

## Physics - ICS Part 1 Physics Chapter 6 Short Questions Test

Q1. How an aeroplane is lifted up?

**Ans 1:** The wing of the aero plane is designed to deflect the air so that the streamlines are closer together above the wing than below it. Thus, air is travelling faster on the upper side of the wing than on the lower. As the result, the pressure will be lower at the top of the wing, and the wing will be forced upward.

Q2. A person is standing near a fast moving train, is there any danger that he will fall towards it?

**Ans 1:** According to Bernoulli's equation. Where the speed is high, pressure will be low. So the pressure between the person and train will be low as compared to the pressure of side way. So there is a danger that he may fall towards the train.

Q3. Two boats moving parallel in the same direction are pulled toward each other.

**Ans 1:** According to Bernoulli's equation, where the speed is high, pressure will be low. So the pressure between the two boats decreases as compared to the pressure of sideways. So the side way high pressure pushes the two boat towards each other.

Q4. Considering Bernoulli's principle, explain the working of a carburetor of a motor car.

**Ans 1:** The carburetor of a car engine uses a Venturi duct to feed the correct mix of air and petrol to the cylinders. The air through the duct moves very fast, creating low pressure in the duct, which draws petrol vapour into the air stream and enters the cylinder of the engine, where combustion occurs.

Q5. Write few lines on blood flow.

**Ans 1:** Blood is an incompressible fluid having density nearly equal to that of water. A high concentration of red blood cells increases its viscosity from three to five times. Blood vessels are not rigid. They stretched like rubber hose. There is tension in the walls of the blood vessels.

Q6. Explain what you understand by term Viscosity?

**Ans 1:** The frictional effect between the layers of the flowing fluid is called viscosity. Viscosity measures, how much force is required to slide one layer of liquid over another layer.  
Thick tar and honey have large coefficient of viscosity than water.

Q7. Explain how the swing is produced in a fast moving cricket ball.

**Ans 1:** When the cricket ball is thrown in such a way that it spins as well as moves forward, the velocity of the air on one side of the

ball increases due to the spin and hence the pressure decrease. So the swing is produced in a fast moving cricket ball.

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Q8. Why should Chimney be tall for its better working?

**Ans 1:** A Chimney works best when it is tall and exposed to air currents, which reduces the pressure at the top and force the upward flow of smoke.

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Q9. Describe any application of Bernoulli's equation.

**Ans 1:** When the cricket ball is thrown in such a way that it spins as well as moves forward, the velocity of the air on one side of the ball increases due to the spin and hence the pressure decreases. So the swing is produced in a fast moving cricket ball. And it is just in accordance with Bernoulli's equation.

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Q10. Explain how the lift is produced in an aeroplane?

**Ans 1:** An aeroplane wing is designed to deflect the air so that streamlines are closer together above the wing than below it. Thus, air is travelling faster on the upper side of the wing than on the lower. The pressure will be lower at the top of the wing, and the wing will be forced upward.

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