

Q.3. 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:

- (i) Where is the great versatility of the helicopter found?
- (ii) What is the dream of flying?
- (iii) What does the wing of the conventional aircraft do?
- (iv) What does the curved upper surface of the wing do?
- (v) What gives the wing twice as much lift?

Date

Comprehension-1

Q1:- Where is the great versatility of the helicopter

Ans:- Found

Ans:- The great versatility of the helicopter found in the mankind's first and most imaginative dreams.

Q2:- What is dream of flying?

Ans:- The dream of flying is that nobody has ever flown like it by moving in all directions or to flip and standstill till the fuel come to empty.

Q3:- What does the wing of conventional aircraft do?

Ans:- The conventional aircraft deflects the air through its wings which become possible by air qualities - including density and resistance to generate force.

Q4:- What does the curved upper surface of the wing do?

Ans:- The curved upper surface of the wing applies suction that can be able to produce a turbulent air at the wing top surface.

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Q5:- What gives the wing twice as much lift?

Ans:- The air resistance pull back and twist the wing ^{twice} ~~twice~~ as far as pressure of air from downside of the wing.