Kinanthropometry is the basic sports science, knowledge of which is extremely important to find out the performance excellence in the competitions. Requirement of body structure with regard to suitability of the sport is pre-requisite for being an athlete. In the present article, complete kinanthropometric backup provided to various core group probables of 2010, in the sport disciplines of track and field, boxing, cycling and wrestling will be discussed and efforts will be made to present the normative values of various anthropometric parameters pertaining to these elite level Indian athletes.