Combat aircraft are categorized into generations to illustrate advancements in design, technology, and capability, reflecting the evolution of military aviation. Before the first generation, combat planes were piston-engine fighters and bombers used in World War II, focused on dog-fighting and ground attacks but limited in speed, manoeuvrability, and targeting. The introduction of jet engines marked the first generation, exemplified by aircraft like the MiG-15 and F-86 Sabre, which revolutionized aerial combat with higher speeds and altitudes during the Korean War.

The second generation introduced swept wings, afterburning engines, and rudimentary guided missiles, shifting from gun-based dogfights to beyond-visual-range engagements. The third generation advanced avionics, radar technology, and weapons systems, enabling multi-role fighters like the Hawker Siddeley Harrier, Su-17, and Mirage III to perform both air-to-air and air-to-ground missions.

The fourth generation, emerging in the late 1970s, featured improved avionics and network-centric capabilities, producing iconic aircraft like the F-16, Mirage 2000, and SU-27, known for their agility and power.

The fifth generation, led by stealth fighters like the F-22 Raptor and F-35 Lightning II, integrates advanced composite materials, stealth design, and sophisticated sensors, emphasizing network-centric warfare and enhanced situational awareness.

Generation	Years	Specifics	Aircrafts	Country
I	1944- 1955	The first generation of fighter aircraft were jet-powered and operated at subsonic speeds.	Messerschmitt Me 262 Mig - 15 Hawker Hunter	**Germany** **Soviet Russia** **United Kingdom**
II	1955 -1970	The second generation of fighter aircraft featured supersonic speeds, the introduction of afterburners, integrated radars, and semi-guided missiles.	Mig 21 (most widely produced fighter in the world) Dassault Mirage -5 Lockheed F-104 Star Fighter	**Soviet Russia** **France** **United States**
III	1960-1970	The third generation of fighter aircraft were versatile multi-role platforms capable of air combat, bombing, and reconnaissance missions. They introduced advanced avionics that enabled beyond-visual-range combat and featured integrated airframes that streamlined all aspects of aircraft production into a unified process. Additionally, they were equipped with more advanced radar systems.	Hawker Siddeley Harrier Sukhoi Su -17 F-4 Phantom II Mirage III Mig - 23 Saab 37 Viggen	**United Kingdom** **Soviet Russia** **United States** **France** **Soviet Russia** **Sweden**
IV	1970-2000	Although third-generation fighters could achieve high speeds in straight-line flight, they lacked the agility needed for close-range dogfights. This limitation was addressed in fourth-generation fighters with the introduction of fly-by-wire systems, which greatly enhanced manoeuvrability. Additionally, head-up displays were introduced, making combat flying easier. These fighters were also the first to incorporate stealth features and made extensive use of carbon-boron fibre in their structures.	F-15 F-16 F/A- 18 Mig -29 Su-27 Mirage-2000	**United States** **United States** **United States** **Soviet Russia** **Soviet Russia** **France**
V	From 2005	Fifth-generation fighters are equipped with advanced stealth features and avionics that enable seamless networking with other platforms. They also feature sensor fusion technology, which combines data from multiple sensors to provide a comprehensive battlefield picture. These aircraft are designed with glass cockpits that project critical information directly to the pilots and are powered by more advanced propulsion systems.	F-22 Raptor F-35 Lightning Su -57 Chengdu J-20	**United States** **United States** **Russia** **China**
VI	Under Conception & Development	Sixth-generation fighters are being conceptualized to operate in sub-orbital space and are expected to feature directed energy weapons and even more advanced stealth capabilities than their fifth-generation predecessors. They will heavily integrate AI-human interfaces and possess full data-to-decision capabilities, enabling rapid and informed tactical decisions.	F/A -XX Programme Next Generation Air Dominance project Global Combat Air Programme Future Combat Air System Mikoyan Pak DP Chengdu J-36 Shenyang J -50	**United States** **United States** **Italy Japan UK** **France Germany Spain** **Russia** **China** **China**

Categorizing combat aircraft by generation helps military planners and analysts evaluate capabilities, limitations, and vulnerabilities, supporting strategic decision-making and maintaining technological and combat readiness.