Q1. Why does an athlete breathe faster and deeper than usual after finishing the race?
Answer:
During the run, the demand of energy is high but the supply of oxygen to produce energy is limited. Therefore, anaerobic respiration takes places in the muscle cells to fulfill the demand of energy. After finishing the race, an athlete breathe faster and deeper than usual so that more oxygen is supplied to the cells.

Q2. List the similarities and differences between aerobic and anaerobic respiration.
Answer:
Similarity:
(i) In both aerobic and anaerobic respiration, food is broken down to release energy.
(ii) Both takes place inside cells.
(iii) Both produces byproducts.

Differences:

| Aerobic Respiration | Anaerobic Respiration |
|---|---|
| (i) It takes place in the presence of oxygen. | (i) It takes place in the absence of oxygen. |
| (ii) Energy is released in higher amount. | (ii) Energy is released in lesser amount. |
| (iii) Carbon dioxide and water are produced as byproducts. | (iii) Carbon dioxide and water are produced as byproducts. |
| (iv) It is a slow process. | (iv) It is a fast process. |
| (v) Examples: Animals and plants cells. | (iv) Examples: Human cells, yeast, Bacteria etc. |

Q3. Why do we often sneeze when we inhale a lot of dust-laden air?
Answer:
We often sneeze when we inhale a lot of dust-laden air to expel out these foreign particles. These particles get past the hair in the nasal cavity and irritate the lining of the cavity which results in sneezing.

Q4. Take three test-tubes. Fill each of them with water. Label them A, B and C. Keep a snail in test-tube A, a water plant in test-tube B and in C, keep snail and plant both. Which test-tube would have the highest concentration of $CO_2$ ?
Answer:
Test-tube A will have the highest concentration of $CO_2$ because snail will take in oxygen and gives out $CO_2$.
In test-tubes B and C, the $CO_2$ will be utilized by the water plant for synthesizing food and hence there will be less concentration of $CO_2$ in these.

Q5. Tick the correct answer:
(a) In cockroaches, air enters the body through
(i) lungs
(ii) gills
(iii) spiracles

(iv) skin
Answer: (iii) spiracles
(b) During heavy exercise, we get cramps in the legs due to the accumulation of
(i) carbon dioxide
(ii) lactic acid
(iii) alcohol
(iv) water
Answer: (ii) lactic acid
(c) Normal range of breathing rate per minute in an average adult person at rest is:
(i) 9 - 12
(ii) 15 - 18
(iii) 21 - 24
(iv) 30 - 33
Answer: (ii) 15 - 18
(d) During exhalation, the ribs
(i) move outwards
(ii) move downwards
(iii) move upwards
(iv) do not move at all
Answer: (ii) move downwards

********** END **********