Exercise can be a potent producer of reactive oxygen species (ROS). Reactive oxygen species are molecules that are unstable and take an electron or hydrogen from another molecule in order to achieve stability. The oxidative activity of these ROS is a part of normal function, but can impair the normal functioning of other molecules and systems if present in high amounts. The body has natural antioxidant systems that help to keep ROS levels normal. The production of ROS beyond the normal capacity of the body’s own antioxidant system has been implicated in exercise fatigue, loss of function with aging, and several disease processes. An antioxidant are the substances that delays or prevents oxidation of that substrate. Total one hundred twenty (120) healthy male subjects of age group of 18 to 24 years were selected for this study. Subjects were grouped into 4 different groups namely sedentary, anaerobic, intermittent and aerobic. Each group consists of 30 subjects. The physical variables included age, height and body weight. Physiological variable include maximum oxygen consumption (VO2 max). Nutritional variable include dietary vitamin C, vitamin E, retinol & beta-carotene. Biochemical variable include serum uric acid, triglycerides, cholesterol, HDL-cholesterol, C/H ratio, malondialdehyde, catalase and superoxide dismutase. The data obtained on physical, physiological, nutritional and biochemical variables have been analyzed by Statistical Package of Social Sciences (SPSS) version 10 in order to compare the physical, physiological, nutritional and biochemical variables of the subject’s of all the four groups. Analysis of Variance (ANOVA) and Scheffe’s post hoc test has been used to identify the location of significant differences of physiological, nutritional and biochemical variables among various groups. The results point to the fact that athletes exhibit more oxidative stress and better antioxidant status as compare to sedentary population. The regular and competitive physical training programme particularly aerobic in nature has resulted in more oxidative stress and the regular and competitive physical training programme particularly intermittent in nature has resulted in better antioxidant status of athletes. The results also point to the fact that the athletes involve in regular physical training and whose activity is dominated aerobically have better lipid profile as compare to the other groups.