Section II

Aims and objectives of the study
2. Aims and objectives of the study

*Surya Namaskar* is a group of Yogic asanas consisting of twelve postures. It is not only a mere collection of twelve physical postures, but also Meditation and Pranayama components are included in it.

There are several studies in relation to Yogic practices. The physiological research on Yogic practices can be classified into two categories. The first category of researches has been conducted to study different physiological systems during Yogic practice (2-3,13,19, 27-29,88,89,120,159-161,166,167-169,228,262,264). The study in this category is few in number. In most of these studies workers have given emphasis on a particular system i.e either on respiratory system, cardiovascular system, neurophysiological system or metabolic system. The other category of researches has been conducted to observe the training effects at different time intervals (84,134,140,170-171,184,207, 211,255,256). The work on the training effect is comparatively more in number. Review shows that much relevant data of *Surya Namaskar* is still lacking. Scientific study needs the attention to build up a knowledge base of *Surya Namaskar* based on cardiovascular, respiratory, metabolic and neurophysiological data so that this knowledge base can be applied in the different fields like in physical education programme, physical fitness, therapeutic aspects and in sports in the future.

The present studies were undertaken to observe certain cardiorespiratory aspects of *Surya Namaskar*, a popular Yogic exercise. Studies on these areas are lacking. Different aims and objectives of the present dissertation work can be presented in the following way such as:

2.1 To study the time taken and intensity of exercise in different postures of *Surya Namaskar* by the Yoga practitioners.

2.2 To observe the energy cost and different cardiorespiratory changes during the actual performance of *Surya Namaskar* by the different groups.
2.3 To compare *Surya Namaskar* with bicycle ergometer exercise in terms of various cardiorespiratory responses at three different levels of work intensity such as 10-20%, 21-40% and 41-50% of the maximum oxygen uptake capacity.

2.4 To observe the effect of training on various physiological responses during the performance of *Surya Namaskar* by the trainees at different phases of the training throughout the year.

2.5 To observe the cardiorespiratory changes during the performance of *Surya Namaskar* by the advanced Yoga practitioners (Proficient and Semi-Proficient).

2.6 To compare the cardiorespiratory values as obtained in trainees (at different phases of the training) during *Surya Namaskar* performance with the Proficient and Semi-Proficient.

2.7 To observe the effect of training on systolic, diastolic and mean blood pressure responses in Yoga trainees during the performance of *Surya Namaskar* at different phases of the Yoga training.

2.8 To compare the blood pressure value as obtained in trainees (during *Surya Namaskar*) with that of Yoga Proficient and Semi-Proficient.