CHAPTER 1

Introduction

Today education is inevitable for the overall development of a person. It is required for the up-liftment of society as well as for the progress of a nation and culture. Education was intensely important in India and as result in the past there was good system of education. Education tradition protected and preserved wide Vedic literature. Many original scholars emerged in various spheres of knowledge. They were born thinkers. Our heads bow before them for prestige and dignity.

“Through education a person attains virtues and good culture and abandons vices and feels happy. This is the goal of Education”. Education is a continuous process of life. It is a live process. In the process of education there is close relationship between the teacher and the taught. There is continuous interaction between the two. “Education means relevant and natural development of one’s inborn abilities”.

Change is perhaps the only unchanged thing in the world. Today we live in space age and technological gigantism and the impact of advanced scientific technology is seen on every set up. These prodigious social changes have a definite impact on various programmes which have opened new vistas undreamed by human beings a few years ago. Competition is natural activity which is inevitable in human life and every educational set up should permit and assist with the preparation of individual for “battle of life”. Competition provide the right opportunity and in aculeate means by which one easily demonstrate one’s worth by competing successfully.

Change and challenges are twin laws of nature as they affect every aspect of human life. Changes are taking place all around and because of these changes new
challenges present themselves. Man is constantly trying to meet these challenges and excel his previous performance every time.

Sports by their very nature are enjoyable, challenging, absorbing and require a certain amount of skill and physical conditions. In the order of human values conquest in field of sports hold a unique place. It is a combination of success, victory, triumph and domination of some over other team mates and friends. The sublimity of competition lies in the loser’s acclaim for the winners, which along with the friendly and shake acknowledge both defeat and triumph.

The scientific selection of sportsmen at their young age may increase the number of participation in various sports events (Hirata 1979). Therefore, the sports scientists have been made efforts from time to time for the search of the most talented children from a large number of school boys and girls in the various sports disciplines on the basis of their anatomical structure, their capabilities, motor abilities and other parameters of fitness. The scientific methods of selection and training of sports probable’s in advanced countries not only helped to achieve their better performance at the various levels of international competitions, but also helped their citizen to achieve their better health conditions.

The present study is also conducted on the same guidelines. It will help the physical education teachers and coaches to select the best talented children from the raw material on the basis of their anthropometric measurements and physical fitness variables. Technology covers all aspects of life and sports is no exception to it. Sports sciences has enabled modern youth to develop physical capacities beyond any time imagined. Sports have become highly competitive and records are being broken greater rapidity.

The most important need of young Indian athlete now a days is the scientific training programmes specially based on age, physical fitness, motor ability, psychological and cardiovascular levels according to various norms of Indian
population. These types of training programmes may be helpful in the popularisation of sports. Due to popularisation of sports in India, there will be a lot of improvement in physical standards and mental health of the mass (Khetarpal 1989).

Physical education seems to have taken a new turn in the form of sports sciences. The sport sciences in turn have taken their substance and methodology from various basic sciences.

For many years the research in sports was being undertaken within these basic sciences but with the advancement of knowledge the new specialisations and micro-specialisation have taken a respectable position. As a matter of fact the research now-a-days embraces knowledge from various disciplines of human sciences.

Physical education and sports, being an integral part of education, have also experienced the impact of scientific advancement. Now the sportmen have been able to give outstanding performance because of involvement of new scientifically substantiated training methods and means of execution of sports exercises such as sports techniques and tactics, improvement of sports gear and equipments, as well as other components and conditions of the system of sports training.

Hockey is one of the oldest game in the history. It is considered as a national game of India and has its unique skills& patterns of play. Since times immemorial, physical education teachers and coaches have been dealing with the development of man through the medium of physical activities and games. In the game of hockey, Indian team held supremacy for a long period due to the knowledge of best tactics and techniques of the game. It is now being challenged by various other nations. Most of these nations had progressed much speedily.

Hockey is a dynamic field game, played by both sexes, requiring high level skills, excellent conditioning and well co-ordinated team efforts (Dubey, H.C. 1999).
Field hockey, a team sport is played comparatively on a large population for active as well as secondary participation.

The participation of players is active participation, while of audience, spectators, coaches, scientists, organizers, national federations and media are secondary participators. If we trace the history of field hockey, evidences show that some form of ball and club game is as old as human themselves. A most of writers have tried to pin down the origin of hockey, using the writings and paintings of the ancients as evidence and have advanced some very plausible theories.

In modern times the growth of sports and physical education programme in any country is much dependent on sports sciences. These sciences are known to have developed to a considerable extent in the developed countries. Kinanthropometry, exercise physiology, biomechanics, biochemistry, sports medicine, sports psychology, sports sociology, nutrition, pedagogics and methods of training or coaching are some of the well known sciences in this regard. The standard of sports and competitive performance from both applied and basic sciences.

Scientific investigations and assessment of factor underlying performance in sports are the most important achievements of the present century. Intellectual environment has brought a revolution in every field, including sports. As in other fields, the world of sports is also ever expanding and continuously coming up through development of new techniques based on research.

Human physique plays an inspirable role during execution of movement, skill and technique. The quality of an individual's movement and skill efficiency in terms of its utilization value is directly proportional to his level of performance.

For this purpose, researcher has to identify the factors which are responsible for the dismal performance of sports person such as physical, physiological, psychological abilities, techniques, tactics, physique, body size and body composition which has to be
researched from the root level. The athletes are recognized and selected naturally on the basis of their body characteristics for a particular sport or event. It is presumably true that every male and female begins life with a morphological and functional potential which sets limits for health and physical fitness, body shape and composition and bone structure.

Anthropometry is the science that deals with measurements of size, weight and proportions of human body. It provides scientific methods and observations on the living humans. Anthropometric techniques (skinfold fat, circumference and diameter measurements) are popular for predicting body composition because they are not much expensive, require little space and can be performed easily (Behenke and Willmore, 1974 and Pollock and Willmore, 1990). Anthropometry is oftenly used in physical education, sports science, physical activity and biomedical sciences. Anthropometric measurements can be divided into height, weight and lengths, breadth or width, circumferences or girths, depths and skinfolds. All measurements of individual are external dimensions of the body. Anthropometric measurements, body composition, body size and proportions are playing an important role in physical performance and fitness of the sportsman. Height and weight both are the indicators of overall body size and have been used for the grouping of children and youth in various kinds of activity according to their age and sex.

Anthropometry is the systematized measurements that express the dimensions of human body. The research on anthropometric measurements may be useful in selecting the suitable game or sport for any individual. The idea behind the choice of a game or event by an individual of his interest is to give out the best possible abilities. For this purpose, the role of anthropometric measurements in any game or event is most important. Research workers have thoroughly investigated anthropometric measurements as a common interest. Although, physique effects performance in almost every game and sport but even then some of the games and sports the taller persons have much more advantages, while in others, the short stature is preferred. These studies are the results of many years of training on adults starting from their childhood to select a potential athlete
at early young age.

Technique tactics and physical abilities play an important role to achieve the top level performance in national and international competitions. But one cannot achieve the top performance if the anthropometric measurements of an athlete do not correspond to the concerned game. So many scientists studied that champions in different games and sports differ in their body measurements and physical fitness characteristics.

"Training means to bring out the best qualities of head, heart and body of a child and to develop them fully. This gives the idea of the form of education. Some definitions give literal meaning, some suggest the process of training and some present achievement means result. It aims at developing the overall personality of an individual not one sided development of ability.

**Literacy is not training.**

**Information is not training.**

**One aspect of development is not training.**

Education is for the overall development of human beings and animals. Human development the result of training. “Human being is not only intellect, body, heart or soul”. There should be equal development of all these three which help to establish humanity and that is real education”.¹ (K.O. Joshi – 2000)

The primitive man may be the very nature of his daily activities, build a strong physique superior to the civilized man in modern civilize machinery world, the change for the physical activities are less because of the invention of computer and so many other devices the participation in the physical activity is to maintained a good health.

The world health organization has defined health as a state of complete physical mental as social well being¹ physical Education field serves a lot for an individual to be
According to Robson Moses “Physical Education necessarily indicates the program of sports and games in Educational institution as a curricular, co-curricular and extra curricular activity.

Man lives for happiness gives him enjoyment and satisfaction, which depends on his physical and mental ability. The game and dances and other physical and mental ability. the game and dances and other physical education activity require different level of fitness that means in varied proportions.

Participations in various games develop various physical fitness components such as speed, strength, agility, endurance etc., "A good strong man will always beat a good weak man”. A person should possess sufficient strength, power, endurance, flexibility, agility, co-ordination, balance and speed to do easily and effectively the routine duties and maximum task that the body may bring.

The main aim of education is the total and harmonious development of human beings, which includes the development of body mind and spirit. There is no doubt that education plays the most significant role in the resulting of success of failure

Physical Education is the integral part of total education. The wealth of the nation depends upon the health of the people good personality can be developed through participation in games and sports.

Physical Education is an educational process it aims to improve the human performance and enhancement of human development through the medium of physical activities, Physical Education includes the acquisition and refinement of motor skills, the development and maintenance of fitness for time health and well being, the attainment of knowledge about physical activities and exercise.
Physical fitness is matter of fundamental importance to the well being of every individual. The people of ancient time were aware of the importance of physical fitness. They did not have any systematic programme to develop physical fitness. Yet they kept themselves fit by participating in activities in their daily life.

Health and physical fitness have remained the motto of man from ancient time. The marked deterioration in health and physical fitness of people may be due to present automation and a sport of mechanized day to day life now we have become almost sedentary because of very limited movements caused by scientific innovations. Modern life characterized by excitement and acute stress and strain has caused considerable damage to the people by and large.

A physically fit man will live a long the rich life. His entire success in life depends largely on his physical fitness. A physically fit man not only lives for himself but also for other the society and the nation particularly in a developing country like ours, the need for physically fit persons in very great.

“Since the days of early Greeks, physical fitness has been important objective of physical education. In fact the desire to establish a scientific approach to the development of physical fitness was the primary reason for meeting of physical education in 1885 that resulted in the birth of as profession”.

Fitness is the ability of the individual to live full and balanced life. The totally fit person has a healthy and happy out look on life. All living individuals have some degree of physical fitness. This degree may be interpreted in terms of their capacity for performance and their entrance in physical activity. Fitness is young man’s absolute necessity. It breeds self- reliance and keeps a man mentally alert. This is also essential at all time to make a success in any activity.
Physical fitness is to improve the muscular performance of the human being it can be used full for optimum performance of game in competitive situation. Physical fitness is to develop emotional stability endurance, strength, agility, speed flexibility and coordination.

Regular activity of physical exercises stimulates growth and development. Fitness improves general health and is essential for full and vigorous living. The physically fit children can do things with sense and able to move with confidence.

The body structure change according to the age. The basic abilities are entirely dependent on bodily structure. Though it is well known fact, the development of basic abilities are at different rates most of these physical fitness ability reach a plateau.

Cardio vascular physical fitness is the ability of a person’s body to meet the demands placed upon it by his work, by his way of life and by the necessity to meet emergency situation.

Larson and Yocan list components of physical fitness namely, resistance, muscular strength and endurance, cardiovascular respiratory endurance muscular power, flexibility, speed, agility, co-ordination balance and accuracy.

Sport performance is the result and expression of the total person act of the sports man the development of sports man to enable to achieve high level of performance is usually concentrated in four areas namely physical power, social adjustment, psychological development and physiological efficiency. Different activities make different demands, upon the organism with respect to circulatory, respiratory, metabolic, and neurological and temperature regulating function.

The physical work done by an individual depends upon nature, the
duration and purpose of the activity, the physiological system switches over from one energy source to another as the activity change.

If the activity is highly intensive and performed on aerobic conditions, glucose is the main source of energy but this may not be continue to supply energy for a prolonged period due to the accumulation of lactic acid and this lactic acid could not be removed from the muscles due to lack of adequate oxygen accumulation of lactic acid causes feeling of an uneasiness and a fatigue in the muscle the exercise physiologist is concerned with aerobic capacity fatigues and the effects of various training programmers on participants physiological responses.

Exercise physiologist and physical education specialists who are concerned with investigating both the immediate and long term effects of exercise on all sports of body functioning. Effects include the response of the muscular system the adjustment of the respiratory system, and the dynamics of the cardiovascular system during physical activity.

Primitive man was living in a forest. He was using various means of physical education and he indulged in various physical activities. He had no idea that he had been using modern means and games. Primitive man was using many instruments of physical education such as sword, thick stick, bows, arrows, spears etc. for his protection. He was busy with many physical exercises like running, jumping, climbing, pulling, and throwing ect, for his livelihood. All these activities had become integral part of his life. Thus primitive man was unconsciously using physical education.

Human body is born to remain active. Human body has natural in born ability to run, jump, walk, throw, and catch ect. These are all basic activities of human body. We find combination of many such activities in most of the games. That is human beings are naturally attracted towards certain games. He derives natural pleasure from such games
and activities. Body gains exercise through sports (games). Muscles are stretched more than they are normally stretched when one does such activities.

Physical activity is an inherent trait of a human being. It becomes all the way imperative to identify the nature and the degree of this natural talent and to nurture, modifies and refines it to get the cherished outcomes. The children perform a lot of activities such as running, jumping, throwing, catching, kicking and striking etc. The activities are known as natural or universal skills. The twenty first century is the most rapidly of changing century of all time. Rapidity of changes created unusual demands on individuals and on system of education. Today education must not only include the body and knowledge, but also to develop inquiring minds that will enable them to comprehend and accept what is to come tomorrow. The most powerful nations of the world namely USA, Russia, France, Australia, China etc are strong enough not only in world economics, arm-forces or in science technology but these are also advanced in the field of sports, therefore it is quite apparent that to exist strongly on world map nation has to be advance in the field of sports also. To achieve the same adoption of new techniques and methodology is highly required in sports sciences and physical education. The developing tendencies in international sports, especially in team ames are identified as the increase in game tempo, tougher body game and greater variability in technique and tactics. An increased performance level can only be achieved by working and training of all major components i.e. technique, coordination, tactics, physical fitness, physiological and psychological qualities.

Sports Physiology is the study of the effects of training on the bodies of athletes. Coaches can improve training methods by knowing how and why specific training regimens and conditions affect athletes' performances. Understanding the internal effects of exercise on athletes sets the stage for designing fitness training programs that match the physical demands of specific sports. Internal changes in athlete’s bodies are one piece of the training puzzle. Solid fitness training plans should combine important pieces of mental training, sport biomechanics and other aspects of performance. Key training
principles, such as overload, specificity, and recovery are heavily rooted in this field. Effects of body composition, flexibility training, hydration, carbohydrate loading etc on athletic performance are a few topics explored in this field. Exercise physiologists, physicians, and athletic trainers can apply research findings from studies in this field to advise athletes on topics concerning nutrition, body composition, sport-related injuries, and other issues related to sports. A word of caution in order to understand the effects of training, scientists must zoom in under lab conditions. Athletes and coaches must consider how well artificial conditions apply to training athletes in the real world, rather than "proving facts", sport scientists piece together clues from studies to form theories. Be careful not to take theories possible explanations as the gospel when training athletes always zoom out into the real world of competition. As much as possible, coaches should consider how applications of research fit with those from other sport sciences, and temper research findings with personal experience and good judgment when training athletes. Professional organizations, such as the American College of Sports Medicine, make position stands or consensus statements that coaches and athletes can use as guidelines and sports training principles.

Physiological exercise testing is important in basketball to help identify potential talent but also to provide the players, trainers and coaching staff with some profiles for the players and a measure for evaluating training programs. Testing physiological requirements for basketball has become more specific over the past decade with further advances in both sports science technology and general understanding of the physiological requirements for testing basketball. However despite this progress in testing procedures and knowledge there still appears limited research regarding the analysis and critical appraisal of tests used specifically for basketball. Many laboratory and field tests for physiological assessment do exist, however to be thorough in reviewing physiological status it is important to assess all components of the sport, specifically measuring each energy system. The other main component of the game not covered within this review is skill. These tasks can be assessed with testing procedures that exist but the coaching staff normally specializes in this area and thus generally will devise their own skill assessment. It is important also to note the musculoskeletal
screening assessments involving information regarding the players muscle balance, core stability and general flexibility. This testing is normally done separate to the fitness based testing and is performed by physical educationists, trainers, physiotherapists, coaches and researchers. Together all of this information provides a perfect combination to ensure analysis of every physical component of the game.

Maximum Aerobic capacity (VO2 max) is very important concept in the field of exercise physiology; it is defined as the volume of oxygen consumed at maximum effort in the last 30 sec breathing air of sea-level. Aerobic capacity or VO2 max is related to body size, body fat%, diffusion capacity, functional capacity of cardiovascular system, the cellular metabolic process and cardiac output. Sex difference in VO2max is attributed to a lower blood Hb concentration and low lean body mass in females after the onset of puberty. At full maturity, average North American female is approximately 13 cm shorter, 15-18 kg lighter with 25% body fat as compared to 15% body fat in male. The relationship of aerobic capacity and chronological age is evident. A positive relationship with age exists in the first 18 years of life in both male and female sedentary group and reaches a peak at the age of 25 yrs (40-45 ml/kg/min) and then decline to 20-30 ml/kg/min at the age of 60 yrs. This is due to reduction of absolute aerobic power and partly for an increase in body weight after 30 yrs of age.

Training can improve VO2 max from 0-44%. Effect of training can improve VO2 max from 0-44%. Effect of training on VO2 max depends on (a) Initial level of fitness (b) Type of training (duration, intensity and volume) (c) Physical characteristics of the person. Environmental factors viz. altitude, hot, cold, pollution etc. affect VO2 max.

about 70% of VO2 max is determined by the genetic endowment of the individual. Dietary manipulation/ supplementation affect VO2 max. lack of optimal diet reduces max O2 uptake by affecting the growth of the individual. No change or slight decrease in oxygen consumption at sub-maximal exercise. The decrease is due to an increase in mechanical efficiency. A decrease in O2 consumption is most pronounced in comparisons of highly trained athletes and untrained individuals. The difference is also evident between good and average runners. At maximal effort, VO2 max is increased. The
increment is due to an increased oxygen delivery to the working muscles through an increased cardiac output and by an increased oxygen extraction from the blood by the skeletal muscles. The average improvement of 5-20% can be anticipated for college male and female student following 8-12 weeks of methodical training.

Several studies have shown that even when the VO2 max is not much increased significant improvement in anaerobic threshold level is possible, provided the training schedule is administered at anaerobic threshold. Significant improvement in VO2 max may not be possible when the runner reaches a plateau. It is, therefore, suggested that more emphasis should be given to improve the anaerobic threshold level of athletes (Pralay Majumdar, 2005).

Composition of athlete’s body is almost important factor in the success of a team in all athletic endeavors (Wilmore, 1982). Body composition plays an important role in achieving excellence in sports performance (Mathur and Salokun, 1985). The body is composed of water, protein, minerals, and fat. A two component model of body composition divides the body into a fat component and fat-free component. Body fat is the most variable constituent of the body. The total amount of body fat consists of essential fat and storage fat. Fat is in the marrow of bones, in the heart, lungs, liver, spleen, kidneys, intestines, muscles and lipid-rich tissues throughout the central nervous system is called essential fat, whereas fat that accumulates in adipose tissue is called storage fat. Essential fat is necessary for normal bodily functioning. The essential fat of women is higher than that of men because it includes sex-characteristic fat related to childbearing. Storage fat is located around internal organs (internal storage fat) and directly beneath the skin (subcutaneous storage fat). It provides bodily protection and serves as an insulator to conserve body heat.

The relationship between subcutaneous fat and internal fat may not be the same for all individuals and may fluctuate during the life cycle. Body Composition is the technical term used to describe the different components that, when taken together, make up a person's body weight. Now must keep in mind that body composition and body weight
are two entirely different concepts and they are not interchangeable. Evaluation of body composition is a common and important component of overall physical fitness assessment. It is well established that excess body fat is harmful to health but many misconceptions exist regarding the assessment and interpretation of such data. Studies on body composition in certain sports indicated that the athletes who were very lean but heavy because of a well-developed musculature were superior in performance in certain competitive sports activities, such as football, weight lifting and the shot put (Bullen, 1971). On the other hand, athletes who have substantial amount of adipose tissue have increased energy demands owing to the inert weight of fat, thus rendering the work more difficult to perform in endurance activities where the body has to move longer with greater weight (Buskirk and Taylor, 1957). It may be for the reasons that the long distance runner are found to be less endomorphic than other runners and their counterparts at a lower level of competition. Lean body mass differs from fat-free mass. Lean body mass represents the weight of muscles, bones, ligaments, tendons and internal organs. Since there is some essential fat in the marrow of bones and internal organs, the lean body mass includes a small percentage of essential fat. However, with the two-component model of body composition, these sources of essential fat are estimated and subtracted from total body weight to obtain the fat-free mass. Practical methods of assessing body composition such as skinfolds, bioelectrical impedance analysis (BIA), and hydrostatic weighing are based on the two-component (fat and fat-free mass) model of body composition.

The field of body composition assessment is developing rapidly on several fronts. Some of the major areas are the estimation of fat and fat free body composition of the body and sources of variation in that composition associated with growth and senescence, physical activity and specific exercise training programs along with ethnic and gender patterns of fat distribution and differential development of musculoskeletal system. Health practitioners universally agree that too much body fat is a serious health risk. Problems such as hypertension, elevated blood lipids (fats and cholesterol), diabetes mellitus, cardiovascular disease, respiratory dysfunction, gall bladder disease and some joint diseases are all related to obesity. Also, some research suggests that excessive
accumulation of fat at specific body sites may be an important health risk factor. For instance, it appears that extra fat around the abdomen and waist is associated with higher risk of diabetes, heart disease and hyperlipidemia. Individuals who accumulate a lot of fat around the waist (apple-shaped) are worse off than those who tend to accumulate fat in the thighs and buttocks (pear-shaped).

The apple-shaped pattern of fat deposition is more commonly seen in men; whereas women tend to be pear-shaped. The accurate appearance of body composition is an important component in a comprehensive program of total physical fitness. The evaluation of body composition permits quantification of the major structural components of the body - muscle, bone and fat. With respect to health fitness, it refers to the percentage of body weight that is composed of fat as compared of fat as compared with fat-free or lean tissue. Having a high percentage of body fat is a serious detriment to fitness and health. Height and weight tables have been used traditionally used to determine desirable body weight. Individuals whose body weight exceeds set standards for their sex, age, and physical stature by 10% to 20% are considered overweight, persons over weight by 20% of their optimum weight are obese, and those who are overweight by more than 50% of their optimum weight are considered morbidly obese or super obese.

It should be noted that being overweight can be attributed to having an excess of either fatty tissue or lean tissue. For example, certain athletes such as football players could be classified as overweight however, when their body composition is examined, the excess weight is attributable to muscular development and their overall percentage of body fat is quite low (e.g., a professional football player can weight 250 pounds or more, yet have only 12 percent body fat or less). The important consideration with respect to health fitness is not the weight of the individual but how much fat the individual has (Malina, 2007).

It is highly important that professional and the public realize that a certain amount of adipose tissue or fat is essential for the body to function. Body fat also serves to protect internal organs. The goal of fitness programs is not the elimination of body fat but
helping individuals attain desirable levels of body fat. The average percentage of body fat is 18% for men and 23% for women. With respect to health fitness, the desirable level of the body fat for men is 12% or less and for women 18% or less. The percentage of body fat should not be less than 3% in men and 12% in women (the height percentage for women is necessary for the protection of the reproductive organs) extremely low percentages of body fat are hazardous to one’s health. A high percentage of body fat is associated with numerous health problems. Obesity contributes to an increased with other cardiovascular risk factors including hypertension. An increase incidence of diabetes, elevated serum blood cholesterol levels, respiratory problems, low back pain, and certain psychological problems are found among individuals with a high percentage of body fat. Mortality is higher at younger age, and life expectancy is decreased for chronically obese individuals. The problem of obesity is widespread.

It is estimated that more than 50% of the adult population and about 40% of the school-age population in the United States is overweight. Moreover, overweight children typically grow up to be overweight adult. Determination of the cause of obesity is important. In most cases obese can be attributed to overeating and a lack of physical activity. In a few cases however obesity can be the result of disease. When dealing with obesity particularly individuals who are super obese it is important that a physician be consulted A physical examination and careful monitoring of eating and exercise habit are helpful in determining the cause of the problem. A qualified physician can offer guidance in designing and implementing a sound fitness program of obesity. (Thygerson and Thygerson, 2009)

Body composition is primarily influenced by nutrition and physical activity. Although body composition is genetically related to body type the nature and amount of food consumed and the extent of participation in physical activity exert a profound influence on body composition Overeating and low levels of physical contribute of poor body composition Individuals who are fat tend to eat more and are more sedentary.

Body fat exists in two storage sites, or depots. The first depot, termed essential fat, is
the fat stored in the marrow of bones and in heart, lungs, liver, spleen, kidneys, intestines, muscles, and lipid-rich tissues of the nervous system. This fat is required for normal physiological functioning. In the heart, for example, the quantity of dissectible fat determined from cadaver studies represents about 18.4g, or 5.3%, for an average heart weight of 349g in males, and 22.7g, or 8.6%, for an average heart weight of 256g in females (Womack, H.C, 1983). Standard body weight scales provide a measure of total weight, but don't determine the lean-to-fat ratio of that weight. Standing on most scales can tell you only if you weigh more than the average person, but not if that weight is fat or muscle. Based only on scale weight, a 250-pound athlete with 8% body fat may be considered "overweight" by a typical weight chart. Such charts are not a good indication of ideal body weight for general health or for athletic performance. The ideal weight and fat-lean ratio varies considerably for men and women and by age, but the minimum percent of body fat considered safe for good health is 5 percent for males and 12% for females. The average adult body fat is closer to 15 to 18% for men and 22 to 25% for women. Athletes tend to be at low end of this scale due to their increased lean weight (muscle mass).

While low levels of body fat seem to be related to improved performance, body composition alone is not a great predictor of sports success. A linebacker needs to have enough body mass (lean and fat weight) to generate high forces and avoid injury. Body fat among elite athletes varies largely by sport. There is little evidence of any benefit when men drop under 8% and women drop under 14 percent body fat. Body composition, specifically body fat% is of great interest to athletes and is often negatively associated with athletic performance (Gomez, 2004; Malina, 2007; Sigurbjorn, Evans, Saunders, Obgurn, Lewis and Cureton 2000). The appraisal of body composition can provide valuable information for both the athlete and coach in monitoring sequentially the influences of training and nutrition. Therefore, the determination of body composition is important in terms of a training plan as well as success in the game (Kurt et.al., 2010).

Different types of physique have specific advantages in specific sports. For instance, throwers at different levels of competitions are heavier and taller with long muscular arm
and wider shoulders. In shot-put, discus and hammer throwing, greater body weight is beneficial because during throwing the object forward and upward, an equal and opposite reactive force is exerted on the throws, pushing him/her backward and downward. In different events of athletics and different games, specific physique is determined, for eg. In basketball and volleyball the average height of players are more as compared to hockey and soccer players.

Interest in body composition has developed in players with the increased application in parallel with the increased application of scientific methods and in sports medicine and exercise studies. The relationship between work capacity and body fat is of most concern to those involved in sports and physical education. Body composition helps to determine the biological age of the athletes, predicting the possibility of the success of them in specific sports. The evaluation of body composition permits quantification of the major structural components of the body-muscle, bone and fat. To study this section hydrometry, densitometry, somatometry or anthropometry is the main methods. Bale (1991) studies the anthropometric measurements and performance of 18 junior female national basketball players of England. They were studies according to their playing positions and found that the central position players had taller physique and body compositions, followed by the forwards and guards. It was concluded that the central positioned players were taller, had longer limbs, wider hips and had more lean body mass.

The Olympic basketball players are the tallest followed by the national team, the state level and district level players (Sodhi and Sidhu 1984). In general, there was a gradient of decreasing body size from the national team players to state level players through the district level players and the controls. The first mentioned were found to have proportionality longer upper and lower extremities, shorter trunk, broader hips and more slender chest. The somatotype indicated that the rating of ectomorphic components was greater in the case of the state level players than in the case of the other groups. However, it is interesting to note that the rating of mesomorphic component was not greater in these players. The Indian basketballers were, therefore, less muscular than their Olympic
competitors. The lack of ectomesomorphic physique among Indians may be a limiting factor for their better performance in the International competitions. In body composition, the basketballers had less of body fat than the controls.

The state level players seemed to have less fat, with more strongly developed knees and a better developed musculature in the limbs. The basketballers are tall with longer upper and lower extremities which make them suitable to catch the ball with jumps, provide them with a wider reach during the passes and make it easier for them while throwing the ball into the basket. This also helps them to rebound and also to guard the ball to impede the action of an opponent.

There are many meanings of the term ‘Vyayam’. It contains two words. v + aayaam = vyaaayam is a prefix, meaning ‘more’ means ‘regulation’. The meaning of the term is ‘more regulation’ Human body is controlled by mind. Vyayam means natural regulation of body performed through mind. Vyayam offers ideal body to ideal person.  

(Bhaskar A Shukla – 1997)

Physical Education activities enjoy the largest measure of popularity in the whole range of extra curricular activities. This is mainly due to the fact that they make a strong appeal to the instinctive nature of boys as well as of adults.

Carlyle says, "We manufacture clever devils by the thousands because health is not the object of politics".

Swami Vivekananda has also stressed the importance of well-built bodies when he remarks. "What India needs today is not Bhagwad Gita but the football field".

W.T. Ryburn remarks, "We need in Indian Education a general philosophy of physical education. We need a concept of education in which physical education takes its rightful place and in which its vital importance is recognised".
Froebel says, "If we wish to develop the whole humanbeing. We must exercise the whole humanbeing."

Rousseau also says, "It is the sound constitution of the body that makes the operation of mind easy and certain".

The playground is said to be the cradle of democracy. In fact, it has been observed that, "the Battle of Waterloo was won on the playground on Eton". It is only on the playground that one learns to respect the rights of others and to obey the will of majority. The individual identifies himself completely. He wants to seek victory for self-sacrifice and devotion to the interest of the group. "As he puts on his uniform he strips off his isolated personality and stands forth as the trusted champion of an institution". His team and not for himself. He merges himself with the group, he learns the spirit of

In the words of H.C. Buck "A properly directed physical education programme should result in health, happiness, efficiency and character".

Physical education should include developmental exercises, rhythmic activities, sports and games, outing activities and group handling activities. All these have simple and advanced forms.

The simpler activities should be introduced in the early classes, the more advanced ones should be gradually provided as boys and girls become more and more mature.

The chief aim of athletics is recreation gymnastics on the other hand stimulate normal physical development, promote carriage and secure general efficiency in the individual. The effect of gymnastic exercises is internal and primary. They are based on sound principles. Each exercise has its own value for a specific purpose. Gymnastic exercises are very helpful in teaching correct postures. Gymnastic exercises with apparatus are greatly liked by the boys as these involve a great degree of skill and difficulties. If gymnastic exercises like marching, easy exercises in jumping and skipping,
aesthetics dancing and folk dancing appeal to the girls.

Various curricular activities and especially the games and sports contribute a lot for the development of all the major qualities needed to be an ideal citizen.

Team work is the pivot round on which the wheel of games revolves. If the members of the team do not work for the team but for their individual distinctions, the team is sure to go to the walls. Games and sports bring home this fact to the students that loyalty and co-operation are important contributory factors for the honour of the team. These serve to eliminate selfishness and teach the students to subordinate their own interests for the sake of a broader aim of winning the game.

The players have to play sometimes against heavy odds. Courage, patience and steadfastness and perseverance are needed to play well and effectively. The players get accustomed to face very critical situations and this stands them in good stead when they enter life. We cannot think of an ideal citizen without possessing these qualities.

Sports are now an integral part of culture all over the World and superiority in the international sports competitions is linked to the national honour. Every country is vying to have modem sports infrastructure, best equipment and latest technical know-how. Knowledgeable Coaches and Sports Scientists from the advanced countries are imported by the developing countries with the sole aim of excelling in the international competitions. Countries like Cuba, Kenya, Crotia, Ethiopia, which are not economically very sound, have also put their meagre resources at the disposal of their sportsmen, who in turn have put their countries on the World Map and got international applause.

Man is striving for perfection in every sphere of knowledge. The achievements in human skills are appreciated and valued in every society. Sports skills have now acquired an important place in the culture of society and this culture is valued through achievements in sports.

Excellence in Sports at International level enhances the prestige of a nation. Victory
in International sports competition is celebrated throughout the country and the winners are honored by the people as well as by the Government. Lots of incentives are provided to the sport persons who attain higher international standards. Those who succeed become national heroes. Youngsters are motivated to take sports more seriously and dedicatedly. India is no exception to this international phenomenon. The Government of India has created separate Department of Sports and Youth Affairs in the Ministry of Human Resource Development and a Minister of State has been appointed to look after the promotion of sports. Sports Authority of India under the Chairmanship of Prime Minister has also floated a number of schemes for the promotion of sports in India. Today’s world belongs to the best and the fittest. The weak ones have no place. Today people are ambitious with an urge to get the better of the others, to steal a march over others and to obtain supremacy in all walks of life.

What is true of a man is also true of a nation. Every nation wants to exhibit its supremacy. This challenge stimulates and inspires men and women, young and old to sweat and strive, to run faster, to jump higher and to throw farther than others. This excellence and success can be achieved only through a well-planned systematic and scientific sports training. Technology has covered every aspect of human life including sports. Modern sports have become highly scientific. Consequently, new records are being created and improvement in performance is much faster.

After 1982 Asian Games, Budget for Sports was enhanced more than twenty times. Thousands of crores were dumped in the Sports Authority of India schemes, large number of coaches are employed by the Centre Govt, as well as the State Govts. Lots of incentives were provided to the sportspersons in the form of scholarships, special quota for admission in various Educational Institutions, special reservation quota in employment etc. Coaching camps of two to three years' duration are conducted for the selected sportspersons before International Competitions. All these facilities and incentives failed to give the desired results. Performances of our teams went from bad to worst in the last three Asian Games. Large contingents of India come back without a
single gold medal, except in Kabaddi, which unfortunately is not a very popular game in other countries like China, Japan, Korea. One gold medal in Asian Games for the population of 950 million people is a National shame.

Every time our teams return almost empty handed from International Competitions like Olympic Games, Asian Games, World Championship etc., there is a lot of hue and cry all over the country. Even our Parliament Sessions are rocked with very emotional speeches by the Hon’ble members of Parliament, expressing their views about disgraceful performances. All concerned for the promotion of sports feel happy, imagining that many heads will roll, incompetent and corrupt officials will be thrown out, competent and dedicated professionals will be given the responsibility to look after sports. But this tamasha is over very soon. Same set of unqualified and incompetent people continue and the civious circle is repeated. Though there are innumerable reasons for this disastrous situation, but the scholar thinks the following are the main reasons for our poor performance:-

1. Lack of knowledgeable, dedicated and professionally committed coaches and Physical Education teachers. There is a dearth of coaches and teachers who can motivate sportsmen and bring out the best from them. If one Professor Karan Singh could produce more than dozen International athletes and more than 100 Inter-University Champions from limited number of students in Gwalior and Banaras, there is no reason that thousands of coaches and teachers all over the country should not produce thousands of International standard sportsmen and women.

2. Lack of discipline among the sportspersons. It has been observed that present day's sportsman lacks not only dedication but discipline also. Large number of young athletes who had potentiality of reaching International standards did not go beyond Inter-University levels just because of lack of self-discipline. Same is the case with International athletes.
3. Since there is lack of professionally competent coaches and teachers, sportspersons in India do not aspire higher than a limited standard. After achieving particular standard their desire to excel diminishes, as a result of which sportspersons stop working hard. They get satisfied when they achieve their self-perceived motive like getting admission in an Institution or getting a job under sports quota or, representing the country in the International Competition. When this feeling occupies the mind of the sportspersons, the body refuses to put in hard work to achieve higher levels of performances.

4. The National Sports Federations are another cause of our poor performances in the International Competitions. Majority of the people holding high posts in the National Sports Federations are there because of their vested interests or due to their social and political status. The promotion of sports is not on their agenda. They are in Federations because it keeps them in limelight. Majority of them neither has professional competence nor any commitment for the uplift of sports. Due to their vested interest, the organisational aspect of these federations is deplorable. High-ranking politicians or bureaucrats who don't have any sports background head more than 50% of the National Sports Federations. When there is neither professional competence nor any zeal to improve upon, the results cannot be encouraging. This is obvious from the present scenario.

5. Sports have not been given due recognition in the education institutions as well as in the society. On the whole sportspersons does not enjoy that social status which is given in other developed countries. Every parent is desirous of making his ward an engineer or a doctor. There are hardly few homes where child is encouraged to participate in games and sports. Even the talented boys and girls who are capable of reaching International standards are discouraged by the parents, teachers and the peer groups from participation in sports. Large number of parents and teachers even today consider sports participation as wastage of time. Till this misconception is removed, the future of sports will remain bleak.
6. Institutions training Physical Educational professionals have also contributed a lot for the damage to physical education and sports. More than 90% of the professional institutions in the country are producing half-baked teachers of physical education. These Institutions have neither the infrastructure nor the staff for effective training. Students pay capitation fees for admission, get degrees with high scores and ruin the profession. When these ill-trained teachers go to schools and colleges, instead of promoting physical education and sports, they tarnish its image and get a bad name for the profession.

The constitution or physique is almost completely genetically determined and hence cannot be improved by training.

Fitness may be defined as a successful adaptation to the stressors of one’s lifestyle. Physical fitness is the sum of fine motor abilities namely strength, speed, endurance, flexibility (Mobility) and coordinative abilities. These five motor abilities and their complex forms like strength endurance, explosive strength, speed, endurance etc., are the basic prerequisites for human motor actions. The most important aims of sports training are to improve and maintain the physical fitness or condition. Each sport requires different type and level of physical condition and hence different type of fitness training or conditioning is required.

The important aim of sport’s training is to improve the performance of the sports person by acquisition of sports technical skill. The role of technical skills in different sports is different. Further, the technical skills are important for economy and efficiency of simple movements like running, swimming, jumping, lifting and throwing.

Sports performance is the product of total personality of the sports person. The sports person depends heavily on his qualities of head and heart. These qualities or abilities are classified into five groups as given below.
i) Beliefs, values, motives, interests, attitudes etc.
ii) Cognitive abilities e.g., perception, thinking memory etc.
iii) Emotional abilities e.g., regularity, sincerity, hard work.
iv) Habits ex., habits of eating, sleeping, hygiene, spending of leisure time etc.

The above five qualities and abilities enable the sportsperson to compete successfully in a competition. The sports training aims at improving these qualities through proper selection and implementation of various means and methods of training.

Training is a complex behavior, mainly because it is performed in a time frame that ranges from seconds to years. Sports specialists use numerous terms to describe the characteristics of this temporal dimension of training. Single human movements, which occur in a second or two, are combined and repeated to make a training bout or workout, a period of more-or-less uninterrupted physical activity. Workouts may occupy a few minutes or hours, and may be continuous exercise, a set of reps or repeated movements, or a set of sets. A complete training session usually lasts an hour or two and consists of one or more workouts. The nature of each session may vary, but after a week or so a repeated pattern of sessions known as a microcycle usually emerges. A series of microcycles may constitute a phase of training, for example a build-up or specialty phase. A repeated pattern of phases or microcycles makes up a microcycle, and a season or microcycle of training may consist of a repeated set of microcycles. Finally, over a period of years a training history develops. Whatever be the aim, mode or duration, all training programs must be designed keeping in mind.

Training load is the principle stimulus for starting the psycho-physiological process of adaptation which in turn lead to increase in performance capacity. If the Same load is repeated again and again then it gradually loses its value as a stimulus for adaptation. Higher performance will be achieved when the organism adapts to higher level of functioning. This is possible only by increasing the load.

Sports training should be a mixture of general and specific means and methods of
training. To start with the training should be highly general development oriented but with the passage of time it should give way to gradual increasing specialization. The general preparation in the initial years of training causes all-round development which is the base for future performance. It also helps to ‘transfer of training’ effect. This general means of training in childhood also important for developing the various components of sports talent. Specific means and methods lead to faster improvement in sports performance. The total volume of general, as well as of special preparation increase with the improvement in sports performance but their proportion to one another changes in favor of special preparation.

The process of sports training is formulated in shorter and longer cycles and these cycles basically consists of a load phase and recovery phase. But the principle of cyclicity goes beyond the cycle nature of load dynamics. In short sports training consists of three types of training cycles namely Macro cycle, Me so cycle, Micro.

This is the basis of Hans Selye’s “General Adaptation Syndrome” that he developed in the late 1940’s. This principle means that stressing the body to a tolerable limit causes adaptation and improved function. The stressor in this case is best defined as the load, repetitions, and frequency of the training bout. Years of experience and careful evaluation are helpful in planning optimal stress levels for each athlete. Loads should be used cautiously in the beginning, and slowly progressed as the athlete progresses. It is necessary to provide progressive heightening of the stressor to oblige the body to seek a higher status of adaptation. Any improvement in fitness performance requires an increased training load. Training is a cyclical process of tearing down and building up. Even as you sit reading, your body is constantly in a state of deterioration and repair.

Some cells, like red blood cells are dying out completely at the rate of 2-3 million every second, and being replaced just as fast. Maintaining homeostasis in the face of chronic stress means increasing the synthesis of specific proteins (mitochondrial enzymes for example) that eriable the cell to respond to future demands with less disruption. The optimal training program would be one that maximally stimulates these
positive adaptations, while minimizing the cellular and systemic stress thrown at the body in order to trigger the changes. Very hard training does damage and sometimes threatens our health by transiently lowering our resistance to infection. Not to mention the fact that it can stress our time schedules and relationships. Even the most untrained body has a built reserve capacity to handle a substantial degree of stress, there is a minimum threshold for intensity and duration of stress that must be exceeded before additional adaptations are triggered. This is the minimum training threshold. Exercise at below the higher training threshold can be important for maintaining existing adaptations while allowing growth processes to occur.

The physical work done by an individual depends upon the duration, nature, and purpose of the activity. The physiological system switch over from one energy source to another as the activity changes. If the activity is highly intensive and performed under anaerobic condition (in the absence of oxygen), glucose is the main source of energy. But this fail to continually supply energy over a prolonged period of time due to the accumulation of lactic acid which could not be removed from the muscle due to lack of adequate oxygen. Accumulation of lactic acid causes feeling of uneasiness and fatigue in the muscle. If the activity is aerobic, there will be constant supply of oxygen and the energy for working muscle will be supplied by the lactic acid system, the kerb’s cycle and ultimately fat will also be used as energy.

Physical fitness is not only one of the most important keys to a healthy body, but also the basis of dynamic and creative activity. Fitness is active not passive, because from birth to death individual is an active organism. One point of consensus is that physical fitness is a desirable quality which cannot afford to be neglected. Physical fitness is the ability to carry out daily tasks with vigor and alertness. without undue fatigue and with ample energy to enjoy leisure time, pursuit and to meet unusual situation and unforeseen emergencies. In the context of physical fitness, exercise refers to any activity involving a fairly high degree of physical movements that makes one breathless and sweaty if it is done vigorously; During physical exercise one has to breathe more deeply to get more oxygen into the lungs and the heart must beat harder and faster to
pump blood to the muscles. The physical benefits of exercise are unarguable but there are physiological benefits also. Many people have sound sleep after exercise, wake up more refreshed and are more alert and better able to concentrate than when they are unfit. Exercise of the right sort should make one feel better, live longer.

Physical fitness comprises of several components and muscular strength and endurance, resistance to disease, cardio-vascular and respiratory endurance, muscular power, flexibility, speed, agility, co-ordination, balance and accuracy.

Training plan is a systematically thought out, future line of action, for a definite time period in which all the important factors for achieving the planned goal have been laid down in a definite sequence. The detailed planning of an athlete’s training program is essential if both short and long term objectives are to be achieved at the right time in the season. The purpose of a training plan is to identify the work to be carried out to achieve agreed objectives. Training plans should be drawn up to identify long term objectives as well as short term plans for the forthcoming season. In its simplest form the plan could comprise of a single sheet identifying the overall plan for the year, and more detailed weekly plans identifying the specific activities the athlete is to carry out. The first stage of preparing a training plan is to think about the background information and the objectives for the forthcoming season. After that, one needs to think about periodisation, the phases of a training year and the objectives of each phase.

Strength training is exercise that uses weights to condition the muscles by improving muscle tone, strength and endurance. Weight training is the most widely used and popular method of increasing strength. Strength training not only tones muscles, it reduces fat, speeds metabolism, increases endurance, improves posture, strengthens bones, and cuts the risk of injury and fights the signs of aging, and lost muscle due to aging can be replaced by strength training.

The principle behind weight training is to add resistance to the body’s natural movements so muscles get stronger. There is not a single set of strength exercises that is
best for a particular activity as every individual has unique strengths and weaknesses. For each of the weaknesses, there is a handful of strength training exercises that will make him stronger. The idea is to identify the weaknesses and strengthen them.

Structural strength of a muscle is determined by the strength and cross-sectional area of the slow-twitch muscle fibers and by the strength of the connective tissue within the muscle. Slow-twitch muscle fibers have relatively greater structural strength than fast-twitch fibers, especially the fast-twitch fibers with low oxidative capacity. This is because the slow-twitch fibers are smaller than the fast-twitch fibers and have a greater ratio of cellular scaffolding to the contractile elements.

Strength training does not require expensive equipment. It can be accomplished through weight lifting, body weight exercises or resistance exercises with exercise bands. There are variable resistance machines and free weights. Variable resistance machines are effective tools for building strength and muscle tone and are designed to work the target muscle in isolation, without the assistance of the surrounding muscles. Free weights (barbells, dumbbells and machines that provide the same equal resistance to a muscle) allow one not only to target a particular muscle group but to engage other muscles that assist in the work. Lifting free weights improves the coordination by improving the neuromuscular pathways that connect the muscles to the central nervous system. A rationally designed strength training program begins with developing the core of the body and the stabilizing muscles.

Heavy strength training is of little benefit to already strong individuals who wish to perform explosive movements. Strength training usually increases muscle mass implying that it might reduce power weight ratio. However, an increase in muscle cross-sectional area is always accompanied by an improvement in relative strength and therefore, could positively influence the power:weight ratio. Strength training cannot be justified for exclusion on the basis of increased mass. Most jumping and power activities involve a counter movement (e.g., wind-up, backswing, crouch) during which the muscles involved are first stretched rapidly and then shortened to accelerate the body or limb. This type of
muscle action is known as a “plyometric contraction.” The counter movement involves muscles acting eccentrically to slow the body/limb and initiate the reverse desirable movement.

As the muscles are activated, force is increased in the tendon-muscle complex, increasing its stiffness or resistance to stretching. The result is a storage of elastic energy in the muscles and tendons (the connective tissues) that is recovered in the subsequent desirable “release” movement. A suddenly imposed stretch also increases neural stimulation to the muscles. Actions without a sudden/ballistic preparatory movement are not as productive as those which employ it in the preparatory phase of an explosive movement. Training for explosive power must include activities which maximize the stretch-reflex phenomenon in the preparatory phase of any movement.

Power performance is affected by the interaction between agonist, antagonist, and synergistic muscles involved in joint movements. To produce a fast movement, resistance must be low. Thus, training should concentrate on relaxing antagonist muscle groups while contracting the agonist muscles. This can only be accomplished by specific-action training. In activities where a single-leg take-off (e.g., basketball, football) or single-arm throw (e.g., baseball, javelin throw) are used, training should be performed on unitary limbs. In activities where the limbs act as a pair (e.g., rowing, volleyball) training on those limbs should be in pairs. Specific skill coordination, the reduction of internal antagonist muscle forces, and the maximization of agonistic muscle contraction and speed can only be accomplished by training on the actual activity itself. To produce an overload to stimulate performance change, the maximum augmented load should be 30% of that achieved in a 1 RM. Performing activities with an added 30% has been shown to be more beneficial than traditional weight training, drop-jump training, or isometric training alone.

The research scholar is of the firm view that to achieve desired results in the field of sports, country needs competent and dedicated professional people like Professor Karan Singh. The very purpose of taking this research project is to highlight the qualities of
Professor Karan Singh, which will serve as a lighthouse to the people, connected with the promotion of physical education and sports. He is a role model whose example can inspire and motivate people to work hard.

Today almost every nation in the world attaches more importance to the development of sports in order to improve the nation’s health and for the well being of the future generations. Hence a large number of governmental and Para governmental organisations, in close collaboration with private agencies, administer and supervise the development of physical education and sports. Certain nations like Germany, Russia, USA, China and Japan even try to project the superiority of their political and social systems through achievements in the field of sports. The increased number of athletes participating in Olympic and other International events from all over the world, is also an indication of the popularity and development of sports. The acquisition of new standards may be attributed to the better understanding of human organism in relation to physical fitness.

After independence, it was generally accepted as the policy of central government that physical education and sports should be in harmony with the total educational pattern and also complimentary to the achievement of the goals of education. To give practical shape to the policy, different committees were appointed from time to time to support plans for the development of physical education and sports for the students of the country (1980). A national plan of physical education and recreation was first prepared in 1956 by the Union Ministry of Education (1956). This plan provided useful guidelines for syllabus of physical education for primary and secondary schools. On the basis of these plans, many schemes were contemplated to raise the level of fitness. An Advisory Board of Physical Education and Recreation was constituted. A national college of physical education was established at Gwalior. A national plan of physical education and recreation was finalized in 1956 which suggested norms for physical efficiency test. The first All India Seminar on Physical Education for Principals of Physical Institutes in 1959 has recommended the motor ability test as prescribed on the national plan to be conducted in various places of the country to ascertain its validity and supply proper
norms for various age groups. National Physical Efficiency Drive (1967) was launched in the 1959-60 by the Union Ministry of Education with a purpose to create consciousness and enthusiasm amongst the people of our country for physical fitness and to stimulate their interest for physical welfare which would help them to better and more healthful living. With the aim of putting the scheme on more scientific lines and sound footing it was entrusted to National College of Physical Education, Gwalior in the year 1972. This scheme was renamed as “National Physical Fitness Programme (NPFP)” to make the scheme more effective and popular in the country (1979).

The Government of India, in 1965 framed a multipurpose Programme of physical education for implementation in the secondary schools of the country (1980). After that under the educational structure of 10+2+3 pattern, as envisaged by the national policy on education and declared by the Union Government in April, 1977, Physical Education and Sports are to be an integral part of curriculum at all stages (1979).

The Government of India’s resolution on national sports policy to involve youths in physical education and sports laid in both houses of Parliament in August, 1984 had accepted in principle that it is the duty of both the centre and states to accord the importance of participation in physical education and sports activities for good health, a high degree of physical fitness, increase in individual productivity and also its value as a means of beneficial recreation, promoting social harmony and discipline is well established. The need of every citizen, irrespective of age and sex, participate in and enjoy games, sports and recreational activities is therefore, hereby recognised, and physical education and sports should be made an integral part of the curriculum as a regular subject in schools and other similar educational institutions (1985).

Therefore, in order to achieve the objective of mass participation in physical education programmes in particular and sports in general, the government of India has come out with a new education policy (1985-86) in which greater emphasis has been laid on the creation of infra-structure of sports and physical education in terms of facilities.
Stress has also been given on the improvement of teachers’ training and proliferation of literature of physical education and sports so as to educate the masses in the efficacy of being physically fit. Unfortunately, there have been certain hurdles in the achievements of those lofty objectives and ideals. For instance, education is a state subject and sports and physical education are tagged with education only. The state governments have constraints on their resources and as such, they cannot carry out the sports policies practically, except on papers. That is perhaps, the reason why physical education and sports have still not found the due place even in total educational structure in may states of the Union. Also ‘Run for Health and Sports for all” which is the national policy to develop sports and health consciousness in the common man, is yet to get real impetus in our society. We cannot know the right direction to be followed until and unless the physical educators in India precisely know the quality of the “human stuff,” they have to deal with. We are still in the dark about the physical, physiological, or psychological profile of our school going population. More specifically, the physical educators as yet have not been able to know whether the boys or girls in India are physically fit. In the absence of worthwhile survey on these problems, it would neither be possible for physical educators in India to work for the amelioration of the health and fitness standard of the people nor look for excellence in competitive sports. Planners feel that a great deal needs to be done for sports in the country, and unless we begin at the school level, build the next base at the college level and go on to the universities, the health of the youths, which constitute about 35% of the total population of the country will not improve (1988).

Sportsmen are the product of a culture promoted by a particular society in a particular era of the history. No society can produce soldiers without the impact of sports on defense culture. If Indian solders are rated as one of ‘the best, if not the best in the world, it is only because of their sportsman like dedication to the duties and sportsman like devotion to defense culture. There is a befitting quotation that “the battle of Waterloo was won in the playfields of Eton and Harrow.” It can thus be stated that sports have had tremendous impact on Indian society.
Sports programmes did not emerge automatically. They were sponsored and patronised by administrators, rulers, kings and leaders. History of many states in India reveals that institutions which promoted freedom struggle and freedom fighters are primarily responsible for influencing the society through sports programme like Vyayamshalas, Akharas, Sword fighting, Fencing etc.

Man is a social animal. A social being influences the society quite a bit if he achieves excellence in any field, say, sports. History is full of evidence how Kings, Maharajas, and Rulers patronised sports and sportsmen in order to establish high traditions of sports culture and through these achieved deep social impact.

Sportsmen are the pillars of success in a particular society, when they are recognised by the society. It is an established fact that society has influenced them in the pursuit of excellence in sports and in turn they have contributed their bit towards creating a conducive culture and atmosphere for sports promotion.

Sports are one of the consolidating factors of national integration and for developing national character, which is the most urgent need of the present day Indian society.

Social imbalances and diversities have entered in to our ways of life, and these now stand as hurdles towards the achievement of objectives. Human values are essential for the establishment of good character. Basically the concept of national integration in the present day set up relates to the principle of unity in diversity and this unity in the people of our sacred land could achieve through sports only.

Human beings learn to be social through participation in games and sports and get acquainted better with their social situations. Sports influence the behaviour of each individual and the group and thus get modified to fit in the society as a useful members.
Man has always learned to excel and to attain sublime in life. One way to excel is through sports. Thus, people have turned to sports for achievement of greatness. Apart from other benefits, sports therefore, have become an ever expanding avenue of human expression and today sports in its various forms plays a vital role in the life of mankind. A sacred Hindu text admonishes, “Play the game of life well, for life is a sport.”

Great progress has been made in the field of games and sports after the independence. Sports have grown tremendously and widely the world over and it opens the doors of inviting all people regardless of sex, race, religion, language and region. It has become a very strong social force influencing enough to concern the society in general.

For most of the people, personality is “What makes one individual different from others”. Based on the various descriptions, personality seems to refer to an “attribute that people possesses in varying amount yet personality is not something which an individual possesses in small or big amount, nor it is a concrete thing that is easily observable as white skin or a black hair. Rather, it is what one is.

“A Sum total of all his traits and attributes which go to make him a unique individual like any one else”. The notion about personality as something fixed as well as dynamic, inherited as well as acquired, concrete as well as abstract, at the same time, has always remained in the flux. For instance, at one stage, personality was conceived as “The pattern of behaviour in a certain way* at other it comprised' simply “Intelligence of mind”.

Comparisons, though a natural phenomenon is necessaiy because each individual is a unique being and a model in himself. Insisting upon three standard yardstick of evaluating human personality. Kluckholn and Murray Opine “Every man is in certain respects:

a. Like other men (Universal Norms).
b. Like some other men (Group norms).

c. Like no other men (Idio syncratic norms). In what proportion, do generally and particularly combine to create a new “Unique” individual will continue to remain a mind - boggling puzzle. In social context, to put the matter straight, an individual (personality) is a sum total of:

a. What actually he is?
b. What he considers himself to be?
c. What he is in the estimation of others?

As per the law of individual difference no two individuals are same, they differ from one another in one or the other aspect. Having so much oT variations in their personality traits they can’t opt the same profession as such whether they are in the same field. As per the classification of the personality one possesses, people are more inclined towards a specific nature of job, or it can be said that a type of specific personality they have, help them to select a specific job that obviously suits them e.g.

**a. Realistic Personality:**

These are the people who prefer to deal with things than ideas. They prefer to indulge in concrete situation than abstract one. They tend to be conventional in thought and have the qualities of persistence, maturity, stability and practicality. So they must opt or for them the potential career might be in research, athletic training, physical therapy and other technical field.

**b. Investigative Personality:**

These persons are analytical, abstract and intellectually self-confident. They have high mathematical and scientific ability but tend to shy away from inter personal relationship. For them sports medicine, researches, along with certain administrative positions are better options.
c. Artistic Personality:

This type tends to rely more on feelings and imagination. They perceive themselves as expressive, original, initiative, non-confirming, introspective, independent and artistic. They value aesthetic qualities. Obvious careers are in sport journalism, recreation and other creative fields.

It is very exceptional if we tend to find the combination of all the three equal personality in one individual. But if we find so, really it is not be less than a miracle.

Career choices are generally based on interest people’s likings and disliking. Perhaps interest is more logical of all reasons for making career decisions. A person’s interest and values when properly matched with career may be the most important factor in determining success and job satisfaction. Interest and values are among the most investigated variables in career development. Theory and research support idea that people tend to be more productive and happier if their work roles and organisational environment synchronize with their personality, interest and values.

Moreover, the person who chooses careers based on their interests and values tend to have a longer and more contended tenure in their chosen vocations and in summation interest in physical activity may be the only necessary pre-requisite for a beginning consideration of Physical Education as a career.

Physical education as a total profession can be viewed as attending to two encompassing goals, health enhancement and enjoyable leisure. In recent decades the profession has employed a scholarly approach and has accumulated a growing body of scientific information to support its goals and many dimensions of the field.

This information has taken the profession into new avenues of the health and leisure industries and into the work places of technological enterprises and medical support system. In traditional sense Physical Education may be thought of as the “Sum total of all the physical, mental, emotional and social out comes of an organised
programme that focuses a physical activity as means to the ends”.

Also, in the traditional sense, Physical Education has been considered to be primarily an enterprise for youths in school programmes. These programmes properly administered involve the conscious employment of exercise, sport, play and other organised activities to enhance the physical and mental qualities of the participants and to provide aptitude of skill that can be recreationally used for the lifetime. Human physical activity is designed to foster definite ends. Furthermore, the outcome of the movements are not limited to the physical, but have effect on the mental as well. Thus “Physical Education is a means for eliciting positive states, through movement, in both mind and body*.

It has often been assumed that there are certain personality characteristics that can incline one towards the selection of Physical Education as a career. As such a stereotype has developed that is founded in past on some early research that showed- Physical Educator to be authoritarian, socially competitive and aggressive. Follow up studies described Physical Education professionals to be enthusiastic, adventure some, self assured, self sufficient, emotionally stable, practical, extrovert, tough minded, conservative and imaginative.

Such investigation does not produce much more than descriptions of the “typical” Physical Education majors. No personality traits automatically pre-dispose or disqualify one from potential success in the profession. Accomplished coaches, for instance, tend to have similar personalities, but not all successful coaches have same traits. The ofteri given description of Physical Education is as a "people oriented profession”.

Improving performance is a natural goal of every one. Administrator, Trader, Union Leader, Industrialist, Agriculturist, Surgeon, Housewife, Teacher and even Fruit seller i.e. anyone engaged in any meaningful activity. It is more so with University administration where we find that after independence the number of Universities, Colleges, and the number of students, courses, teaching and non- teaching staff have multiplied
manifold. The structural procedure and methods of working have however, not undergone much change. It has resulted in chaotic conditions in the disposal of office work for example, the examinations are not held in time if held then result is not declared in time. Work measurement is the application of techniques designed to establish the time for a qualified worker to carry out a specific job at a defined level of performance.

"It is the problem for a man to find out what kind of work he is to do in this Universe”. An individual’s thinking is quite different from that of the other because of individual difference. It is good quality if you think first and than act. Since time immemorial men have assumed position of leadership. Man’s initial organisation against hostile group must have been the lesson of leadership. Through methods of organisation or asserting superiority through democratic or autocratic way the individual took over the role of a leader. He no doubt, possessed certain dominant characteristics, which might be there because of his size, strength and intelligence. It is all due to the combination of these, that the ideal man emerged as a leader. The nation seeks leadership constantly because it is a way to greatness. According to Mussel Montgomery “The capacity and will to rally men and women to a common purpose”, is leadership.

When one is promoting his profession he is promoting himself both directly and indirectly. Directly he is gaining stature and indirectly gains professionalism through work.

Knowledge, philosophy, attitude and skills are pre-requisite to a position of leadership in Physical Education. When these are mingled in appropriate proportion the professional growth and development are assured.

All members of the profession have a moral duty to carry out the professional ethics properly. Progress cannot be achieved only by chance but through the concentrated efforts of all concerned individuals. However, one does not become a leader by accident. The theme of leadership falls as one who has his background of experience and training
coupled with vital personal characteristics because they are all added to the professional competence of that person.

Change is perhaps the only unchanged thing in the world. Today we live in space age and technological gigantism and the impact of advanced scientific technology is seen on every set up. These prodigious social changes have a definite impact on various programmes which have opened new vistas undreamed by human beings a few years ago. Competition is natural activity which is inevitable in human life and every educational set up should permit and assist with the preparation of individual for “battle of life”. Competition provide the right opportunity and in aculeate means by which one easily demonstrate one’s worth by competing successfully.

Change and challenges are twin laws of nature as they affect every aspect of human life. Changes are taking place all around and because of these changes new challenges present themselves. Man is constantly trying to meet these challenges and excel his previous performance every time.

Sports by their very nature are enjoyable, challenging, absorbing and require a certain amount of skill and physical conditions. In the order of human values conquest in field of sports hold a unique place. It is a combination of success, victory, triumph and domination of some over other team mates and friends. The sublimity of competition lies in the loser’s acclaim for the winners, which along with the friendly and shake acknowledge both defeat and triumph.

The scientific selection of sportsmen at their young age may increase the number of participation in various sports events (Hirata 1979). Therefore, the sports scientists have been made efforts from time to time for the search of the most talented children from a large number of school boys and girls in the various sports disciplines on the basis of their anatomical structure, their capabilities, motor abilities and other parameters of fitness. The scientific methods of selection and training of sports probable’s in advanced countries not only helped to achieve their better performance at the various levels of
international competitions, but also helped their citizen to achieve their better health conditions.

The present study is also conducted on the same guidelines. It will help the physical education teachers and coaches to select the best talented children from the raw material on the basis of their anthropometric measurements and physical fitness variables. Technology covers all aspects of life and sports is no exception to it. Sports sciences has enabled modern youth to develop physical capacities beyond any time imagined. Sports have become highly competitive and records are being broken greater rapidity.

Ban Bhatt explains the physical development obtained through Yoga and Vyayam.

In the above verse the advantages of physical exercises are showed. Increase in the size of muscles is not the only and important result of the success of exercise. ‘Laghav’ means smartness, karma and ‘Samarthya’ means physical ability to perform work, good digestive power, decrease of too much of fat, and finally advantage of separate muscles lead to thirty two attributes through Vyayam.³ (EJAN)

Vyayam diagnosis and remove various problems of human behavior. It transforms them into the principles of psychology and then analyzes them to solve. It required it takes shelter of the laboratory of applied psychology. It insists on scientific method in all circumstances. He considers the ability of experience, experimental observation more authorized than self-centric opinion in the solution of any problem. He never utilizes his inner voice or wisdom of experienced and authorized people’s recommendations demonstrated in the text books. It does not follow to cope up with the situation or in solving problems.
It is used as impartial view point. It presents scientific view point. It presents scientific view point in its performance. 4 (Balmukund Sheth)

Person’s impression on others. This is the meaning framed by the psychologists. Many people come in our contact in daily life. They leave on us adjustable and rule-adjustable impression on us. If his impression on us is favorable we say his personality is good and if the impression is not favorable we say his personality is very poor. 5 (Chandrakant Prabhubhai Patel - 1991)

First and important dimension of personality is our body. Body is not complete personality of any human being, but it is necessary and essential for personality. For a good individual body should be healthy, balanced and attractive. There is no doubt that the attributes of physical personality are developed through physical education and games. Physical exercises play vital role in the balanced, well-planned and healthy development of body. Exercises with and without various instruments such as Sit-ups, Surya Namaskar, Shayanothan, running, jumping etc. Activities strengthen and activate muscles which play vital role in the formation of good personality. 6 (G.T. Saravaiya – 2000)

For most of the people one person’s personality means different identity with another person. ‘Mahatma Gandhi was a great personality”. “The personality of our history teacher is not that effective” and “Shyam has no personality at all.

Certain sentences show how we frame the definition of personality. In reality it is vague and uncertain. Yet we can say that personality is our attribute. It is vague and uncertain yet we can say that personality is our attribute. It varies from person to person. Logically it is true scientifically because personality is not certain as black or white skin or hair. It is not an object. It is visible in high or low degree in all human beings. Personality is that which a person has, means virtues and vices of a person, all his attribute and natural combination of a person’s virtues and vices. Like other person it also offers its own form, shape and existence. 7 (Madan Kamlesh – 1984)
**Problem Story**

Case study of International Referee – Safiq Shaikh

**Delimitations of the sector**

1) International referee Safiq Shaikh was selected as the subject of this research.
2) In these research only three aspects Safiq Shaikh as individual, as an organizer and as encouraging sports is studied in this research.
3) Information in this research study is collected through published literature, questionnaire and gadgets.

**Limitations**

1) The limitation of this study was the reliability of response, and researcher’s method of interview.
2) Response obtained through questionnaire was the limitation of this study.
3) Response obtained through questionnaire and interview was restricted their relation with the subject, socioeconomic condition, gender and psychological factors.

**Objectives of Research Study**

1) The objective of the research is to know Shri Safiq Shaikh as an individual, as an organizer and as an encouraging person as far as sports is concerned.

**Hypothesis**

1) As an individual his positive attitude will be experienced.
2) As an organizer his positive attitude will be felt.
3) As an encouraging person his attitude would be positive.

Definitions of certain terms covered in the study
Case Study
Experiences of the past or events, influencing individual’s personality, information about present condition of an individual is collected and after analyzing them in contexts with relations it characterizes the social status of the unit.

“Case study means the study of an individual, one institution or a group study regarding one situation or the study of all related aspects” 16 (K R Patel – 2001)

Personality
“Personality means individuals psycho-somatic constitutions, pattern of behavior, interests, attitude, potential and peculiar organization of his aptitude” 17 (Chandrakant Patel)

Player
“From sports competition with any objective of gaining anything only for love of sports to gain enjoyment only when an individual participates in competition he is called a sportsman”. 18 (Chinubhai Shah – 1981)

Organizer
“The best and the highest organizer functions only on certain specific principles such as equality. Collective responsibility, freedom, co-operation, every person’s honesty and appointment of a worthy person on every post. Following these principles he has been the best organizer” 19 (M. L. Kamlesh – 2007)

“Visit is a verbal questionnaire. In interviewee gives verbal answer instead of written answers” 20 (Ka. Ra. Patel)

Importance of study
1) Through this study Safiq Shaikh’s contribution in the field of sports will be known.
2) Through this study what should be the personality of the player will be known.
3) The obstacles in the achievement of goal will be known.
4) Through this study how amicable the sportsman is in the society will be known.
5) Through this study the contribution of Safiq Shaikh in basket ball will be known.

6) Through this study up to which level Safiq Shaikh has performed commission duty will be known.

7) This study will provide motivation, encouragement and background for research study to all connected with physical education and sports.

8) This study will provide ground to widen professional knowledge.

   Through this study one can know Safiq Shaikh as an individual, as an organizer and as an encouraging person, who has always motivated all for sports.