CHAPTER – I

INTRODUCTION

A healthy life is the most important for a happy life. The modern pace of life hardly gives time to take care of health. But ancient Indian wisdom says that the true fulfillment of life begins with good health.

The Police Force of Tamil Nadu is recognized to be among the most efficient and best in the country. It has a commendable track record, not only in the maintenance of law and order, but also in assisting the community whenever the need has arisen. While remaining people-friendly, the Police Force has also been effective in countering anti-social activities. It has been able to combat forces which seek to create communal disharmony or to promote terrorist activities and hold them at bay. The State’s Police Force has been trained and sensitized to be especially responsive to the weaker sections of Society, including Scheduled Castes, Scheduled Tribes, the disabled and women. Its efforts in combating crime and its success in bringing down the crime rate over the years are noteworthy. The valuable contributions made by its officers in the field of Community Policing have been acclaimed as role models for developing nations and are recognized internationally. Strong and consistent guidance and support from the Government have been the keys to the creditable record of the Police Force in Tamil Nadu. The days when Policemen were considered a mere sentinel of the Criminal Justice System and a symbol of security are gone. Policing has become more of a people-centered societal effort. Regular activity, fitness and exercise, are critical for the health and well being of people of all ages. Research shows that everyone, young or old can benefit from regular exercise, either vigorous or moderate.
Regular activity, fitness and exercise, are critical for the health and well being of people of all ages. Research shows that everyone, young or old can benefit from regular exercise, either vigorous or moderate.

1.1. HEALTH

Health is defined by the World Health Organization of the United Nations as the “State of complete physical, mental and social well being and not merely the absence of disease and infirmity.”

The essential requisites (or dimensions) of “health” would include the following: Resisting the effect of environmental toxins and pollutants. (Srilakshmi.B, 2011).

Science and technology have revolutionized the lifestyle of man. Increased standard of living has brought great comfort to mankind. With in a short period of about 100 years, the modern medicine with its scientific approach and research has been able to unravel many mysteries, which were out of reach for mankind over generations.

Along with this developments, the modern man becoming submerged by a world full of concentration with large number of problems and recurrent crisis. Among these are the distortions of values, the corruption of mind, endless social problems. Drug consumption and abuses, stress, mental and physical ailment are increased in high rate. (Davidson. G.C and Neal J.M, 1990)

1.2 HAPPINESS

Born is to live in happiness. Birth is not for being tortured by Diseases. Happiness is the birth-right. The whole creation is meant to endow the happiness. No one outside can prevent from being happy. Not even god can prevent from enjoying bliss. When god has
created this universe and men in order to live in happiness and Peace, god is certainly not going to prevent from being happy.

It is one who lose the own happiness. It is not lost through the fault of others. The responsibility is self only. Disease represents only the reverse state of happiness. When the body loses its balance it becomes ill. Peace and happiness are twin-expressions of the same quality. Without peace there is no happiness and the absence of happiness denotes loss of Peace.

Illness of the body will attack the mind also. Mental illness will affect the body. The mind which is ill adversely affects the brain, the nervous system and finally destroys the entire body. Real pleasure or happiness is not born from anything bad. It does not lead to any evil result. The real pleasure is near to nature and productive of good results. (Maoshing Ni, 2008)

1.3 DISEASE

Disease is an abnormal condition of an organism that impairs bodily functions, associated with specific symptoms and signs. In human beings, "disease" is often used more broadly to refer to any condition that causes pain, dysfunction, distress, social problems, and/or death to the person afflicted, or similar problems for those in contact with the person. (Yogachariya Sundaram, 2004).

Illness and sickness are generally used as synonyms for disease. However, this term is occasionally used to refer specifically to the patient's personal experience of their disease. (Emson HE, 1987)

1.4 YOGA

The word Yoga is derived from the Sanskrit root Yuj. The meaning is to bind, join,
and attach and yoke, to direct and concentrate one’s attention on, to use and apply. It also means union or communion. It means the disciplining of the mind, intellect, the emotions, the will, which yoga presupposes, it means a poise of the soul which enables one to look at life in all its aspects evenly. (B.K.S. Iyengar, 2001)

Yoga is one of the six orthodox systems of Indian philosophy. It was coordinated and systematized by Patanjali in his classical work, the Yoga Sutras, which consists of 195 terse aphorisms in which it is stated that yoga is a state where all activities of the mind are channalized in one direction or the mind is free from distractions. (B.K.S. Iyengar, 2001).

1.5 THE ORIGIN OF YOGA

In the modern era, the origin of yoga is not usually given much importance. While ‘yoga’ has now become a veritable household word, knowledge of its roots escapes most people, even many of those practising it with regularity.

"Historically yoga was more than a particular teaching. Yoga, a way of life, a culture and a lifestyle which encompassed not just techniques, practices or ideas, but also eating habits, bathing habits, prayer, social interaction, and work.

Yoga included a vast body of ‘attitudes toward being’, an ingrained sense of morality and ethic and it was the bedrock of the personal – social – cosmic order which developed in that part of the earth known as India

Therefore it is in the ancient Samskrithi (culture) of Bharata that origin of yoga is to be found.”- Smt. Meenakshi Devi Bhavanani, "Returning to the Roots; Classical Yoga"

1.6 THE ORIGIN OF YOGA IN CLASSICAL TEXTS

The origin of yoga lies in antiquity. It was first expounded in the great shastras (texts), known as the Vedas. Four in numbers, these are the earliest scriptures known to
mankind, extending back thousands of years. Vedas. Together, these texts explain and regulate every aspect of life, from supreme reality to all worldly affairs. Here, and in much classical literature to follow, is where one can see evidence of the origin of yoga.

The exact birth of the Vedas is lost in the distant past. The Vedas themselves were ancient hymns, originally sung in the forests by Rishis (seers) who lived remote, ascetic lives and in this way were passed from guru to disciple for perhaps thousands of years before being put to writing. Hindu tradition itself puts the Vedas as far back as 10,000 years.

The origin of yoga can be traced back to the very oldest of these scriptures, the Rig Veda, which speaks about ‘yoking the mind’ to the ‘highest truth’. But within these hymns from this ancient Vedic period, one even see the actual word ‘yoga’ used occasionally as well. (Kumar Kaul 2006).

1.7 INNOVATION OF YOGA AND ITS DEVELOPMENT

Although it wasn't until recently when yoga earned massive recognition and gained a huge following, it has existed for the past thousands of years. The earliest written scriptures that would help trace the origins of yoga were found in the Indus Valley during an archaeological excavation. Hence, it could be very well that yoga started out during this early antique period.

Yoga also been associated by many to Stone Age Shamanism, although there is no valid link between the two except for the fact that having a few similarities in their method and approach. However, most modern yoga methods are still deeply rooted to the Indian philosophy, which provides this practice with its religious and spiritual aspect. Ever since yoga was introduced, it has seen varied evolution. In the east, yoga remains to be a sacred practice that incorporates a lot of prayer and chanting into each session. But in the Western
parts of the world, yoga has been used mainly for its physical exercises that are known to provide health and fitness benefits. (www.google.com)

1.7.1 VEDIC PERIOD

This period represents the existence of the Vedas, which is a sacred scripture used by modern day practice of Hinduism. These scriptures collect various hymns that praise a divine power. If one were to examine the teachings of the Vedas, then one would identify similarities to the teachings of yoga. All of the activities involved aims to go beyond the limitations of the mind and in the process allow the physical body to do things it is normally incapable of doing.

1.7.2 CLASSICAL PERIOD

This time period represents the creation of the Yoga Sutra, authored by Patanjali during the 2nd century. Patanjali’s writings will pave the way for the standardization of the Classical Yoga that now serves as the basis for the practice and philosophies of Raja Yoga. At this point, the eight limbs of yoga were established as follows: yama or social restraints, niyama or personal observance of discipline, asanas or physical postures, pranayama or proper breathing control, pratyahara or sense withdrawal, dharana or concentration, dhyana or meditation, and samadhi or Self realization.

1.7.3 POST-CLASSICAL PERIOD

Now that Patanjali was able to establish the eight-limbed paths toward the ultimate goal of practicing yoga, this period witnesses the gradual spread of yoga and its teachings. This was evident not only in practice, but also in the growth of literature dedicated to the proliferation of the teachings and principles of yoga.

One of the major focus of the practice of yoga during this time period is the focus on
the present moment. It also resulted to the formation of the five principles of yoga, which are proper relaxation, proper exercise, proper breathing, proper diet, and proper meditation. (Visuvanathan 2002).

1.7.4 MODERN YOGA

Ever since those different periods, yoga has increasingly gained popularity. As of today, over 30 million people have devoted their lives to practicing yoga regularly. Most of this can be credited to the increasing awareness of various health problems and the need to find natural but effective treatment methods. Another thing that makes yoga appealing to modern individuals is that it can be utilized to improve overall health and quality of life. These are all beneficial in preventing illnesses and disease formation. (R. Elangovan 2016).

1.7.5 SPREAD OF YOGA IN THE WEST

Yoga was introduced to the Western part of the world by famous yoga disciples when they travelled to this part of the world. It was not difficult for the Westerners to accept and practice this art, given the tremendous benefits it has to offer.

There are two main reasons why the people from the West intuitively accepted yoga as part of their routine. The physical exercise aspect of it provided essential fitness and health benefits. With several threats to someone's health, finding a natural and effective treatment method could mean tons of savings in healthcare.

On the other hand, the emotional and spiritual aspect of yoga has provided them means to combat everyday stress and improve quality of life. Yoga is an ancient art based on harmonizing systems of development for body, mind and spirit. It is a practical aid, not a religion. (www.google.com)

1.8. EIGHT PETALS OF YOGA

- **Yama** (social disciplines)
• Niyama (individual disciplines)
• Asana (posture)
• Pranayama (regulation of breathing)
• Prathyahara (withdrawal of senses)
• Dharana (concentration)
• Dhyana (meditation)
• Samadhi (knowing directly higher self)

The Bhagavad-Gita gives explanation of the term yoga in the following words. “Yoga is neither for the person who eats too much and indulge excessively in sensual pleasures, nor for the person who sleeps too much or stays awake too long” (Visuvanathan 2002)

1.9 KOSHAS OF YOGA

According to yogic physiology, the human framework comprises of five bodies or sheaths, which account for the different aspects or dimensions of human existence by Swami Jnaneshvara Bharati.

These five sheaths are known as:

1. Annamaya kosha - (physical body)
2. Pranamaya kosha - (vital energy body)
3. Manonmaya kosha - (mental body)
4. Vijnyanamaya kosha - (intellectual body)

Anandamaya kosha - (bliss body) (Visuvanathan 2002)
1.10 YOGA AS A SCIENCE AND ART

The emergence of creativity as the core of technology has added aesthetics or a new dimension in the field of science. Basically, art has been impregnated into the science. The creative and critical faculties of mind lies hidden in the higher state of consciousness. The foundation of arts and science are now being found in deeper states of our consciousness. Hence, yoga has brought a break through in unravelling the hidden dimensions of mind. All those seeking to develop greater critical and creative faculties now have yoga as a new tool. (B.K.S. Iyengar 2001)

1.11 STAGES OF YOGA (ASHTANGA YOGA)

Patanjali enumerates the means of astanga yoga for the quest of the soul namely yama, niyama, asana, pranayama, prathyahara, dharana, dhyana and samadhi.

1.11.1. YAMA (SOCIAL DISCIPLINE)

Patanjali gives the following as social disciplines

“ahimsa satya asteya brahmacarya aparigraha yamah”

Yama are the social discipline. They are five commandments as follows;

- Ahimsa (non-violence)
- Satya (truth)
- Asteya (non-stealing)
- Brahmacharya (celibacy)
- Aparigraha (non-covetness)

1.11.2. NIYAMA (INDIVIDUAL DISCIPLINE)

Patanjali gives the following as individual disciplines
Niyama are the individual discipline. The five niyamas are;

- Saucha (cleanliness)
- Santosa (contentment)
- Tapa (austerity)
- Swadhyaya (self study)
- Iswarapranidhana (surrender to supreme force)

1.11.3. ASANAS

Nowadays yoga is understood as asanas or physical postures. However asanas were implied as physical postures in which one can comfortably sit and practice higher practices of yoga like pranayama, dharana and dhyana.

Patanjali defines asanas as, "sthirasukhamasanam"

It implies any meditative posture which is stable (sthira), and comfortable (sukham). Its main purpose is to calm the mind. A steady and pleasant posture produces mental balance and prevents uncertainty of mind. The word asana is derived from the Sanskrit verb 'Aas' which means existence and state of existence is Asana or Position. Here the position of Body as well as Mind is expected in Asana.

The similar description of asana is found in Hatha Yoga Pradipika which says that "One can achieve sound health, stability, lightness of body and mind with asana".

In Gheranda Samhita (Another text on Hatha Yoga), the author describes the effect of asana as "Perfecting the stability of body and mind is the result of asana".
1.11.4 PRANAYAMA

Pranayama is the step succeeding asanas in Patanjali’s astanga yoga. Pranayama is defined as follows by Patanjali,

“tasminsati svasaprasvasayoh – gativicchedah pranayamah”

According to Patanjali the asanas having been done pranayama is the cessation of the movement of inhalation and exhalation.

The word pranayama is comprised of two roots: prana plus ayama. Prana means ‘vital energy’ or ‘life force’. It is the force, which exists in all things, whether animate or inanimate. Although closely related to the air we breathe, it is subtler than air or oxygen. Therefore, pranayama should not be considered as mere Breathing exercises aimed at introducing extra oxygen into the lungs. Pranayama utilizes Breathing to influence the flow of prana in the nadis or energy channels of the pranamaya kosha or energy body.

The word Ayama is defined as ‘extension’ or ‘expansion’, thus, the word pranayama means ‘extension or expansion of the dimension of prana’. The techniques of pranayama provide the method whereby the life force can be activated and regulated in order to go beyond one’s normal boundaries or limitations and attain a higher vibratory energy.

1.11.4.1 ASPECTS OF PRANAYAMA

In the pranayama practices there are four important aspects of Breathing, they are:

- **Puraka** (Inhalation)
- **Rechaka** (Exhalation)
- **Antar Kumbhaka** (Retention of breath after Inhalation)
- **Bahir Kumbhaka** (Retention of breath after Exhalation)
The different practices of Pranayama involve various techniques, which utilise these four aspects of Breathing. There is another mode of Pranayama, which is called Kevala.

The practices of Pranayama work mainly with Pranamaya Kosha. The pranamaya Kosha is made up of five major pranas which are collectively known as the pancha pranas namely prana, apana, samana, udana and vyana.

1.11.5. PRATHYAHARA

Patanjali defines Prathyahara withdrawing the senses, the mind and consciousness from contact with external objects, and then drawing them inwards towards the seer, is Prathyahara.

Prathyahara means the withdrawal of senses. This requires a very strong determination and repression of the senses.

1.11.6. DHARANA

Patanjali defines dharana as Fixing the consciousness on one point or region is concentration (dharana)

Dharana is the fixed attention or one pointedness of the mind. In this state the concentration of chitta on some object is essential.

1.11.7. DHYANA

Patanjali defines dhyana a steady, continuous flow of attention directed towards the same point or region is meditation (dhyana) Dhyana or meditation which is prolonged concentration. It is the unbroken flow of thought towards the object of concentration.

1.11.8. SAMADHI

Patanjali defines samadhi in sutra no.III-3 as follows,

“tadeva arthamatranirbhasam svarupasunyam iva samadhi”
Meaning – When the object of meditation engulfs the meditator, appearing as the subject, self awareness is lost. (Yogachariya Sundaram, 2004)

1.12 PATHS OF YOGA

According to the scriptures, Yoga is mainly classified in various systems of branches namely

Jnana Yoga - Union by Knowledge
Bhakthi Yoga - Union by Love and Devotion
Karma Yoga - Union by Action and Service
Raja Yoga - Union by Mental Mastery – the path of will
Hatha Yoga - Union by Bodily Mastery (Principally of breath)
Mantra Yoga - Union by Voice and Sound
Yantra Yoga - Vision and Form
Laya and Kundalini - Union by Arousal of Latent Psychic energy
Tantric Yoga - A general form for the Physiological discipline.

Also union by harnessing sexual energy. (Visuvanathan 2002)

1.13 TYPES OF YOGA

Dr. Georg Feuerstein (2006), has mentioned the following 40 major types of yoga, namely

○ Abhava – Yoga

The unitive discipline of non-being, meaning the higher yogic practice of immersion into the self without objective support such as mantras; a concept found in the puranas of Bhava-Yoga.
- **Agni yoga**

  The unitive discipline of fire, causing the awakening of the serpent power (Kundalini Shakti) through the joint action of mind (manas) and life force (prana).

- **Ashtanga-Yoga**

  The unitive discipline of the eight limbs, i.e. Raja-Yoga or Patanjali-Yoga.

- **Bhakti-Yoga**

  The unitive discipline of Love/devotion, as expounded, for instance, in the Bhagavad-Gita, the Bhagavata-Purana, and numerous other scriptures of Shaivism and Vaishnavism.

- **Buddhi-Yoga**

  The unitive discipline of the higher mind, first mentioned in the Bhagavad-Gita.

- **Dhyana-Yoga**

  The unitive discipline of meditation.

- **Ghatastha-Yoga**

  The unitive discipline of the “pot” (ghata), meaning the body; a synonym for Hatha-Yoga mentioned in the Gheranda-Samhita.

- **Guru-Yoga**

  The unitive discipline relative to one’s teacher.

- **Hatha-Yoga**

  The unitive discipline of the force (meaning the serpent power or Kundalini-shakti), or forceful unitive discipline.

- **Jaba-Yoga**

  The unitive discipline of mantra recitation.
o **Jnana-Yoga**

The unitive discipline of discriminating wisdom, which is the approach of the Upanishad.

o **Karma-Yoga**

The unitive discipline of self-transcendent action, as first explicitly taught in the Bhagavad-Gita.

o **Kriya-Yoga**

The unitive discipline of ritual; also the combined practice of asceticism (tapas), study (svadhyaya), and worship of the Lord (ishvara-pranidhana) mentioned in the Yoga-sutra of Patanjali.

o **Kundalini-Yoga**

The unitive discipline of the serpent power (kundalini-shakti), which is fundamental to the Tantric tradition, including Hatha-Yoga.

o **Laya-Yoga**

The unitive discipline of absorption of dissolution of the elements prior to their natural dissolution at death.

o **Maha-Yoga**

The great unitive discipline, a concept found in the Yoga-shikha-Upanishad where it refers to the combined practice of Mantra-Yoga, laya-Yoga, Hatha-Yoga, and Raja-Yoga.

o **Mantra-Yoga**

The unitive disciplines of mystical sounds that help protect the mind, which has been a part of the Yoga tradition ever since Vedic times.

o **Nada-Yoga**
The unitive discipline of the inner sound, a practices closely associated with original Hatha-Yoga.

- **Patanjali-Yoga**

  The unitive discipline of Patanjali, better known as Raja-Yoga or Yoga-Darshana.

- **Purna Yoga**

  The unitive discipline of wholeness or integration, which is the name of Sri Aurobindo’s Yoga.

- **Raja-Yoga**

  The royal unitive discipline, also called Patanjali-Yoga, Ashtanga-Yoga, or Raja-Yoga.

- **Samadhi-Yoga**

  The unitive discipline of ecstasy.

- **Sanyasa-Yoga**

  The unitive discipline of renunciation, which is in contrast with Karma-Yoga in the Bhagavat-Gita.

- **Saputa-Yoga**

  The unitive discipline of sexual congress (maithuna) in Tantra-Yoga.

- **Saptanga-Yoga**


- **Shadanga-Yoga**
The unitive discipline of the six limbs (Shad-anga), as expounded in the Maitrayaniya-Upanishad: 1. Breathe control (pranayama), 2. Sensory inhibition (pratyahara), 3. Meditation (dhyana), 4. Concentration (dharana), 5 examination (tarka) and ecstasy (Samadhi).

- **Siddha-Yoga**

The unitive discipline of adapts, a concepts found in some of the Tantras.

- **Sparsha-Yoga**

The unitive discipline of contact; a Vedantic Yoga mentioned in the Shiva-Purana, which combines mantra recitation with breath control; eg: Asparsha-Yoga.

- **Tantra-Yoga:**

The unitive discipline of the Tantras, a Kundalini-based Yoga.

- **Taraka-Yoga**

The unitive discipline of the “deliverer” (taraka), a medieval Yoga based on light phenomena.

- **Yantra-Yoga**

The unitive discipline of focusing the mind upon geometric representations (yantra) of the cosmos.

### 1.14 BENEFITS OF YOGA

**Physiological Benefits**

- Stable autonomic nervous system equilibrium
- Pulse rate decreases
- Respiratory rate decreases
- Blood Pressure decreases (of special significance for hyporeactors)
- Galvanic Skin Response (GSR) increases
- EEG - alpha waves increase (theta, delta, and beta waves also increase during various stages of meditation)
- EMG activity decreases
- Cardiovascular efficiency increases
- Respiratory efficiency increases
- Grip strength increases
- Eye-hand coordination improves
- Dexterity skills improve
- Reaction time improves

1.15 PSYCHOLOGICAL BENEFITS
- Mood improves and subjective well-being increases
- Anxiety and Depression decrease
- Hostility decreases
- Concentration improves
- Memory improves
- Attention improves
- Learning efficiency improves
- Mood improves
- Self-actualization increase
- Social skills increases
- Well-being increases

1.16. BIOCHEMICAL BENEFITS
- Glucose decreases
- Sodium decreases
- Total cholesterol decreases
- Triglycerides decrease
- HDL cholesterol increases
- LDL cholesterol decreases
- VLDL cholesterol decreases
- Cholinesterase increases
- Catecholamines decrease
- ATPase increases
- Hematocrit increases
- Hemoglobin increases
- Lymphocyte count increases
- Total white blood cell count decreases
- Thyroxin increases
- Vitamin C increases
- Total serum protein increases

1.17. OBSTACLES OF YOGIC PRACTICE

- **Vyadi** - Sickness that disturbs the physical equilibrium
- **Sthyana** - Lack of mental disposition
- **Samsaya** - Doubt or indecision
- **Pramada** - Insensibility
- **Alasya** - Laziness
• Avitari - Sensuality
• Bhranti darshana - Illusion or invalid knowledge
• Alabdha bumikatva - In continuity
• Anavasthitattva - Instability

1.18. MOTOR FITNESS COMPONENTS

The goal of physical fitness programme is to improve the performance in activities of daily living, job demands, sports and recreational activities which was said by Craig Liebenson (2003)

Donald (1958) quoted that, “Fitness is composed of many complex factors where complete evaluation cannot be done by testing a single factor. Many variables such as those included in measuring cardio-respiratory balance, flexibility and nutrition reflex each in special way, some aspect of total physical fitness.”

Motor ability has been defined as the present acquired and innate ability to perform motor skills of a general or fundamental nature exclusive of high specialized sports and gymnastic techniques. This definition capacity and diverse training and experience is further implies that a valid measure of it must avoid highly specialized skills as revealed in dance or sports. For the purpose of this research the following motor fitness variables were selected.

1.18.1 STRENGTH

Strength helps the muscles to exert force to physical activity can be performed without strength. When strength is less other life functions are handicapped. The functioning capacity of vital organs such as those of respiratory, circulatory and digestive
systems depend upon the condition of voluntary muscles. Strength in hands helps to pull, push and to lift objects. Strength in legs helps to carry body weight and to carry extra burdens. Muscular strength is reduced or lost by inactivity. The main criterion of muscular contraction is its increasing tension which can be associated with the various phases of muscle length differentiated as follows:

1. Isometric contraction, in which the length of the muscle remains the same.
2. Concentric contraction, which involves shortening of muscles and
3. In eccentric contraction of which, the length of the muscle increases while its tension may remain the same even increase. (Kraus, 1965)

1.18.2. FLEXIBILITY

Flexibility refers to the absolute range of movement in a joint or series of joints, and length in muscles that cross the joints. Flexibility is variable between individuals, particularly in terms of differences in muscle length of multi-joint muscles. Flexibility in some joints can be increased to a certain degree by exercise, with stretching a common exercise component to maintain or improve flexibility.

Quality of life is enhanced by improving and maintaining a good range of motion in the joints. Overall flexibility should be developed with specific joint range of motion needs in mind as the individual joints vary from one to another. Loss of flexibility can be a predisposing factor for physical issues such as pain syndromes or balance disorders

Gender, age, and genetics are important for range of motion. Exercise including stretching often helps improve flexibility.
Many factors are taken into account when establishing personal flexibility: joint structure, ligaments, tendons, muscles, skin, tissue injury, fat (or adipose) tissue, body temperature, age and gender all influence an individual’s range of motion about a joint.

1.18.3. CARDIO VASCULAR ENDURANCE

Endurance is defined as the capacity to continue to work under strain for a long period of time without undue fatigue (Fall and Bigbee, 1968).

It is the ability to persist in strenuous activity this definition, may apply to the body as a whole, to a particular body system or to a local area of the muscular system. Endurance is one of the basic components of general athletic ability and it is usually considered to be the most important component of physiological fitness. Some activities of which endurance is of prime importance are running, swimming, cycling, wrestling, basketball, handball, soccer, rugby and football. In all these activities endurance training occupies an important place in preparation for performance. (Jenson and Fisher, 1972)

1.19. PHYSIOLOGICAL VARIABLES

Physiology is the science of the functioning of living systems. It is a subcategory of biology. In physiology, the scientific method is applied to determine how organisms, organ systems, organs and cells carry out the chemical or physical function that they have in a living system. Physiology is a scientific study of the ways in which the bodies of living things work.

1.19.1. RESTING PULSE RATE

The number of pulse beats per unit time, usually per minute. The pulse rate is based on the number of contractions of the ventricles (the lower chambers of the heart). The pulse
rate may be too fast (tachycardia) or too slow (bradycardia). The pulse is bulge of an artery from the wave of blood coursing through the blood vessel as a result of the heart beat. The pulse is often taken at the wrist to estimate the heart rate. (Karvonen MJ, et.al 1957).

Sleep is a time of rest for the entire body. Even the heart, which works day and night, naturally slows down during sleep. That’s why unhealthy heart function (caused by conditions such as heart disease) can deprive the body of restful sleep. Yet, the relationship between heart function and sleep works both ways. For instance, sleep related breathing disorders have been shown to play a major role in causing several types of heart and blood vessel disease.

1.19.2 BLOOD PRESSURE

Blood is carried from the heart to all parts of the body in vessels called arteries. Blood pressure is the force of the blood pushing against the walls of the arteries. Each time the heart beats (about 60-70 times a minute at rest), it pumps out blood into the arteries. The blood pressure is at its highest when the heart beats, pumping the blood. This is called systolic pressure. When the heart is at rest, between beats, one’s blood pressure falls. This is the diastolic pressure.

Blood pressure is always given as these two numbers, the systolic and diastolic pressures. Both are important. Usually written one above or before the other, such as 120/80 mmHg. The top number is the systolic and the bottom the diastolic. When the two measurements are written down, the systolic pressure is the first or top number, and the diastolic pressure is the second or bottom number (for example, 120/80). If one’s blood pressure is 120/80, one say that it is "120 over 80." Blood pressure changes during the day. It is lowest as one sleep and rises when you get up. It also can rise when one is excited, nervous, or active. Still, for most of one’s waking hours, the blood pressure stays pretty
much the same when sitting or standing still. The level should be lower than 120/80. When
the level stays high, 140/90 or higher, one has high blood pressure. With high blood
pressure, the heart works harder, arteries take a beating, and the chances of a stroke, heart
attack, and kidney problems are greater.

In many people with high blood pressure, a single specific cause is not known. This is
called essential or primary high blood pressure. Research is continuing to find causes. In
some people, high blood pressure is the result of another medical problem or medication.
When the cause is known, this is called secondary high blood pressure. (American Diabetes
Association, 2006).

Categories for Blood Pressure Levels in Adults* (In mmHg, millimeters of mercury)

<table>
<thead>
<tr>
<th>Category</th>
<th>Normal</th>
<th>Pre hypertension</th>
<th>High Blood Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Systolic</strong></td>
<td>Less than 120</td>
<td>120-139</td>
<td>Stage 1 140-159</td>
</tr>
<tr>
<td>(Top number)</td>
<td></td>
<td></td>
<td>Stage 2 160 or higher</td>
</tr>
<tr>
<td><strong>Diastolic</strong></td>
<td>Less than 80</td>
<td>80-89</td>
<td>Stage 1 90-99</td>
</tr>
<tr>
<td>(Bottom number)</td>
<td></td>
<td></td>
<td>Stage 2 100 or higher</td>
</tr>
</tbody>
</table>

1.20. PSYCHOLOGICAL VARIABLES

The word psychology comes from the Greek work psycho, means mind or soul and
logs mean science. So the world psychology is the science of the mind and soul.
Psychology studies human nature science of the mind and soul. Psychology is the study of human nature scientifically and rather than formulate condition. Psychology plays a major role in sports and in closely associated with psychological components.

Sports psychology is defined as the scientific study of human behavior in sport. Like the other discipline with in sports and exercise science, sports psychology can be applied to varied skilled movement physical activities and exercise programs, such as corporate fitness, exercise rehabilitation and health oriented exercise programs as well as traditional physical education and competitive athletics. (Diane L. Cell, 1972)

1.20.1. ANXIETY

While doing any job when one suspects about the proportion of possibility of success is known as anxiety. Anxiety is psychological factor that differs from arousal. It encompasses some degree of activation and an unpleasant emotional state. This form anxiety is used to describe the combination of intensity of behavior and directional effect or emotion.

Anxiety plays an important role in the acquisition of motor skills as well as in athletic performance. Anxiety can either enhance or inhibit performance whether its effect is positive or negative depends on how an individual athlete perceives the situation.

People with low trait level have been known to perform better in selected motor skills than those with high or trait levels. There is also positive relationship between participants in athletic competition.

A moderate level of anxiety seems best for the acquisition and performance of motor skills levels of anxiety either too high or too low tend to inhibit learning and performance. (Lewellyn and Blucker, 1974).
1.20.2. STRESS

The modern man suffers more psychological stress than the physical stress. Human is trying to live a successful life as per the expectation and norms of the society and is continually challenged with rapidly accumulating stresses. In this fast moving social set up, with high standard of living and innumerable changes the individual have no time to look back and think about what is happening to his body and mind. This accumulated stress for prolonged period leads him to the so called stress induced disorders, like heart attacks, high blood pressure, Diabetes, Asthma, Back pain and other psychological problems.

A change in attitude and life style is necessary to help the individual to come out these health hazards and to cope with the future. Traditional yoga philosophy, regards human being an individual entity. The root cause of ailment of a stress, through the various therapeutical techniques of yoga one can pluck out this cause and can provide health and harmony. (Davidson. G.C and Neal J.M 1990).

1.20.3. SELF CONFIDENCE

Psychologists define self-confidence as the belief that one can successfully perform activity or desired behavior. The desired activity or behavior might be dancing for two hours, staying on an exercise regimen, recovering from a knee injury, serving an ace, or hitting a home run. But the common factor is that one believes that he will get the job done.

It is important to make a final comment about defining self-confidence. Specifically, some evolving and recent research has revealed that like many other current personality constructs, self confidence may be multi dimensional, consisting of several aspects. Specifically, there appear to be several aspects, there appears to be several types of self-confidence within sport including the following:
• Confidence about one’s ability to execute physical skill

• Confidence is about one’s ability to utilize psychological skill (e.g. imagery, self-talk).

• Confidence in one’s level of physical fitness and training status

• Confidence in one’s learning potential or ability to improve one’s skill.

   (Robert S. Weinbergh and Deniel Gould, 1995)

There are number of researches that have found that Suryanamaskar, Asanas with kriyas practices and Suryanamaskar, Asanas with meditation practices improve physical, physiological and psychological variables among different population.

1.21. OBJECTIVES OF THE STUDY

1. To find out the effect of Suryanamaskar, Asanas with kriyas practices on selected Motor fitness components among Traffic police men.

2. To find out the effect of Suryanamaskar, Asanas with kriyas practices on selected physiological variables among Traffic police men.

3. To find out the effect of Suryanamaskar, Asanas with kriyas practices on selected psychological variables among Traffic police men.

4. To find out the effect of Suryanamaskar, Asanas with meditation practices on selected on Motor fitness components among Traffic police men.

5. To find out the effect of Suryanamaskar, Asanas with meditation practices on selected on physiological variables among Traffic police men.

6. To find out the effect of Suryanamaskar, Asanas with meditation practices on selected on psychological variables among Traffic police men.
7. To find out the comparative effect of Suryanamaskar, Asanas with kriyas practices and Suryanamaskar, Asanas with meditation practices on selected on Motor fitness components, physiological and psychological variables among Traffic police men.

1.22. REASONS FOR THE SELECTION OF TOPIC

The researcher has taken interest on the effect of suryanamaskar asanas with kriyas and meditation on selected motor fitness components, physiological and psychological variables among Traffic police men. Motor fitness components, physiological and psychological variables are needed to analyze the various changes takes place in their physical level before and after the training period.

The researcher took this topic because there are lack of literature and studies in the same fields, and especially on for Among Traffic police men. Hence Researcher wants to find out the effect of each practice separately and combine practices on Among Traffic police men.

1.23. REASONS FOR THE SELECTION OF THE VARIABLES

Traffic police men have high cholesterol deposit, more sweating, increased blood pressure, etc., as well as psychological like stress, anxiety etc. as well as physical problems like Endurance, Strength and Flexibility etc., Thus the investigator has chosen these variables for the present study. Motor fitness components, Physiological & Psychological Variables as dependent variables and Suryanamaskar, Asanas with kriyas practices and Suryanamaskar, Asanas with meditation practices as independent variables.
1.24. STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effects of suryanamaskar asanas with kriyas and meditation on selected motor fitness components, physiological and psychological variables among Traffic police men.

1.25. HYPOTHESES

On the basis of conclusion drawn through critical and allied literature related to the study the investigator has framed the following hypotheses

1. It was hypothesized that there would be significant improvement in the selected Motor fitness components, Physiological and Psychological Variables among Traffic police men due to Suryanamaskar, Asanas with kriya practices.

2. It was hypothesized that there would be significant improvement in the selected Motor fitness components, Physiological and Psychological Variables among Traffic police men due to Suryanamaskar, Asanas with meditation practices.

3. It was hypothesized that there would be significant differences in the improvement between Suryanamaskar, Asanas with kriyas practices and Suryanamaskar, Asanas with meditation practices on selected Motor fitness components, Physiological and Psychological Variables among Traffic police men.

1.26. SIGNIFICANCE OF THE STUDY

1. The findings of the study would explore the status of the Suryanamaskar, Asanas with kriyas practices and Suryanamaskar Asanas with Meditation practices among Traffic police men.
2. The study would bring out the relative effect of Suryanamaskar, Asanas with kriya practices and Suryanamaskar, Asanas with meditation practices among Traffic police men.

3. The findings of the study will helpful for the further research studies, also helpful for the academy of Among Traffic police men.

4. This study would give an exact idea, about Motor fitness components like Endurance, Strength and Flexibility.

5. This study would give an exact idea about physiological variables like decrease of pulse rate, maintain the normal level of Systolic Blood pressure and Diastolic Blood Pressure.

6. This study would give an exact idea about Psychological variables like reducing stress and anxiety and improve the self confidence.

1.2. DELIMITATIONS

The following delimitations were taken into consideration in the interpretation of results:

1. The study was confined to Traffic police men only.

2. The age of the subjects were ranging from 30 to 40 years only.

3. The total numbers of subjects were 45 Traffic police men, in which 15 for control group, 15 for Experimental group I (Suryanamaskar, Asanas with meditation practices), and 15 for Experimental group II (Suryanamaskar, Asanas with kriya practices) were taken for the study.

4. The subjects were selected from Chennai only.
5. The subjects were experimentally treated with Suryanamaskar, Asanas with kriyas practices as well as Suryanamaskar, Asanas with meditation practices only.

6. The study was conducted on dependent variables such as Cardiovascular Endurance, Strength, Flexibility, Resting Pulse Rate, Systolic blood pressure, Diastolic blood pressure, Anxiety, Stress and Self confidence only.

1.28. LIMITATIONS

The study was limited in the following aspects.

1. The socio-economical status was not taken into consideration.

2. No attempt was made to control the factors like air resistance, intensity of light, atmosphere and temperature.

3. Certain factors like life style, body structure, personal habits, and family heredity were not taken into consideration for this study.

1.29. MEANING AND DEFINITION OF THE TERMS

1.29.1 YOGA ‘‘be detached do your duty, in performing your prescribed task with spirit unattached you shall mount to highest bliss’’(Bhagavad-Gita)

Sidhis,Rishis, described as ‘‘Skill in Action’’

Yoga is a timeless pragmatic science evolved over thousands of years dealing with the physical, moral, mental, and spiritual well being of man as a whole

1.29.2. ASANA; ‘‘Asana means posture in which an individual can sit for a long time in comfortable position’’(Hatha prathipika-1982)
Asana is steady comfortable posture.

1.29.3 PRANAYAMA: “It is process of regulation and control over breath during the process of inhalation and exhalation.” “Pranayma means control of life force through the art of breathing.”(Kuvalayananda -1971)

1.29.4 MEDITATION

Meditation refers to a family of self-regulation practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control and thereby foster general mental well-being and development and/or specific capacities such as calm, clarity, and concentration.

1.29.5. MOTOR FITNESS COMPONENTS

1.29.5.1. FLEXIBILITY

Flexibility is the range of motion possible for each of your joints or groups of joints, (Flexibility, 2011)

1.29.5.2. CARDIO VASCULAR ENDURANCE

Endurance is defined as the capacity to continue to work under strain for a long period of time without undue fatigue.(Fall and Bigbee, 2006)

1.29.5.3. STRENGTH

Muscular strength is the ability of the muscle to exert force during an activity. The key to making your muscles stronger is working them against resistance, whether that is from weights or gravity. (Mathews, 1981)
1.29.6 PHYSIOLOGICAL VARIABLES

1.29.6.1 RESTING PULSE RATE

The number of pulse beats per unit time, usually per minute. The pulse rate is based on the number of contractions of the ventricles (the lower chambers of the heart). The pulse rate may be too fast (tachycardia) or too slow (bradycardia) (Karvonen MJ, et.al 1957)

1.29.6.2 BLOOD PRESSURE: defined as a repeatedly elevated blood pressure exceeding 140 over 90 mmHg -- a systolic pressure above 140 with a diastolic pressure above 90. Pulse rate the pulse is the number of heart beats per minute. Consistently elevated Blood Pressure is called Hypertension (Bhoj Raj 2001).

1.29.6.3 SYSTOLIC BLOOD PRESSURE: The highest level which the arterial blood pressure rises during the systolic ejection of blood from the ventricle (Makarand and Madhukar Gore – 1994)

1.29.6.4 DIASTOLIC BLOOD PRESSURE: The lowest level to which the arterial blood pressure falls in the interval between successive heart beats. (Leslie Kaminoff, 2005)

1.29.7. PSYCHOLOGICAL VARIABLES

1.29.7.1 ANXIETY

While doing any job when one suspects about the proportion of possibility of success is known as anxiety. Anxiety is psychological factor that differs from arousal. It encompasses some degree of activation and an unpleasant emotional state. This form anxiety is used to describe the combination of intensity of behavior and directional effect or emotion.
1.29.7.2 STRESS

Stress may be defined as the “Response pattern of an organism to prepare itself for Fight or Flight”. (Latha, 1997)

1.29.7.3 SELF CONFIDENCE

Self confidence about one’s ability to execute physical skill and self confidence is about one’s ability to utilize psychological skill (e.g. imagery, self-talk), and Confidence in one’s level of physical fitness and training status, confidence in one’s learning potential or ability to improve one’s skill. (Robert S.Weinberg and Deniel Gould, 1995).