 engines each capable of providing up to 50 kilonewtons (11,000 pounds-force) of dry

	thrust and 75 kN (17,000 pounds-force) with afterburners.
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## Variations of the Rafale Jet

The variations of the Rafale Jet is given in the table below:

Rafale A	Technology demonstrator first flew in 1986
Rafale D	Dassault used this designation in the early 1990s to emphasis the new semi stealthy design features
Rafale B F3-R	Two-seater version for the French Air Force. It can be operated with the Talios targeting pod
Rafale C FR-R	Same as Rafale B F3-R but Single-seat version of the French Air Force
Rafale M F3-R	Same as Rafale C F3-R but Carrier borne version for the French Naval Aviation. It is the only non-US fighter-type cleared to operate from the decks of United States aircraft carriers
Rafale DM	Two-seater version for the Egyptian Air Force
Rafale EM	Single-seat version for the Egyptian Air Force
Rafale DH	Two-seater version for the Indian Air Force
Rafale EH	Single-seat version for the Indian Air Force