

High Order Thinking Skills (HOTS) Question

Q.1. In mammals, the lungs replace the skin very effectively as respiratory organ. Explain giving three reasons.

Ans. (i) Lungs provide very large surface area for the exchange of gases. Total alveolar surface area is nearly 100 m^2 whereas total surface area of skin is around 1.6 m^2 only.

(ii) Alveoli are lined by thin highly permeable membranous wall. These are surrounded by many blood capillaries.

(iii) Endothelium of blood capillaries and membranous walls of alveoli are highly permeable to respiratory gases.

Q. 2. Why is it not healthy to breath in a closed room for a very long time?

Ans. In a closed room, there is no provision of fresh air coming into the room. The oxygen already present in the air of that room shall be gradually consumed. If more number of people are sitting in a room the percentage of oxygen will go on decreasing and the percentage of carbon dioxide would go on increasing. Thus it is not a healthy sign to breath in a closed room for a very long time.