CHAPTER VII
MODERN APPROACHES TO YOGA

Today, yoga has relevance in a number of spheres of life in the context of its beneficial effects and the people engaged or concerned with the various fields have been found to have utilized one or a combination of selected yogic practices to serve their limited utilitarian (temporal) purpose rather than opting yoga as an integrated life style so as not only to fulfill the purpose of the present, worldly life (temporal) but also to continue their efforts for the progressive spiritual advancement and self-realization or emancipation - the distant yet ultimate and transcendental goal.

It would not be justified to scrap yoga with spiritual goal altogether from the list of modern approaches to yoga because of its limited number of followers. The main purpose of this section of the present study is to highlight also those approaches to yoga which are subservient to the restricted cause with partial emphasis on selected yogic practices only. Such approaches to yoga which have been found mostly popular are marked as following:

1. Transcendental meditation approach to Yoga
2. Yoga for present Educational set up
3. Aesthetic Yoga
4. Yoga for family welfare management
5. Yoga for health and fitness Management
6. Yoga for Physical Education and Sports
7. Adapted Yoga Education for Handicapped
8. Yoga for Astronauts and Army Personnel
9. Therapeutic Yoga
10. Yoga for executive and managerial services
11. Yoga for modern social problems.
12. Yoga as a profession

Yoga serves as a panacea for a number of purposes on the following grounds:

1. The design for living recommended by yoga philosophy has perennial value for human beings in all ages and in all spheres of life. Yoga lays stress on the perfect discipline of the human personality so that both of its innate physical and mental energies may be utilized for efficiently performing its life’s tasks. Patanjali maintained that the central modes must be regulated so that consciousness may assume its calm state (yoga sutra 1-2). In a highly civilized society the mind of an individual is in a highly excited and tense state. According to Patanjali, the mental modes are the sources of suffering. The main causes of suffering are ignorance (Avidya), feeling of individuality (Asmita), passion (Raga) disgust (Dvesa) and will to live (Abhinivesa). (Ibid., II.3). It is possible for an individual to reduce the tensions and restlessness of his mind through the practice
of yogic concentration (Ekagrata). Likewise it is possible to reduce restlessness of behaviour even through asanas.

Yogic concentration can be achieved through observance of moral principles (Yama), self purification (Niyama), easy postures (Asanas), regulated respiration (Pranayama), withdrawal of the mind from being attracted by sensory objects (Pratyahara), concentration (Dharana), yogic meditation (Dhyana) and mental absorption (Smadhi). The first three steps produce outward discipline (Bahiranga Sadhana) and the next two steps produce inner discipline (Antaranga Sadhana) and the last three steps enable a Sadhaka to transcend from the empirical plane to the trans-empirical plane so that he may establish contact with the ultimate reality.

Yoga recommends that the mind must keep the body and sense organs under its control. An individual may gain inner light through discipline of his sense organs, and he may become Raja Yogi. He may acquire this state of supremacy of the mind over the body and the senses through effort (Hatha-Yoga). Hatha yoga is an aid to Raja yoga.

2. Yoga lays stress on the conservation of physical as well as mental energy in an individual. Brahmacharya or restraint over the libidinous impulses proves to be a powerful source for enhancing one's physical and mental energy. Libidinous impulses should neither be repressed nor sublimated, but completely rooted out so that it is incapable of exerting any influence over the senses and the mind,
Patanjali's theory of complete eradication of libidinous impulses is diametrically opposed to the current trends of sexual permissiveness of modern civilization. It is through this technique, mentioned above that mankind may be saved from reverting back to the stage of a licentious society.

The conservation of the mental energy is equally important like physical energy. Serenity of the mind (Santosha) and asceticism (Tapas) to conserve mental energy. Mental energy may be conserved by silence (Kastha-Mauna) and absence of gestures (Akaramauna). Vyasa maintains that there should be absence of desire for needlessly increasing the necessities of life. In his view, this is the meaning of saucha (Purgation of mental impurities).

In brief, conservation of physical and mental energy proves to be useful for the transformation of personality and psychic ascent. Psychic transformation of human personality is particularly needed in the modern society when its moral quality has considerably deteriorated due to its value-neutral attitude toward life.

3. Yoga lays stress on reducing one's needs to the minimum possible limit and utilizing the least possible energy for the satisfaction of these needs. A person who accepts the principles of yoga for regulating his life style must have least temptation for the accumulation of material possessions. The more an individual is able to conquer his temptations, the more he acquires spiritual powers.
Modern civilization lays stress on creating new needs in human beings, and in creating conditions for the maximum possible satisfaction of those needs. Human civilization is fast heading towards its doom by limitlessly creating new human needs, and devising policies for the satisfaction of those needs. The economic principles of yoga lays stress on minimising human needs, and thereby creating conditions for conserving the resources of the globe and preserving harmony in the society. Drastic reduction of human needs seems to be the only alternative for preserving harmony in the world keeping in view the rapidly growing human population in the world.

Modern Approaches and Basic Concepts of Classical Approaches to Yoga:

The basic concepts of classical approaches to yoga are as under which each of the modern approaches must bear constantly in mind:-

1. The universe is not exclusively material in its nature, but it has a psychic, teleological and valuational core.

2. The human personality is not exclusively bio-physical in its nature, but it has a psychic, teleological and valuational core.

3. The universe and human personality are not two mutually exclusive and diametrically opposed categories of existence but there is close relationship between them. The close relationship between human personality and the world may be explained from the standpoint of the concept of ‘Sachidananda’ from which the world and
human self have emerged and which make the existence of both meaningful.

These basic concepts of classical approaches of yoga may prove to be of utmost importance to the civilized persons to give him insight into the meaning and purpose of human existence in the midst of the onrushing technological progress. Civilized persons may realize through their understanding the basic concepts of classical approaches to yoga that satisfaction of biological and psychological needs is not the sole purpose of their existence. The bio-social needs of human personality have to be satisfied only to such an extent that they lead to the discovery of the real self. This yogic insight may enable civilized human beings to get rid of their frustrations, tensions, anxieties, conflicts and so on.

To sum up, the philosophical implications of yoga are too subtle to be grasped, and the yoga techniques are too difficult to be practised by an ordinary person. An individual must be subjectively prepared to undergo inner-transformation in order to be initiated into the basic principles of yoga. Even when he is subjectively prepared to undergo transformation there may be innumerable obstacles on his way to practice yoga. The greatest obstacles which may be found is observing the principles which are created by the yoga may come from the current cultural conflict value-neutral technological civilization. The modern technological civilization attaches maximum possible importance to pragmatic, utilitarian, relative and superficial
values. Classical yoga, on the other hand attaches importance to eternal, trans-empirical absolute and deeper values, yoga demands shift of attention in individuals from the external and objective world to the inner and the subjective world of the human personality. Yoga raises an individual from the ordinary plane to the extra-ordinary plane of existence. The main conflict for the modern civilized person would be whether to devote greater attention to the external world and devote himself to search for making it absolutely new and artificial, or to devote his attention mainly for his self-discovery.

Transcendental Meditation Approach to Yoga:

One of the most widespread movements, popularly known as TM (Abbreviation for Transcendental Meditation), has its thousands of followers throughout the world. Maharshi Mahesh Yogi, the founder of T.M. movement, also propounded the science of creative intelligence as the basis for TM. The penultimate step Dhyana of the Ashtanga Yoga of Patanjali forms the basis for the systematic development of TM technique, featured by effortlessness, awareness, stilling of mind and slowing of breath. The science of creative intelligence is culled out from the Vedas and postulates that all creativity emerges from that dynamic transcendental state, reached by stilling the mind through TM.

The special approach which made TM acceptable in modern era is its scientific basis. Systematic scientific research by leading scientists like Dr. Benson, Dr. R.K. Wallace etc. established the
usefulness of TM in improving the quality of life. These results got the sanction from the best of the international journals like the Lancet, Journal of Physiology, Electro-encephalography and clinical neurophysiology, psychosomatic medicine etc.

Maharishi’s unified field based integrated system of education directly develops the knowner and the process of knowing in both student and teacher. It gives students a practical method to develop their own creative potential from within themselves, by themselves. It enables them to improve those characteristics that are essential for success in education and in life, yet are beyond the ability of teachers to influence permanently: intelligence, coherent thinking, motivation, self-confidence, focusing attention, self-discipline, creativity and happiness.

With the development of these qualities, students make best use of their knowledge. They grow in organizing power. They more fully appreciate their teachers, their institutions and the opportunities in their environment. They are able to integrate their experiences inside and outside of class into a meaningful whole on the ground of their own comprehensive awareness. With such students any school or university can become a vital centre for intellectual, emotional, artistic and spiritual growth.

Transcendental meditation is crusade against suffering. Life is bliss and man is not born to suffer; he is born of bliss itself. Life has two aspects—inner and outer. The outer is the temporary ever-
changing aspect, the inner is the eternal, never changing essence. That the inner, never changing essence is blissful is a fact that can be experienced by anyone under the necessary conditions. Unlike the lower strata of creation, man has a nervous system where it is within his ability to experience the state of absolute Bliss consciousness.

Yoga is not just physical culture; it is an integrated way of life in all its aspects i.e., physical, mental and spiritual; and so meditation must necessarily be accorded its due place in the scheme of yoga. Without meditation, yoga is nothing, though when people talk of yoga now a days it is considered to be system of physical culture only.

Yoga for Present Educational Set Up:

"Yoga", as Swami Vivekananda has said, "May be regarded as a means of compressing one's evolution into a single life or a few months or even a few hours of bodily existence". And, Education too, when rightly understood, would mean a rapid psychological process towards perfection". Education is a search for knowledge, and it is a search for values. It is also an uncovering of the layers of faculties, cultivation of them and perfection of them. It is a process of the discovery of the self and it aims at a true self knowledge, which gives liberation from ego and imperfections. "Sa Vidya Ya Vimuktaye". Education is a search for that knowledge which would fulfill oneself individually and make him as a harmonious member of the universe. But, is this all, the meaning of yoga. By yoga, says Sri
Aruobindo. "we mean......a methodised effort towards self-
perfection by the expression of the potentialities latent in the being
and a union of the human individual with the universal and
transcendent existence, we see partially expressed in man and in the
cosmos".

Yogic research affirms that there are principles and means by
which can be achieved a greater perfection of the body, life and
mind than can ordinarily be conceived or imagined. It is also affirmed
that these are great hidden faculties and powers which can be
awakened by a methodised effort. Finally, there is a supreme
affirmation that there are great psychological superconscious states
and powers which are central to the creative and integral perfection
of personality. Yoga is essentially a creative process of the flowering
of personality, and yogic research gives us the secret of the perfection
and integration of personality. In recent times, stress is being laid on
education for an alround personality.

As mentioned above, yoga is itself in a process of self-
education which helps in the evolution of an individual's consciousness
and proper spiritual growth. However, it can be of enormous help in
the present set up of education for its utilitarian nature. Today, a
child needs a good memory, quick recollection, sharp intellect, quick
decision, a clear perception, keen observation, and high capacity to
absorb and assimilate the heavy package of information and
knowledge under the pressure and stress all round. A graded set of
yogic practices can be of immense help if undertaken as a daily routine along with adoption of yogic pattern of behavior with due emphasis on moral values and outlook towards all living beings. Faith in the Almighty, reciting universal prayers, attending devotional meetings will provide an additional dose of peace to the mind.

It would be worthwhile to mention a few scientific studies which have shown favourable results in alleviating anxiety, hostility, neuroticism, (Pratap 1968; Kocher-1972,76; Wallace 1970; Green and Green 1971,1973) and in improving the emotional stability, steadiness, immediate memory and recovery from fatigue (Mall et al, 1977 ; Kocher, 1972, Kocher and Pratap 1968, 72 ). Relaxation through Yogic practices have been found to be facilitating in learning of the skills in painting, music,dance , writing, swimming etc. (Coville, 1979).

There has come about a recognition that there are in us various personalities, conflicting personalities and thus conflicting potentialities of our profession. It has been pointed out that this entire domain of the secrets of the growth of personality has remained ignored and the consequences are that most of us possess smothered personalities, and most often we are engaged in the work that has no correspondence with our real genius, with our inner delight of existence. Most of us live in deep suffering, alienated from ourselves. It is the inner suffering that causes ageing, and even in our youth we
feel so often worn out. These are indeed excellent ideas and they will have a valuable place in the New Education.

**Aesthetic (Feeling of beauty in objects, science of taste)**

Yoga:

Artists, musicians, doctors, lawyers, businessmen, economists etc. have their own fields of specialty. In a factory, the specialization is still actuate; a worker of a factory may just turn out screws after screws of the same size and shape for days, months and years of his life. Each specialist sharpens the specific faculty needed for the task. Creativity and voice for the musicians, the analytical power and/or experimental skill of a physicist, the skill of the hands coupled with an aesthetic sense and creativity in an artist etc. are the well-known faculties needed for success in each of the tasks.

Theory and practice go hand in hand in yoga. The first step-in yoga for specialists is to understand the details related to the faculty needed for their specialization. For example, creativity is much needed, not only for technologists, artists, musicians etc. but also for all of us. The usual definition of creativity, its distinction from analytical faculty in us, the yogic concept of creativity, the methods to sharpen our creative faculty for enhancement of creativity in the modern era (through brain storm sessions, for example) and the yoga practices used, the hurdles on the path, the symptoms of growth, the limitations of the approaches, etc. form the theoretical framework in yoga. Regular practice of these yogic techniques, is the second and the most important part of yoga. But for the practice, hurdles for growth
crop up. The training Programme, by competent, well experienced teachers, can solve these hurdles and help in quicker progress.

Because of above mentioned aesthetic peculiarities a number of professional creative fine arts have adopted its regular teaching and practice in their own area. To name a few, these are theater, film, dance and music institutes. Moreover many of the Beauty Parlors in most of the cities have started yoga as their regular activity which helps the clients to maintain the form and shape of their bodies. In addition they feel to be younger, active and mentally composed but alert and fresh throughout the day. Such courses include the practice of asanas, pranayama and meditation.

**Yoga for Family Welfare Management:**

An individual is the unit of a family. So welfare of the family is dependent on individual. Health and well being of a person is directly related to the purity and evolution of his three bodies i.e. Physical, Astral and Causal. Unless four foundations (emotions, reason, will and action) of one’s personality are not perfected and fully balanced, there is no hope for living a peaceful, harmonious and exciting family life. Material possession is not a guarantee for a happy family life.

When personality of person is evolved on basic principles of integral yoga, then sentiments of anger, hate and fear dissolve as the emotion in his personality and shines forth with divine love, understanding and true compassion. Confusions about the world and
himself fade as his reason becomes clear and sharp. His will strengthens unlocking the immense potential and powers of his mind. And his actions in daily life began to take on new meaning with a definite purpose and direction. In modern context in which term family welfare is being used, carries restricted meaning which is related to family planning, child and mother care, yoga provides a safe, secured, natural and permanent solution to these problems. Side effects and long term hazardous complications of all contraceptives is a established fact. It is important to note that even today all countries are in search of a perfect and convenient method that has not yet found.

Following the plan of integral yoga, one can perfect one's emotional aspect of personality by practising Bhakti Yoga, reason aspect by adopting the principles of jnana yoga, will aspect by following Raj Yoga and action aspect by pursuing karma yoga which include Hatha-yoga also. Welfare of a family is welfare of an individual. A person with healthy body, disciplined mind, controlled senses and highly evolved ego can be an ideal house-holder. This type of personality is not developed in one day. It requires continuous training and discipline that starts from prenatal stage. In fact a child begins to learn even before it is born. All the thoughts that enter the mind of the mother while the child is still growing within her, impinge upon the mind of the child. So Hindu scriptures have given great insight into this prenatal state of education. It has been proved by scientists too.
In addition to general family welfare message that yoga can send to the people all over the globe is that it can be of substantial use in specific areas of family planning also. It has been mentioned in Swar yoga texts that an individual can have a child of desired sex, if blowing of particular nostril can be predominantly manipulated and maintained by man and woman during coition. Not only that, birth control has been said to be possible, if the couple adheres to the principles mentioned in these books. Certain yogic practices like asanas and mudras have been claimed to facilitate the observance of celibacy. In some scientific studies it has been found that the yogic practices are helpful in regularizing menses while some have pointed out that these are also helpful in easy child-birth without much pain if selected practices are undertaken during pregnancy. It has also been claimed that yogic exercise are very useful in many of the post-partum conditions. More scientific studies need to be conducted in this area.

**Yoga for Health and Fitness Management:**

Promotive aspect deals with the maintenance or improvement of the health and fitness. The quotations like ‘Nayamatma Balahinena Labhyah’ ‘Sariramadhyam khalu dharma sadhanam’ from the classical or yogic literature indicate that health was considered as a pre-requisite for the spiritual pursuit. Yoga looks upon man as a whole consisting of body, mind and spirit. Yoga accepts body, mind-relationship. More weightage is given to the spiritual aspect. Yogic concept of health is not merely physically oriented but rather more
mentally and spiritually oriented. Arogya, a synonym for health has been defined as an absence of distractions or pulls on the mind.

Health, may be considered in its promotive aspect, curative aspect and preventive aspect. It would be interesting to note the contribution of yoga in developing these aspects of health and fitness on the basis of scientific observations. Although limited research has been done in the area of promotive aspect, the available evidence indicates promotion of factors of physical fitness and emotional stability through yoga.

Yogic practices have been found best to contribute flexibility according to de Vries (1967) Smithels and Cameron (1962), Dhanraj (1974), and Gharote (1973). Other factors of physical fitness are equally favorably influenced as seen from the studies of Gharote (1973, 1976). Minimum muscular fitness as judged by Kraus Weber tests in the school children was seen improved by yogic training according to the studies of Gharote (1976), and Moorthy (1982). Cardiovascular efficiency has been found to improve as a result of short term and long term yogic training Programme among the physically conditioned and unconditioned males (Gharote and Gauguly 1979, Gauguly and Gharote 1974). Residual and delayed effect on the improvement of physical fitness was observed by Gharote (1976). Emotional stability which governs mental health is an important aspect of personality. Various studies reported by
Kocher and Pratap (1971, and 1972), Kocher (1972, ). Palsane and Kocher (1973) showed favorable results of short term yogic training on mental health through the influence of autonomic nervous system and endocrine system. The study of Gharote (1971) on school children evaluating the psycho-physiological effects of short term yogic training on the working of autonomic nervous system using a sophisticated and elaborate battery of Wenger’s Autonomic Balance, brought evidence about the utility of yogic practices towards improved emotional stability. Recent experiences of introducing yogic practices in management programmes shows that it may serve as a good relief in reducing organizational stress and in promoting a congenial work climate. The practice of yoga nidra, certain selected asanas, pranayamas and meditations are useful to relax and quieten the mind (Bhole, 1981; Datey, 1978; Singh et al, 1978). They can be conveniently introduced in an organizational set up to promote alertness, congenial feelings, job satisfaction and work proficiency.

On the basis of some of the scientific investigations with yogic training programme mentioned above, it would be clear that yogic practices can play an important role in promoting health and fitness. On the other hand health and fitness are very much essential as a promotive approaches to yoga.

Yoga for Physical Education and Sports:

Yoga, in its technical sense, is supposed to deal primarily with spiritual unfoldment of the individual. Hence, really speaking neither
physical education nor sports are directly the field of yoga in its proper sense. However, it has necessarily to do with health and fitness, the two related aspects of body and mind which are deemed essential even for the success in one’s endeavors in any sphere of life. Ayurveda- the ancient science of Indian medicine and yoga consider positive health to be the foremost and essential prerequisite for success in all sorts of efforts, ranging from materialistic gains (Worldly pleasures) of lowest category to that of self-realization (Vidyalankar, 1944). The word ‘Yoga’ actually signifies functional integration at the highest level of spirituo-psycho-somatic development ensuring not only the health of body but also experiencing the sense of well-being of the senses, the mind and the soul simultaneously (Shastri, 1954). It is apparently clear from the scheme of yoga practices laid down in ancient yogic texts, that all such yoga practices including yamas- the rules of social hygiene, Niyamas- the rules of personal hygiene, Asanas- the postural patterns, Pranayamas- the breathing exercises; Meditation etc. are prescribed to prepare the aspirant progressively for higher practice of yoga proper under supervised guidance. These preparatory practices seem to be designed with purpose of conditioning and/or reconditioning/deconditioning the body-mind machinery so as to extend its range of adaptability (Vinekar, 1967). Then, under the concept explained here, what could be expected of yoga to play a significant role in the fields of physical education and sports, is the basic question. The answer goes in favour of the yogic practices as many of the problems that the people are facing today in the areas of health and fitness, medicine, education
and competitive sports can be resolved. Teachers of physical education and sports or trainers in an educational institutions are responsible for planning and implementation of programmes for 'Health for all' including normal, exceptional (Too weak or excellent), retarded, handicapped, deformed and disabled and rehabilitation programme for those who rejoin after illness or injury along with preparing the potentially talented athletes to excel keeping in view the availability of facilities and finances. Thus the areas of fitness can be broadly classified into two:-

1) Health related fitness.
2) Performance related fitness.

1) Health Related Fitness:

The dynamic development of modern science and technology and the achievements of contemporary civilization have brought about social and economical transformations so rapidly and to such a scale that there is every danger to the ecological balance of man bringing about an unprecedented increase in his health problems including low resistance to stress and disease, birth of a large number of psychosomatic diseases etc. The situation has made very much imperative for the physical educationists to find out suitable programmes of physical activities for our health problems to keep up with events as rapidly as the world in which we operate and to counteract the influences impinged upon by the environmental conditions in view of proper protection (Preventive
aspect maintained and promotions of general health qualitative of living and productivity.

2) Performance Related Fitness:

The recent trend to prove the physical-superiority of the nation and to show its worth in the international field of games and sports and hence establish its supremacy has thrown a challenge to the physical educationists, the coaches and their co-workers in ancilliary disciplines to find out such phenomenal and procedural (ergogenic) aids that might prove to be helpful in excelling in competitive sports.

Therefore, the rising enthusiasm for sports and physical activity, may it be meant for health and physical fitness for effective living or an effort in the direction of achieving top level performance in a competitive sport, must lead constantly to expand interest of all concerned in the scientific research related to bio-physiological changes from various forms of physical activities or practices including yoga. There are number of references available in ancient yoga texts regarding the beneficial effects of yogic practices that occur from the regular practices of yogic techniques. Among these traditional claims- some are ordinary, while a few seem to be extraordinary or exceptional. Then, there are present day scientists of 20th century who have unveiled a number of physical mental, emotional, physio-chemical and neurological factors that are beneficially influenced by yoga practices. The results of such scientific studies can be taken to be advantageous to almost all spheres of life.
however, the scope is not limited there to the application of yogic practices in the fields of education and physical education only.

The studies by Rasch (1958), De Vries (1962), Giri (1964), Dhanraj (1974), Kanade and Gharote (1990), Ganguly and Gharote (1974), Romano Waski and Parek (1970) show that yogic practices have favourable effects upon the important components of physical fitness, especially in flexibility and cardiovascular efficiency. The studies of Gharote (1971), Green and Green (1971, 1973), Kocher (1972, 1976), Kocher and Pratap (1972), Pratap (1968), show that both short term as well as long term practice of yoga substantially improves the emotional stability, steadiness, immediate memory and alleviates anxiety, hostility, neuroticism etc. which gives a ray of hope in having a measure for minimizing the deliquency and unrest among our youth. The relaxation procedures of yoga have also been found helpful in early recovery from fatigue (Mall, Chaudhary and Giri, 1977); Rathbone, 1969). Physiological and biochemical studies conducted on normal healthy as well as sick adults and similar people of both sexes have shown favorable effects upon parameters like oxygen consumption carbon dioxide elimination, rate and depth of respiration, arterial blood pressure and acidity; blood lactate, blood sugar and blood cholesterol level; heart rate, flow and distribution of blood; excretion of pepsin and sugar in urine; salivary secretion; skin resistance reaction time; muscle tone; rectal, skin and sublingual temperature; EEG pattern, perception, personality and effective behavior (Abosi, 1974; Bhole, 1988, 1990, Wallace, 1970; Swami

In view of the favourable effects of yogic practices on human organism, the modern scientists presume that yogic practices bring about higher and higher conditioning of limbic system which is thought to be responsible for regulation of autonomic and endocrinal functions and the effective behaviour by virtue of which the practicant gets greater and greater volitional control over them leading to recovery from homeostatic disfunction in the case of sick and towards perfection of biological equilibrium in the case of normal person (Anand et. al. 1961; Wenger and Bagchi, 1961).

Adapted Yoga Education for Handicapped:

According to yoga education "Each soul is potentially divine" i.e. everyone is born with unlimited capacity (potentiality). To be healthy and fit has been recognised as one of the fundamental rights of everyone, even handicapped are no exceptions to it. The blind, the deaf and/or physically disabled or deformed either because of accident, disease or infirmity aspire an independent and normal life along with their abilities and disabilities. And for that purpose, health and fitness are the basic requisites but it is not possible for them to participate in strenuous physical activities including active sports alone with their peers. No doubt, even at Olympiad level sports for handicapped are held but these are not yet within the reach of each and every one. In such situations, yoga can be of great asset for all of them. They can learn yogasanas, pranayamas, mudra, bandhas
and meditation under the guidance of specially trained teacher. On having learnt the skill of performing the yogic practices, their regular practice can keep them physically and mentally healthy throughout the life as the main characteristic of yogic practices is that they are easy to be learnt, require minimum of space, time and equipment. These can be practiced in all seasons without any difficulty. Man and woman of different age groups having any of the handicaps can take advantage of them for maintaining and improving physical, mental and spiritual health. However, everyone is in some way either physically or mentally handicapped. Kaama, Krodha, Lobha, Moha, Madha and Matsrya are the six enemies of a human being and those who are slaves to these are emotionally instable, inviting many troubles to themselves. The extra tall, the short, the shortsighted or the long sighted and so on are also handicapped persons. But all these are accepted by the society as normal persons because, for their activities of daily living, they do not depend upon others. But persons whose disabilities make them dependent upon others are generally considered handicapped and almost as a burden to the family and society.

To improve the quality of life of the handicapped, doctors, occupational therapists, physiotherapists, Audiology and speech Therapists, psychologists, medical and social workers, technicians for preparing mobility and hearing aids etc. special education teachers and others are all required and they have to work together for the rehabilitation of the handicapped, merely integrating conventional
methods with yogasanas is not sufficient; we have to consider and make a wholesome approach towards yoga as a science so that along with physical, all aspects including intellectual, emotional and spiritual are also dealt with. Thus rehabilitation of the handicapped becomes more complete if clubbed with adapted yoga education.

**Yoga for Prisoners:**

Yoga has proved to be a very effective and useful medicine for changing the personality of criminals. In criminal’s personality, in his feelings, thoughts and actions, we can see abnormalities. These internal abnormalities completely influence his life and induce him to commit crimes. Crime is a trait or tendency, tendency means a wave arising in the mind. If these tendencies are calmed down, the personality regains serenity, when the personality attains peace, then mental stress, emotional stress, agitated thoughts etc. also calm down and the suffering and sorrows end. To reform the personality and to change the criminal tendencies, the best solution is to practice yoga. The prisons should become the centers of personality reforms rather than continue as centers of punishment not only in India but throughout the world. In the western countries, attempts are being made to reform prisons. Research is being carried out on yoga and behavioral changes and yoga and personality development. The principal function of yoga centres is to give yoga training to the prisoners of maximum security cells. Even the prisons are prepared as yoga teachers and are sent to other centers to teach. In India, such schemes are being implemented and have been found very useful. In
various states yoga is being taught in the prisons. Mrs. Kiran Bedi, had taken many steps to implement yoga when Tehar Central Prison was under her control.

Vyavahare (1993) conducted research, launched at the Thane Prison. It aimed at totally changing the personality of the inmates by removing inner imbalances and outer tensions through yoga. According to him, it is unfortunate that though jail reforms world over aimed at doing things that would keep alive optimism in the minds of prisoners, worthwhile efforts are still to be made in that direction. In spite of reforms, sadly enough, the attitude of the society toward the outlaws and vice versa remains unchanged. The feeling that once a criminal always a criminal is wrong. Yoga can unfold for them as well as the society a new atmosphere conducive to absorption of the criminals as active and useful members of the society. His study conducted at Thane showed that yogic practices positively influenced the physical fitness, interpersonal relationship and psycho-social attitudes, feeling of tranquillity and reduced anger.

Yoga for Astronauts and Army personnel:

It was during the period of twenties of the present century when swami Kulvalyanand of Yoga Institute of Kaivalyadham, Lonavla, made a history by exposing yoga practices to scientific investigation with regard to the mechanism through which these could raise the status of the well-being and fitness of ordinary people than yogins who were supposed to be the only people to whom yoga
belonged. His next step was also of historical eminence when he began gauging beneficial effects of yogic practices in certain ailing conditions and it was a surprise for the medical world to see for themselves that yogic practices were beneficially effective in the prevention and cure of many of psychosomatic and chronic functional disorders. By fifties onward, scientists all over the world had begun to investigate the influences of short and long term yoga practice in normal as well as ailing clients. These included a number of physical, physiological, biochemical and psychological parameters as a result of which yoga has become very much popular among the masses all over the world.

Third historical event in the field of Yoga took place during eighties when an Indian Test Pilot, Rakesh Sharma along with other Russian astronauts during their ten day space flight from 3rd April to 12th April, 1984 on Souz-2 and the Saluet carried out medical experiments to investigate the possibilities if yogic practices (selected Asanas and Pranayama) could help maintain and improve general physical fitness status under extreme conditions of weightlessness in space. It was really a successful endeavor on the part of these astronauts (Leonov, 1984).

The credit of fourth immemorial event in the history of yoga of the present century goes to the duo-Swami Nirajanananand of Yoga bharati, Bihar School of Yoga, Munger and Dr. W.Selvamurthy, Director, Defence Institute of Physiology and allied sciences, Delhi
who met together to exchange views whether present physical training Programme could be complemented by the Yogic practices in order to equip the army personnel better as they were put to extreme physical and environmental conditions off and on.

It is heartily to note that Swami Niranjanand’s scientifically explained comments succeeded in convincing Dr. Selva Murthy of favourable expected results provided a collaboration between DIPAS and Yog Bharati of Bihar School of Yoga Munger could be established to carry out scientific investigations on Army personnel. The two agreed and the project was completed with success. It would worthwhile first to summarize the views of Swami Niranjanand as to in what ways yogic practices could equip the army personnel in a better way before discussing the results of the projects.

The yogic practices increase physical fitness which is relevant for armed forces and astronauts. They require and develop discipline at the same time, which is also relevant. Along with physical fitness and discipline, there is need for a number of personality factors to be developed in a positive way. What personality factors are needed to make a military unit or Armed forces into a peak defensive force? Armed personnel need to be strong minded, confident and brave.

Armed personnel and astronauts need everything that yoga has to offer because yoga has been designed to clear the blockages of these different aspects of the personality. these problems deep down in our consciousness which are stopping us from realizing the qualities
of security, of joy and humour, of power and courage, of love and compassion for one's fellow human beings, of communication, and of clear thinking and a realization of what is real. Yoga does all this by moving different areas of the body, the physical practices or asanas, activate the channels between the discs of the chakras and different centers of the nervous system, associated with these aspects of the personality, in a physical way. The emotional aspects, especially centres around the limbic system and hypothalamus in the brain, are also directly activated. In pranayama a similar process occurs on the level of pranic energy. The practice of mudras and bandhas redirects this prana throughout the body. In the beginning, the practice of meditation is simply a process of internalizing the awareness. Pratyahara, the ability to go within and eliminate outside stimuli is important for military or armed personnel and astronaut in a number of ways. For instance, when a military unit is undergoing continual bombardment and stress from outside, there are periods when these soldiers need to get as much rest as they can. The yoga practices are a way of introverting the external stimuli.

In Satchakras, manipura chakra deals with power, or guts, which is exactly where it is situated. Military personnel need to be able to relate to each other with compassion, comaraderie and faithfulness. They need those qualities because that is what binds a unit together. The relationship between the people in that unit and the compassion, the love for one's fellow men is an aspect of Anahata chakra. A military unit also needs a facility for communication so that
people know what they are doing. This facility for communication is Vishuddhi chakra. In the field when the going gets tough sometimes what is desperately needed is a sense of humour. Humour and joy are qualities of Swadhisthana Chakra. The qualities of Mooladhara Chakra, the lowest of the Chakra, are the feelings of security and courage. Clarity of mind, the ability to see clearly what is going on, to see clearly one's relationship with the other people of the unit, is an aspect of Ajna chakra. So for a military unit to be on top out in the field, these qualities needed to be developed within. Yoga has concentrated very clearly on the psychological aspect, because, unless we clear the blockages, the samskaras, the problems in the mind that are holding down the expression of these qualities, we can not go to higher states of consciousness.

There are techniques to eliminate thought processes such as, wouldn't it be terrible if one of the mortar bombs landed on me?" That faculty has to be developed because a human system that is under stress continuously, twenty four hours a day, becomes an inefficient system. So military personnel need to be able to switch off when the opportunity is there.

Meditation practices are relevant in another way. Doing a meditation practice with the eyes closed provides a screen so that the problems we are dealing with, the Samskaras and blockages that constantly come up to the surface, can be realized and eliminated. To be able to eliminate the Samskaras or karmas or blockages that are
deep down within the unconscious mind is a very powerful area of yoga.

**Stress Management:**

The first step towards the management of stress is to moderate the perception of the level of stress by the entire level of the brain, the cerebrum, the cortex, the association memory. Thus, major component of the learning experience can be regulated to a large extent. Once we have rated a stress at a particular level, our reaction is than dependent on the quality of our perception. As these behavioural reactions are both physical and psychological they are amenable to moderation by yogic practices as they become a part of discipline and a way of life. Reaction to stress are moderated because of the capacity of yogic practices to harmonize the sympathetic and para sympathetic activity, to regulate the heart rate, blood pressure, sugar levels etc. and whole physical infrastructure, becomes a more efficient and stronger medium for performance at level one and two.

The third level of stress management is yoga is stress release. After a day's work one goes to one's house, he can practice Savasana and Yoga-Nidra to release stress. So yoga helps with the management of experiential stress on all the three levels of perception.

**Results of Scientific Investigations:**

The subjects were Army personnel. The control group practiced the routine physical training (P.T.) programme of the Army schedule
and the experiments group practiced Yoga ( Asanas, Pranayama and meditation, one hour daily for six months.

Conclusions drawn from the study are as follows:

(i) The physical conditioning of Yoga- Sadhana modulates and optimizes sympathetic activity in the stress situation and immediately restores equilibrium, so that the situation no longer demands stress control by the intervention of the inhibitory parasympathetic system. Because of the gradual build up of inhibitory tone, the heart rate, systolic and diastolic blood pressure tend to show a fall.

(ii) Synchronization, modulation, and regulation of breath through pranamic practices breath rate was found to have the tendency to decrease but ventilation remained optimized. Thus, there is energy conservation to enhance the performance.

(iii) There was found gradual build up, and even a resting level of alpha activity, indicating a state of mental tranquillity and brain synchronization.

(iv) The experimental group showed ability to sustain a higher core temperature most probably by generating more heat to compensate for the loss resulting in tolerance to cold.

(v) Flexibility was found to be improved even if yogic practices were undertaken after middle age, 40-45 years.
(vi) The blood cholesterol, proteins, hormones which are related to
sympathetic and parasympathetic activity, swung to the lower normal
rate to show that there was a greater buffer which could be used
during stressful activity.

(vii) Psychologically subjects showed improvement in learning
efficiency, memory, determination and better psychomotor
performance.

Therapeutic yoga:

Therapy is not actually the proper field of yoga. However,
Patanjali mentions 'Vyadhi' meaning disease, which he considers as
a hindrance to personality integration. But he never refers to the
treatment of diseases simply because of his approach is holistic rather
than analytical that is, he prefers to integrate rather than occupy
himself with the symptoms of disintegration. The modern trend
towards systematic yoga therapy really began in 1920. Early scientific
investigations were made by Swami Kuvalyananda, the disciple of
Madhavadas Maharaj and the founder of Kaivalyadhama Yoga
Institute, Lonavla Swamiji's discoveries and attempts to put yoga on
a scientific basis were made public in 1924, when he started his yoga
Mimamsa Journal. At the Kaivalyadhama Institute, Swami
Kuvalyananda started treating patients with various complaints
restoring only to yogic techniques. Throughout the many years of
research into yoga therapy at Kaivalyadhama, many discoveries were
made about the therapeutic effects on certain ailments. Later
attempts were made by many organizations and individuals. Both in India and abroad. "Yoga Therapy: Its basic principles and Methods" by Swami Kuvalyananda and Dr. S.L. Vinekar was published by Govt of India in 1961.

Many scientists and researchers realised the utility of yoga and made efforts to study its significance from scientific points of view. They made some longitudinal studies in this area and their research findings are available to us for further work in this area (Kuvalyananda, 1925, 1928; Behanan, K.T., 1931; Bagchi, B.K. & Wenger, M.A. 1957; Hiar T., 1960; de Vries, H.A. 1961; Giri, 1966; Wallace, R.K., 1970; Joseph C and et al, 1987; Meti, B.L. and et.al, 1989; Joseph, S. and et.al., 1993; Meti, B.L. 1995). Swami Kuvalyananda reported sub-atmospheric pressure in the various internal cavities during Uddian Bandha and its extension of nauli. He also took X-Rays to demonstrate the movements of the diaphragm during uddiyana bandha. Behanana, one pupil of his, undertook further research leading to a doctoral thesis at Yale University in 1937. He estimated the oxygen consumption during pranayama practice and reported an increase during Ujjai, Bhastrika and kapalbhati. He also brought different types of pranayama on to kymographic record. The ability of yogis to voluntarily stop the beating of the heart was considered a fascinating feat, and aroused the interest of scientists in India and elsewhere. In 1936 an article by the French Cardiologist, Brosse reported studies on subjects of both Hatha and Raj Yoga, the former showing the more significant results.
Bagchi and Wenger (1957) studied practitioners of Rajyoga in India. They found a lower respiratory rate and raised G.S.R. (Galvanic Skin Resistance) with no consistent alternations in heart rate or blood pressure during meditation. During meditations, the EEG showed an increase in alpha wave amplitude and activity and in some of the yogies there was a loss of the alpha blocking response to all external stimuli. Around 1960, Maharishi Mahesh Yogi introduced Transcendental meditation to the world. This technique is neither a religion nor a way of life. It is a natural, effortless technique, which aims at improving all aspects of life. Adopted from ancient Indian technique, it gained in popularity and has spread all over the world. In 1968, R.K. Wallace undertook an investigation of physiological effects of T.M. for his doctoral thesis, entitled, "The Physiological Effects of TM; A proposed fourth Major state of Consciousness". In this as well as in later studies by him (Wallace et al., 1971), the practice of T.M. was found to be associated with changes in the EEG. In some of the subjects during meditation, there was an increase in alpha wave amplitude, associated with a slowing of frequency. In some cases, there were brief periods of about 2.5 seconds during which theta waves predominated. There was also an increase in GSR, decrease in heart rate, decrease in Oxygen consumption and carbodioxide elimination, along with a reduction in both rate and volume of respiration. Blood lactate levels were also reduced after meditation. This led to TM being called a "Wakeful Hypometabolic State". The changes were interpreted as signs of a functional trophotropic state, chiefly mediated by increased parasympathetic and
decreased sympathetic discharge, rather like other assimilatory process such as sleep and digestion. Kasamatsu (1973) categorises the E.E.G changes in the meditation as four stages. The first is the appearance of alpha rhythm inspite of the eyes being open. In the second stage, there is an increase in amplitude of persistent alpha frequency and finally, in the fourth stage, the appearance of rhythmic theta train was observed. During the last 3-6 decades, the Hath Yogic practices have been evaluated for their efficiency in the management of diabetes and found useful (Udupa & Singh, 1972; Malkote, 1973; Sahay, 1986; Gore, 1988). One may wonder how yoga can effect all these responses. The practice of asanas may send a volley of wave impulses from muscles and joints, spine and other receptors located on the surface as well as inside the viscera. It can influence the haemodynamic mechanisms improving blood circulation to vital organs like brain, heart, lungs, liver, kidney, pancreas etc. It may also act through the neuro-endocrine axis. Scientists like Anand, B.K. (1961) strongly feel that yogic practices may modulate the cerebral cortico-limbic system of the brain and strengthen the inhibitory components of the nervous system. More documentary evidences are required to consolidate these claims and assumptions. Whatever be the mechanism involved, it is established beyond doubt that regular practice of yoga certainly has many beneficial effects on the human physiology, biochemistry and psychology.
Yoga Psychotherapy:

In recent years Swamy Rama, a spiritual leader of distinction, had inspired some of his psychologist disciples at the Himalayan International Institute of Yoga Science and Philosophy in U.S.A. to formulate and practise a system of psychotherapy based on the classical Indian thought. Yoga and Psychotherapy: The evolution of consciousness of Swami Rama, Ballantine and Swami Ajay (1976) and psychotherapy east and west: a unifying paradigm of Swami Ajay (1984) presented a full fledged system of yoga psychotherapy based on Samkhya-Yoga, Hath yoga, Advait Vedanta and Tantra. Swami Ajay also pointed out in his book striking similarities between current psychotherapies and classical practices. Those who are looking for a conceptual frame work and a set of procedures which are not alien but close to the Indian mind would certainly find yoga therapy as very handy. At the present stage of evolution of yoga psychotherapeutic system, it is desirable to use yoga in the general framework of psychotherapy. The experimental basis of psychotherapy, namely, the psychological contact between the therapist and client must be the same as that of conventional humanistic therapies. The vehicle of interaction must be the face to face interview between the two. Yoga may be introduced as a procedure of self-mastery involving behavioural techniques which combines yoga and psychotherapy does not stop with self-mastery. It also aims at mastering the environment unlike traditional yoga.
As a holistic system, it deals with the body, mind and behaviour in a synergistic way. For this purpose, it makes use of the procedures of asanas, relaxation, breathing and meditation and the principles of yoga such as yama, niyama, pratipaksha bhavana- maitri, karuna, mudita, upaksha, abhyasa and vairagya to mention a few. The general framework of yoga psychotherapy must be that the client should develop a broader perspective of self and world, self discipline, responsibility, acceptance, congruence compassion and an attitude of witness to life with less ego involvement and more task orientation.

From a psychological perspective, meditation is essentially a procedure of expanding one’s awareness and directing that awareness to achieve control over body, mind, feelings and emotions, thoughts and behaviour. An volitional control which gives the individual freedom to think to feel and to act for self-fulfillment and social harmony must be the goal of yoga psychotherapy (Swami Ajay, 1976) Yoga could be valuable tool in establishing and maintaining health and well being of the individuals (Krishna Rao, P.V. 1995).

Executive Yoga for Administrative and Managerial Services:

Medical experiences everywhere confirms that busy executives are prone to a number of functional disorders, such as stomach ulcers, flatulence, constipation, high blood-pressure and diabetes. They are usually a worried lot and therefore tense, their whole attitude of life being coloured by a host of what are essentially psychological troubles. In yoga, these troubles are traced
to wrong feelings or emotions—such as fear, anger and pride, an
inflated ego, desire or greed, aversion or hatred and the instinct of
possessiveness which urges one to cling to material life and
possessions, mistaking them for life’s highest achievements.

If the executive would seek freedom from his physical and
mental affections, yoga is the way, for yoga is a science no less than
an art of healthful, peaceful and contented living both on the physical
and mental planes. Through a course of asanas or postures, faithfully
practiced, yoga secures good health, with all the organs and systems
in the body functioning as efficiently and smoothly as a well-tended
and well-oiled machine. These postures bring calm to the spirit and
at the same time strengthen the body. Their end is to recondition the
organism entirely, from the muscles and the nervous system to the
mind. They markedly affect the whole metabolism, stimulating and
regulating it.

The yoga trained executive will spontaneously command
respect and regard from his associates and subordinates who,
knowing that he will never be swayed by any considerations except
those of truth and justice, will unhesitatingly accept him as the leader.
Through yoga, then the executives will not only rise to higher heights
in his self-evolution but radiate goodness and peace and cheer among
those who come in contact with him.
Yoga for Current Social Problems:

Society is a reflection of the individuals of which it consists. Hence, individual problems are reflected in the society and attempts to resolve these problems create changes in social conditions from time to time. Mechanized society has different problems from non-mechanized society, that is, the problems of civilized or industrialized society are different from the societies which are underdeveloped. Today, rapid growth in communications prevents any society from remaining isolated and unaffected by the problems of other societies. Some of the problems of society, however, are rooted in its cultural background. The habits, traditions and religious beliefs that shape each society. All problems are rooted in emotional disturbance and every problem in turn creates emotional disturbance through its psychophysiological practices. These techniques bring changes in the attitudes of a person which are determinants of his behaviour. Yoga helps an individual to develop courage of conviction about the values in life. The social benefits of yoga are as follows:

Negative Aspects:

(a) Reduction in stress-induced addictions
(b) Reduction in anti-social behaviour of youth.
(c) Reduction in violent emotional upsets.
(d) Reduction in negative motivation like suicidal tendency and its incidences.
(e) Reduction in negative traits like neuroticism and tendency to cause injuries to self and others.

Positive Aspect:

(a) Improvement in efficiency at work and job satisfaction.

(b) Development of positive outlook in life through positive motivation.

(c) Development of positive traits like self-confidence, self-sufficiency and sociability.

(d) Improvement in healthy interpersonal relationship.

(e) Improvement in handling various problems in life.

(f) Remarkable improvement in the self-concept and proper evaluation of others.

(g) Improvement in necessary tenacity and perseverance essential for success in life.

(h) Control and prevention of psychosomatic disorders and peace of mind.

Yoga as a Profession:

It is a sad fact that experts in the yoga practices who can give the right kind of advice are actually very rare. Most of the persons who take to yoga as a profession do not usually have a scientific
attitude, and thus what they seem to propagate is their personal likes and dislikes and idiosyncracies. An element of mystery is found to be rampant in their activities and sincere, honest people are often cheated and deceived by the so-called masters in yoga. It is a happy sign, however, that some intelligent and good-natured people are also now getting attracted towards the art and science of yoga.

A number of teachers training courses are run by Govt, Semi-Govt, private recognised Institutions and Universities in India and abroad. After passing out many of them take up yoga as a profession of teaching at the school, college and university level. Some yoga teachers are running their own centres for treatment of psychosomatic disorders through yoga.

Well renowned yoga institutions have been mentioned in the Appendix - "1" attached, who provide various yoga training/teaching programmes to prepare teachers. After passing out these programmes from these institutions, most of them adopt yoga as a profession.