

Course Name : Bachelor of Physical Education

Year : IIInd

Paper Name : Kinesiology and Physiology of Exercise

Paper No. I

Lecture No. 1

Lecture Title: General Effects of Systematic Exercise on Respiratory System and Cardiovascular System

F.A.Q.

Q1. What is the response of the Respiratory System to exercise ?

A1. The respiratory system is responsible for transporting oxygen and carbon dioxide to and from muscles and tissues.

During exercise, the respiratory system increases to meet the demand of the working muscles. The respiratory system also uses the cardiovascular system – heart, blood and blood vessels, to transport oxygen and carbon dioxide

Q2. What is Oxygen Transport ?

A2. To meet the increasing oxygen demand from the working muscles, additional oxygen must be transported through the blood vessels. During exercise, the sympathetic nervous system stimulates the veins to constrict to return more blood to the heart. This blood is carrying carbon dioxide from the muscles and can increase the total stroke volume of the heart by 30 to 40 percent.

Q3. What are long term effects of exercise ?

A3. Long- term effects of exercise would be increase capacity and effectiveness of lungs, faster gaseous exchange from carbon – dioxide to oxygen.

Q4. What are the best breathing techniques for physical exercise player ?

A4. There are many coaches and fitness instructors these days who teach their athletes, students, and pupils to breathe in through the nose and out through the mouth in order to improve long- term effects of exercise on the respiratory system. This breathing technique for physical exercise is half better than mouth breathing due to improved absorption of nitric oxide and some increase in arterial CO₂.

Q5. What are the effects of over breathing at rest ?

A5. Over breathing at rest reduces their body – oxygen levels. As a result , many people with diabetes , cancer, heart disease, chronic fatigue and many other conditions have elevated blood lactate level at rest, indicating the presence of cell hypoxia and anaerobic cellular respiration.