Human respiration question part 2 answers.

1.

SPO2 is the measure of the amount of oxygen carrying hemoglobin in the blood relative to the amount of oxygen of oxygen not carrying hemoglobin while breath oxygen is the measure of normal of oxygen taken into the body during normal breathing.

SPO2 drastically in the experiment, this is because of breath differs at different times where at one time inhale maybe high and the exhale also high while at other time the exhale maybe low due to low inhale. The concentration of oxygen in the lungs falls during the process of breath thus this leads to the drastic changes observed in the experiments.

2.

In the breath hold experiment, the normal exhale of oxygen is 18.25% and concentration of carbon dioxide is 14400 ppm while during exhale of held breath the concentration of oxygen is 19.92% and the concentration of carbon dioxide is 17400 ppm. During exhale of held breath the concentration of these gases increases which is as result of change in concentration of free oxygen and accumulation of carbon dioxide during exhale of held breath.

3.

In hyperventilation experiment, in the normal exhale the concentration oxygen is 17.84% and the concentration of carbon dioxide is 13900ppm while during exhale the concentration of oxygen increases to 19.12% and the concentration of carbon dioxide drops 6800ppm and after exhale held breath the concentration of oxygen reduces to 16.83% and the concentration of carbon dioxide increases to 16800ppm.

During held breath exhale the concentration of carbon dioxide in the blood stream drop too low this is due to exhaling more than you inhale which causes rapid reduction in carbon dioxide.

4.

The data table for exercise experiment lacks oxygen and carbon dioxide gas level data for during and breath hold experiment. There an increase in both gases level during exercise a and b.

The level of oxygen and carbon dioxide measurement increases since the muscles and body cells work harder hence the demand for oxygen is high and thus high removal of carbon dioxide.

5.

Moving the sea level to high altitude makes the body to develop inefficient physiological responses. The atmospheric air pressure decreases with increase in altitude thus leads to less oxygen available for breath and also gas molecules in the air decreases. The air in high altitude is cold, less dense and contain few oxygen molecules thus this increases the breathing rate and the heart rate for the body to be able to counter the problem of less oxygen concentration.

6.

After donating blood, the body goes to work generating the lost blood, the plasma recovers quickly in about 24 hours.

Involvement in exercise after donating blood can cause fainting and may increase the risk of excessive bleeding from the area where the needle entered the skin.