

## Comprehension 14: CSS 2009

**Q:** Read the following passage and answers the questions that follow:

(20)

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:**

(4 marks each)

1. Where is the great versatility of the helicopter found?
2. What is the dream of flying?
3. What does the wing of the conventional aircraft do?
4. What does the curved upper surface of the wing do?
5. What gives the wing twice as much lift?

## Comprehension 2009

i) Where is the great versatility of helicopter found?

The great versatility of helicopter is found in its very nature. The helicopter can fly straight up and down, forward and backward as well as in sideways.

ii) What is dream of flying?

The dream of flying means that man's desire to fly like a bird. The invention of helicopter is the fulfillment of man's earliest and most extraordinary dream.

iii) What does the wings of conventional air craft do?

The wing of conventional aircraft works according to its shape which deflects air when it is in motion. It happens because air has density and resistance against the force. As a result, air pushes the plane forward.

iv) What does the curved surface of wings do?

The curved surface of wing exerts suction due to which low air is produced at the top of wing.

V) What gives the wing twice as much lift?

The air sucks back due to resistance and this provides the wing about twice as much ~~as~~ lift as the pressure below the wing. This is happen when the wing is pulled forward by propellers. ~~and~~