

It is in the very nature of the helicopter that its great versatility is found. To begin with, the helicopter is the fulfillment of one of man's earliest and most fantastic dreams. The dream of flying – not just like a bird – but of flying as nothing else flies or has ever flown. To be able to fly straight up and straight down – to fly forward or back or sidewise, or to hover over and spot till the fuel supply is exhausted. To see how the helicopter can do things that are not possible for the conventional fixed-wing plane, let us first examine how a conventional plane “works.” It works by its shape – by the shape of its wing, which deflects air when the plane is in motion. That is possible because air has density and resistance. It reacts to force. The wing is curved and set at an angle to catch the air and push it down; the air, resisting, pushes against the under surface of the wing, giving it some of its lift. At the same time the curved upper surface of the wing exerts suction, tending to create a lack of air at the top of the wing. The air, again resisting, sucks back, and this gives the wing about twice as much lift as the air pressure below the wing. This is what takes place when the wing is pulled forward by propellers or pushed forward by jet blasts. Without the motion the wing has no lift.

Questions:

(i) Where is the great versatility of the helicopter found?

Answer

The great versatility of the helicopter found in its nature. The reason is that it has the ability to fly upward and downward. Moreover, it can fly sidewise, forward and back. In fact, it can remain in air as long as it has fuel. Given all that, the helicopter is a very useful object.

(ii) What is the dream of flying?

Answer

The dream of flying is to fly not in the style of a bird. Moreover, it is the dream to fly as others do not fly. In other words, it means to fly in a unique style.

(iii) What does the wing of the conventional aircraft do?

Answer

The wing of the conventional aircraft helps it fly. For this matter, it receives the air and then pushes it down. As a result, the air pushes against its under surface, so that it is given lift to fly. In short, the wing of the convention aircraft largely facilitates it to fly.

(iv) What does the curved upper surface of the wing do?

Answer

The curved upper surface of the wing exerts suction. In this way, a lack of air is created at the top of the wing. In sum, the job of the curved upper surface of the wing is to create a lack of air by exerting suction.

(v) What gives the wing twice as much lift?

Answer

The wing is given twice as much lift as the air pressure below the wing. It happens when air resists and sucks back. Thus, it can be stated that the wing receives lift due to resistance and suction of the air.