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 presently 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 (Amita), 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 behavior 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 dividing policies for the satisfaction of those needs. The economic principles of yoga lays stress on minimizing 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.

PREVENTIVE, CURATIVE AND PROMOTIVE ASPECTS OF HEALTH

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), Dhamraj (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 Program 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, ), Pasiane 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 program 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.

YOGIC PRACTICES AND THEIR APPLICATION IN HEALTH PROBLEMS OF MODERN TIME

Yogic practices have been practiced for thousands of years mainly for the sake of the final goal of liberation from the cycle of rebirth and the pain associated with it. These practices were intended to influence the mind more than the body. Hathayogins who flourished during 15th century A.D., emphasized on the body. Their ultimate aim was also the same, namely, attainment of the state of Samadhi. But their means were more suited to the abilities of the common man.

A healthy individual must have all tissues and organs of the body developed properly. The ancient masters of yoga were fully aware of the maximum healthy mind in a healthy body, and hence
it is that they developed a masterly system of practices which takes care of all the tissues of the body and their functions in a super manner.

Maintenance of bodily health depends on two factors namely, supply of nourishment in ample amounts and the quick removal of waste materials which are produced in the tissues as a result of metabolic activity. A tissue cannot get proper nourishment if it remains inactive and waste materials are also not removed from it efficiently. If tissues are exercised regularly by causing the muscles concerned to contract and stretch, the capillaries are pressed, and the tissues get increased supply of blood, oxygen, and the nutrients.

**General characteristics of Yogic practices:**

1. The yogi system of health involves the exercise of skeletal as well as the deep seated smooth muscles of the body.

2. The internal pressure changes (e.g. the intra-thoracic and intra-abdominal pressure) may be mentioned as a special characteristics of the yoga system of health.
3. very little expenditure in terms of energy and money is involved in the hathayoga practices.

4. Yogic practices can be practiced by the rich as well as poor, and by men and women of all ages.

5. The word ‘Yoga’, is traditionally used to convey the meaning of an ‘end’ as well as ‘means’. Lack of discrimination between these two meanings is one of the causes of confusion about yoga.

7. Every school of yoga emphasized specific practices, but their aim always remained the same: the highest level of integration through the control of the modifications of mind.

8. The nature of yogic practices is psychophysical.

9. All yogic practices are complementary to each other.

All the yogic practices may be classified as i) Asanas ii) Pranayamas (iii) Bandhas and Mudras iv) Kriyas v) Meditation and vi) Attitude training practices. Each one of these classifications consists of a group of several practices.
Asanas.

These are special patterns of postures that stabilize the mind and the body through static stretching. Their aim is to establish proper system in the neuromuscular tonic impulses and improve the general muscle tone. Two basic principles governing the performance of Asanas are stability and comfort. This suggests that the nature of Asanas is psychophysical and not only physical. Every asana should be performed effortlessly and maintained for a comfortable time. There should be no jerks and the performance of asana should not lead to undue fatigue.

Asanas may be classified as 1) Meditative; 2) Cultural and 3) Relative.

1. Meditative Asanas are sitting postures which maintain the body in a steady and comfortable condition. By various arrangements of the legs and hands different meditative Asanas
are formed. The characteristic feature of the Meditative Asana is, however, keeping the head, neck and trunk erect.

2. Cultural Asanas involve static stretching which bring about proper tone of the muscles. They contribute to the flexibility of the spine and render back and spinal muscles stronger. They also stimulate proper working of the vital organs in the thoracic and abdominal cavities. There are innumerable varieties of cultural Asanas which are performed in sitting, lying and standing positions.

3. Relaxative Asanas are few in number. They are performed in the lying position and are meant for giving rest to the body and mind.

**Pranayama:**

These practices bring control over the respiratory impulses which form one of the channels of the flow of autonomic nerve impulses. Holding of the breath for a prolonged and comfortable time is an essential technique of Pranayama. However, in the initial practice the breath holding phase is completely avoided and
emphasis is put on the controlled inspiration and expiration with a time ratio of 1:2 between them. The expiratory phase is so controlled that the following inspiratory phase is not affected in its slow and controlled inspiration. The main purpose of pranayama is to gain control over the autonomic nervous system and through its influence the mental function. It is useful in higher yogic practices like meditation.

**Bandhas and Mudras:**

These are locks and holds of the semi-voluntary and involuntary muscles in the body. They decongest the vital organs, improve circulation and nutrition by pressure manipulations and contribute to general health and emotional stability. A difference is made between the Bandhas and Mudras on the basis of their use in Pranayama. Mudras that are used in Pranayama are usually called Bandhas because they bind and channelise a particular nervous activity in a particular place or direction. Jalandhara, Uddiyana and Mula are important Bandhas. Some asanas are called mudras.
because of their specific effects and channels through which the effects are brought about.

Kriyas:

These are purificatory process usually classified into six divisions and therefore they are often called shatkriyas. These are Dhauti, Basti, Neti, Trataka, Nauli and kapalbhati, each one of which consists of many subsections. They increase the range of adaptability of the tissues forming various organs and systems and raise the threshold of their reactivity. Kriyas bring control on different reflexes and establish psychophysiological balance. The modes of purification in the kriyas are air, water, friction and manipulating movements. The regions of cleaning involved in various kriyas are Nasopharyngeal, orocranial, gastroesophegeal, ano-rectal and intestinal.

Meditation:

This is the practice involving control of the mental functions which start from the initial withdrawal of the senses from external objects to the complete oblivion of the external
environment. There are innumerable techniques of meditation. It is a process of absorption in which the individual tries to turn his attention to dwell upon a single object, sound, concept or experience. It is not always safer to start one’s practice in meditation without preparing adequately through asanas and pranayama. The basic principle of meditation is to develop internal awareness.

**Attitude Training Practice:**

These are yamas and Niyamas. These are self-imposed restrictions of governing one’s behavior to form a particular attitude pattern. These practices have already been discussed earlier in details.

**General Principles of Yogic Practices:**

1. Yogic practices are not ‘exercise’ as understood. The word exercise is generally applied to vigorous physical movements. Since Yogic practices do not involve vigorous movements, any kind of violent action should be avoided during yoga practice.
2. The nature of yogic practices is varied and involves different mechanisms through which the results of particular yogic practices are obtained. The asana, pranayama, bandhas, mudras, kriyas and meditation do not use the same channels for bringing the results of the practices.

3. Asanas - one of the most important and best known of the yogic practices are static stretching procedures. They should be performed slowly and smoothly in order to influence the tonic system rather than the phasic one.

4. The position in a particular asana should be comfortably maintained for some time with least effort. Effortless performance and relaxing as much as possible during the final position are the chief characteristics of the technique of anasas.

5. Pranayamic practices are very different in purpose and technique from the "Breathing exercises. They are supposed to increase oxygen uptake; however, they are considered of little value in the literature of physical education.
6. Yogic practices should not lead to undue fatigue. If there is fatigue, it should be overcome by the practice of relaxation in shavasana.

7. All yogic practices should be performed according to one's own capacity and without competition with others.

8. All Yogic practices should lead to peace of mind.

9. Any yogic routine should begin with psycho-physical relaxation centering one's attention as one would in prayer or actual recitation of some prayer.

10. It would be better to learn the yogic practices while one is having normal health. An imprudent way of practicing the yoga practices is sometimes found to lead to impairment of the health of an individual instead of making healthier. Persons who are very weak, or those who have recovered from illness, should be careful in this respect. It is true that many ailments can be cured by nicely administering the yoga techniques, but for that, one has to take the help of an expert.
11. Age and sex do not offer any bar as the yogic practices are concerned. This does not, of course, mean that every yoga technique may suit every individual. For example, women should abandon some practices during menstruation and during advanced stages of pregnancy. But there are some practices which can be continued even during those conditions. Children may start practicing the yoga techniques at about eight years of age. There is no upper age limit as far as the yogic practices are concerned.

12. The place for practicing the yogic practices should be well protected from the menace of animals, rodents and insects. If it is done indoor, it should be well-ventilated and having sufficient light. The surroundings should not be noisy. The ground should not be wet or full of undulations. It should be plain and flat, not sloping in one direction.

13. Morning time is considered better from the point of view of regularity, while it is the experience of some people, especially the beginners, that the yoga practices can be done with more ease and comfort in the evening.
14. Yogic practices should not be done with a loaded stomach. After a full meal, nearly five hours should be allowed to pass and nearly two hours after a snack so that the exercise does not interfere in any way with the process of digestion and absorption of food.

15. Both men and women should, while practicing the yoga techniques, wear as less number of clothes as permitted by the climate and their social customs. In sum, the dress should be clean, simple and least cumbersome.

Management of selected human disorders:

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 realized 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 finding are available to us for further work in this area (Kuvalyananda, 1925, 1928; Behanan, K.T., 1931; Bagchi, B.K. &
Wenger, M.A., 1957; Hirar T., 1960; de vries, H.A. 1961; Giri, 1966; Walace, 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 nauki. He also took X-Rays to demonstrate the movements of the diaphragm during uddiyana bandha. Behanna, 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, Bhashrika 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 E.E.G 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 carbon dioxide 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 Hypermetabolic 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 EEG changes in the meditation as four stages. The first is the appearance of alpha rhythm in spite 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.