In this chapter, the selection of the subjects, selection of the tests, reliability of the instrument, reliability of the data, competence of tester, orientation of the subjects, test administration, training programme, experimental design, collection of data, and statistical procedure have been explained.

**Selection of Subjects**

To achieve the purpose of the study, one thousand and three hundred men students were screened using Health Related Physical Fitness index. Out of the one thousand and three hundred men students, ninety seven student’s performance in the lower quartile, specifically in the range to 30 – 35 were used to extract as samples. Among them eighty men were randomly selected as subjects.
Experimental Design

The selected subjects (N=80) were divided into four groups and named Group-1 as the Combination of Yogic Exercises with Aerobic Training (CYEAT) -, Group II, as the Combination of Yogic exercises with Resistance Training (CYERT), Group III as the Combination of Yogic exercises with Aerobic and Resistance Training (CYEART) and Group IV as Control Group (CG). Thus each group consisted of 20 subjects. Subjects in the Group I underwent the Combination of Yogic Exercises with Aerobic Training, Subjects in the Group II underwent the Combination of Yogic exercises with Resistance Training, Subjects in the Group III underwent the Combination of Yogic exercises with Aerobic and Resistance Training and Subjects in the Group IV were off of from any specific physical exercises other than their life style environment.

Selection of Variables

The present study mainly concerned with health related physical fitness since they served as a functional determinant of health aspects. As far as individual health is concerned, physical and physiological aspects have to be considered as the major factors since these are having the functional association with one another. Earlier studies clearly describe its nature, also accorded by the professional experts. With these causes and effect, to visualize the status of physical and physiological characteristics of college men and its effect to newly designed treatments using varied CYEAT, CYERT, CYEART, the variables underlie the health fitness, body composition indices and physiological variables were chosen as the criterion variables. Thus the selected variables for the present study are: as health related physical fitness flexibility, muscular strength and endurance,
Methodology

cardio-vascular endurance, as body composition indices body weight, percent body fat, fat mass, lean body mass and as physiological variables resting heart rate, resting systolic blood pressure, resting diastolic blood pressure, and breath holding time.

Criterion Measures

Having the experts’ consultation in the field of yoga, physical education and sports sciences and scanning various literatures related to health, fitness, training methods and yoga, the investigator has selected the following test items as criterion measures. The subjects were tested on the following Physical and Physiological test variables.

<table>
<thead>
<tr>
<th>Health Fitness Components</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>01. Flexibility</td>
<td>Sit and Reach Test</td>
</tr>
<tr>
<td>02. Muscular Strength and Endurance</td>
<td>Modified Sit-Ups</td>
</tr>
<tr>
<td>03. Cardio Respiratory Endurance</td>
<td>1.5 Mile Run and Walk Test</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body Composition Indices</th>
<th>Equipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>04. Body Weight</td>
<td>Weighing Machine</td>
</tr>
<tr>
<td>05. Percent Body Fat</td>
<td>Skin Fold Caliper</td>
</tr>
<tr>
<td>06. Fat Mass</td>
<td></td>
</tr>
<tr>
<td>07. Lean Body Mass</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physiological Variables</th>
<th>Equipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>08. Resting Heart Rate</td>
<td>Stethoscope</td>
</tr>
<tr>
<td>09. Resting Systolic Blood Pressure</td>
<td>Sphygmomanometer</td>
</tr>
<tr>
<td>10. Resting Diastolic Blood Pressure</td>
<td></td>
</tr>
<tr>
<td>11. Breath Holding Time</td>
<td>Digital Stop Watch</td>
</tr>
</tbody>
</table>
The chosen tests are highly standardized, appropriate and ideal for the selected variables.

**Orientation of the Subjects**

The investigator held a meeting with the subjects prior to the administration of tests. The purpose, the significance of this study and the requirements of the testing procedure were explained to them in detail. So that there was no ambiguity in their minds, regarding the efforts required of them. All the subjects voluntarily came forward to co-operate in the testing procedures and the training to put in their best efforts in the interest of the scientific investigation and in order to enhance their own performance. The subjects were very enthusiastic and co-operative throughout the project.

**Reliability of Data**

The reliability of data was ensured by establishing instrument reliability, tester competency and subject reliability.

**Instrument Reliability**

The instruments used for this study were calibrated and standardized one. These equipments were supplied by the Department of Physical Education, Bharathidasan University, Tiruchirappalli and Bharathiar University, Coimbatore. These equipments were supplied by reputed scientific firms and the calibrations of the instruments were accepted as accurate enough for the purpose of the study.
Tester Reliability

To ensure that the investigator was well versed in the technique of conducting the test, the investigator had a number of practice sessions in the teaching procedure. All the measurements were taken by the investigator with the assistance of person well acquainted with tests and their procedures. Tester competency and reliability of test were established by test, retest process. A very high correlation was obtained, the tester competency in taking measurement and test reliability were accepted.

Subject Reliability

The subject reliability was established by test and retest coefficient of correlation for the scores in each of the criterion measures. Re-testing was done within a period of a week of initial tests in each of the criterion measures, to get data for calculating test and re-test coefficient of correlation for reliability of the subject.

Table – 3.1 Reliability Coefficient of Test Retest Scores of Criterion Variables

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Criterion Variables</th>
<th>“r” Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sit and Reach</td>
<td>0.97</td>
</tr>
<tr>
<td>2</td>
<td>Modified Sit ups</td>
<td>0.89</td>
</tr>
<tr>
<td>3</td>
<td>1.5 Mile Run</td>
<td>0.92</td>
</tr>
<tr>
<td>4</td>
<td>Body Weight</td>
<td>0.94</td>
</tr>
<tr>
<td>5</td>
<td>Skin Fold Caliper Measures</td>
<td>0.97</td>
</tr>
<tr>
<td>6</td>
<td>Resting Heart Rate</td>
<td>0.98</td>
</tr>
<tr>
<td>7</td>
<td>Resting Systolic Blood Pressure</td>
<td>0.95</td>
</tr>
<tr>
<td>8</td>
<td>Resting Diastolic Blood Pressure</td>
<td>0.97</td>
</tr>
<tr>
<td>9</td>
<td>Breath Holding Time</td>
<td>0.98</td>
</tr>
</tbody>
</table>
Test Administration

Before the conduct of the tests, the researcher demonstrated each test to the subjects. A model performance by a few persons other than the active participants has also been done to make them clearly understand the test procedures. The test items and the procedure for the Administration used in the present study are explained below.

**FLEXIBILITY**

<table>
<thead>
<tr>
<th>Test</th>
<th>Sit and Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>To measure flexibility</td>
</tr>
<tr>
<td>Equipments</td>
<td>Sit and Reach apparatus, score sheet.</td>
</tr>
</tbody>
</table>

**Procedure**

The sit and reach apparatus should have the 25 cm mark equivalent to the point where the feet touch the box. The subject has to warm-up for the test by performing slow stretching movements before taking actual measurements. The subject would sit barefoot with the legs fully extended with the soles of the feet placed flat against the horizontal cross board of the apparatus, with the inner edge of the sole placed 2 cm from the scale, keeping the knees fully extended, arms evenly stretched, palms down. The subject bends and reaches forward (without jerking) pushing the sliding marker along the scale with the fingertips as far forward as possible. The position of maximum flexion must be held for approximately two seconds. The test is repeated twice. If the knees flex, the trial is not counted. There should be no attempt to hold the Knees down.
Scoring

Record the maximum distance reached to the nearest 0.5 cm. (*Operation manual for “The Canadian fitness Challenge, 1982*).

**ABDOMINAL MUSCULAR STRENGTH AND ENDURANCE**

**Test**: Modified Sit-Ups

**Purpose**: To measure abdominal strength and endurance

**Equipment**: Mats

**Procedure**

The subject lies flat on the back with knees bent and feet on the floor with the heels no more than 1 foot from the buttocks. The knee angle should be no less than 90 degrees. The fingers are interlocked and placed behind the neck with the elbows touching the floor. The feet are held securely by a partner. The students then curls up to a sitting position and touch the elbows to the knees. This exercise is repeated as many times as possible in the time requirement.

Scoring

One point is scored for each correct sit-up. The score is the maximum number of sit-ups completed in 60 seconds. (*Barrow and Mc Gee, 1989*)

**CARDIO RESPIRATORY ENDURANCE**

**Test**: 1.5 Mile Run and Walk Test
**Methodology**

**Purpose**: To measure the cardio vascular endurance.

**Equipment**: Stop Watch, Measuring Tape, Score Card, Pencils and 400 Meters Track

**Procedure**

The group running can be divided into 2 sections for testing purposes. Each student works with a partner. While one student is running, the other partner checks laps and marks the time at the finish. The instructor should talk about pace and the time a subject should be running at the end of each lap. The students are instructed to listen for the elapsed time to be called out as they pass the finish at the end of each lap. After they have finished the run, students are instructed to continue walking or jogging for at least a lap in order to regain normal breathing.

**Scoring**

Time is recorded to the nearest one-tenth of a second by the instructor after all runners have finished. *(Barrow et al., 1989)*.

**BODY WEIGHT**

**Purpose**: To measure the body weight.

**Equipment**: Weighing machine and score sheet.
Procedure

The body weight of each subject was taken on a portable weighing machine. Before taking the measurements, care was taken to see that the pointer of weighing machine stood at zero when there was no weight on it. The measurement of body weight was recorded to nearest one tenth a kilogram.

Scoring

The body weight was recorded with nearest one tenth of kilogram and recorded as score.

BODY COMPOSITION (Body Density)

Purpose : To assess the body density

Equipment : Skin fold calipers.

Procedure

All the measurements were registered on the right side of the body as per the recommendations of Shaver (1981). The calipers were applied about 1 cm. from the fingers holding the skin fold and at a depth that is about equal to the thickness of the fold. All measurements were taken with the skin fold in a vertical position, except where the natural folding of the skin is in opposition, in which case the measurement was made with the skin fold along the lines of the natural folding.

Abdominal skin fold (A) - at the midaxillary line at waist level.

Chest skin fold (B) - at the level of xiphoid in the midaxillary line
Arm skin fold (C) - at the mid posterior, midpoint between the tip of acromion and the tip of the olecranon with the arm hanging at the sides.

After measuring the skin fold thickness, the body density was calculated as follows:

\[
\text{Body density} = 1.1017 - (0.000282) \times (A) - (0.000736) \times (B) - (0.000883) \times (C)
\]

**Scoring**

All the skin fold measurements were recorded to the nearest millimeters.

**PERCENT BODY FAT**

**Purpose** : To assess the percent body fat.

**Equipment** : Skin fold calipers.

**Procedure**

After getting the body density, the percent body fat was calculated as follows:

\[
\text{Percent body fat} = \frac{4.570}{\text{Body density}} - 4.142 \times 100
\]

**Scoring**

The percent body fat was recorded in percent.
**FAT MASS**

**Purpose:** To assess the weight of the fat (kg)

**Equipment:** Skin fold calipers.

**Procedure**

After obtaining the percent body fat, the weight of fat was calculated as follows:

\[
\text{Weight of the fat (kg)} = \frac{\text{Weight (Kg)} \times \text{percent fat}}{100}
\]

**Scoring**

The weight of the fat was recorded in kilograms.

**LEAN BODY MASS**

**Purpose:** To assess the lean body weight

**Equipment:** Skin fold calipers

**Procedure**

After deriving the weight of the fat, the lean body weight was calculated as follows:

\[
\text{Lean body weight} = \text{Total body weight (Kg)} - \text{Weight of the fat (Kg)}
\]

**Scoring**

The lean body weight was recorded in kilograms.
**RESTING PULSE RATE**

Test : Stethoscope reading / Digital pressure monitor

Purpose : To measure the rate of the heart beat per minute

Equipment : Stethoscope, Score Sheet, Stop Watch.

**Procedure**

For the sake of accuracy, in this study, the resting heart rate was measured in the subject’s hostel rooms as soon as they woke up from their sleep in the morning. They were instructed to remain in their beds till the investigator arrived to measure their resting heart rates. Even though measuring thirty subjects on a single morning was a time-consuming exercise, the result procured was worth the effort made. The resting pulse was measured while the subject remained lying on the bed around 7 a.m. in the morning.

The stopwatch was used to count the seconds for starting and ending the heart beat counts. After every minute, when the stopwatch was stopped, both the subjects and investigator called out the number of beats counted by them simultaneously.

There were five repetitions of such one-minute counts and the highest count was recorded as the subject’s resting pulse rate.

**Scoring**

Number of beats per minute was counted.
**BLOOD PRESSURE**

**Purpose**: The purpose of this test was to measure the systolic and diastolic blood pressure.

**Equipments**: Sphygmomanometer, stethoscope and a comfortable chair.

**Procedure**

The subject was asked to sit on a chair comfortably. While taking blood pressure, the subject’s right arm was completely made bare to make certain that clothing does not press the blood vessels. The instrument was kept at the level of heart. The blood pressure measurement was taken with the subject in the sitting position; his forearm was kept straight and relaxed position. The cuff was wrapped round the arm evenly with the lower edge approximately one inch above the anticubal space. The stethoscope receiver was placed firmly over the brachial artery in anticubital space. The cuff was inflated until the artery collapsed fully to the extent that no pulse beat was heard.

**Measurement**

When no pulse beat was heard, the pressure was slowly released till the first sound of the pulse was heard. This was the systolic blood pressure. When the pressure was further released gradually, the sound of the pulse was reduced in intensity and quality. This recording was the diastolic blood pressure.

**Scoring**

Both the recordings were in millimeters of mercury (mm of Hg).
BREATH HOLDING TIME

Purpose : To find out the maximum ability of the subject to
          Hold his breath.

Equipments : A stopwatch.

Procedure

The subject was asked to stand at ease and inhale deeply after which he
held his breath as long as possible. The index finger of the subject served as an
indicator for the investigator to know the start and end of recording time. To
prevent exhalation or inhalation through the mouth during the recording time the
subject was asked to couple his lips tightly. Two trials were permitted for each
subject with a gap of five minutes and the better time was recorded.

Scoring

The time of holding the breath till the subject lets the air out was recorded
to the nearest one tenth of a second using a stop watch.

Training Programme

The procedure adopted in the training programme of the present study is
given here under:

1. During the training period, Group I - CYEAT underwent 30 minutes of
   Yogic Exercises and 30 minutes of Aerobic Training with an interval of
   five minutes, Group II CYERT underwent 30 minutes of Yogic
   Exercises and 30 minutes of Resistance Training with an interval of five
   minutes, and Group III CYEART underwent the training program as in
   the case of Group-I for three days in a week (Monday, Wednesday &
Friday) and underwent the training program as in the case of Group-II for three days in a week (Tuesday, Thursday & Saturday). The fourth group acted as Control Group (CG). The training was given to all the groups except the control group for six days a week for twelve weeks under the supervision of the investigator.

2. The circuit based aerobic and resistance training programme was used in the present study.

3. The subjects underwent their respective training programme as per the schedules under the supervision of the investigator. Each day the training session was conducted only in the morning time. In every day training session, the work out lasted for 60 minutes. Prior to every training session all the 3 groups had 5 minutes warm up exercise involving mobility exercise and stretching. All the subjects involved in the training programmes were questioned about their stature through out the training period. None of them reported any injury. However muscles soreness and fatigue were reported in the early weeks which subsided later.

4. The exercise programme was done six days per week.

5. The subjects were instructed not to begin the next exercise until they can complete the 30-second period of exercise. The exercise programme was individualized than group. Therefore the subjects were instructed to continue with the week circuit programme with low-to moderate intensity of their own capacity.
Combination of Yogic Exercises with Aerobic Training (CYEAT) Group-I

The schedule followed for Group-I of combination of yogic exercises with aerobic training is as follows: The subjects in the CYEAT group were trained on six days per week. The subjects performed 30 minutes of Yogic Exercises and 30 minutes of Aerobic Training with an interval of five minutes. The yogic exercises package is listed below.

Table – 3.2
Yogic Exercise Package (30 Minutes)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>YOGIC PRACTICE</th>
<th>NAME</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>ASANAS</td>
<td>1. Padmasana</td>
<td>18 - Minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Paschimottanasana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Matsyasana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Ardha Matsyendrasana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Bhujangasana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Sarvangasana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Dhanurasana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Halasana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Trikonasana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10. Savasana</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>PRANAYAMA</td>
<td>1 Nadi Suddhi</td>
<td>07 - Minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Ujjayi</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Sitali</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>MEDITATION</td>
<td>Observing the Breath</td>
<td>05 - Minutes</td>
</tr>
</tbody>
</table>

Training Details of Yogic Practice

i)  Duration of the training - 12 Weeks

ii) Number of days per week - 6 Days

iii) Duration of the session - 30 Minutes
Training Phases of Yogic Practice

The yogic practices consist of three phases in a session.

i) First Phase - Asanas

ii) Second Phase - Pranayamas

iii) Third Phase - Meditation

Time Schedule for a Session (30 Minutes)

i) Practice Time - 6.00 to 6.30 a.m.

ii) Asanas - 18 Minutes

iii) Pranayamas - 07 Minutes

iv) Meditation - 05 Minutes

The performance of asanas had three phases:

i) The start

ii) The Final Pose

iii) The Release

The minimum period of holding time of the final pose in an asana is 10 seconds. For every four weeks five seconds will be increased. (i.e. 1 – 4 weeks 10 seconds, 5 – 8 weeks 15 seconds, 9 – 12 weeks 20 seconds). The asanas from the designed package were performed with a sequence of sitting, lying and standing while care was also taken that the counter movements exist during the variations from one asana to another. When an asana was performed in forward bending the next asana should be in backward bending movement. (e.g.: Dhanurasana Vs Halasana)

The pranayama practice was also practised in this similar manner, which also had three distinct phases of breathing like:

i) Inhalation

ii) Suspension (Holding the Air in the Lungs)

iii) Exhalation
The above three phases should be practised in systematic manner. The First four weeks (1 – 4 weeks) the ratio will be of 1 : 1 : 1, during Second four weeks (5 – 8 weeks) 1 : 2 : 1 and during Third four weeks (9 – 12 weeks) 1 : 2 : 2 (i.e. 5 Seconds Inhalation, 10 Seconds Holding and 10 Seconds Exhalation).

Care was taken to provide a suitable noise free, dust free and comfortable ambience to undergo systematic yogic practice under the supervision of the investigator.

Other than the yogic exercises the exercises used in the aerobic training were performed in the circuit form. The circuit comprising 30 second work period at 50- 60% of max heart rate with 30 seconds of jogging between each station to increase the aerobic content. This workout was done in the morning session for about thirty minutes. The aerobic exercises package used in the circuit training form are listed below.

<table>
<thead>
<tr>
<th>S.No</th>
<th>1 – 4 Weeks</th>
<th>5 – 8 Weeks</th>
<th>9 – 12 Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Alternate toe touch</td>
<td>Alternate leg circle</td>
<td>Double leg circle</td>
</tr>
<tr>
<td>2.</td>
<td>Shuttle run</td>
<td>Sideward shuttle run</td>
<td>Zig-Zag Run</td>
</tr>
<tr>
<td>3.</td>
<td>Double leg lift</td>
<td>Alternate leg thrust</td>
<td>Squat thrust</td>
</tr>
<tr>
<td>4.</td>
<td>Skipping</td>
<td>Side skipping</td>
<td>Rope skipping</td>
</tr>
<tr>
<td>5.</td>
<td>Heel and toe walking</td>
<td>Side to side jumping</td>
<td>Hop shuttle run</td>
</tr>
<tr>
<td>6.</td>
<td>Curl up</td>
<td>Reverse curl</td>
<td>Trunk lift</td>
</tr>
<tr>
<td>7.</td>
<td>Leg swing forwards &amp; backwards</td>
<td>Donkey kick</td>
<td>Trunk twist</td>
</tr>
<tr>
<td>8.</td>
<td>Hexagon drill</td>
<td>Hexagon hopping</td>
<td>Hexagon run</td>
</tr>
<tr>
<td>9.</td>
<td>Arms rotation</td>
<td>Flexed arm support</td>
<td>Bent knee sit ups</td>
</tr>
</tbody>
</table>

**Table – 3.3**

**Aerobic Training Package (30 Minutes)**
Combination of Yogic Exercises with Resistance Training (CYERT) Group-II

The schedule followed for Group-II of combination of yogic exercises with resistance training is as follows. The subjects in the CYERT group were trained on six days per week. The subjects performed 30 minutes of Yogic Exercises and 30 minutes of Resistance Training with an interval of five minutes. Other than the yogic exercises the exercises used in the resistance training were performed in the circuit form. The circuit comprising 60 second work period at 50 - 60% of max heart rate with 20 seconds of slow jogging between each station. This workout was done in the morning session for about thirty minutes. The yogic exercises package was same as that of Group-I and the resistance exercises package used in the circuit training form are listed below.

Table – 3.4
Resistance Training Package (30 Minutes)

<table>
<thead>
<tr>
<th>S.No</th>
<th>1 – 4 Weeks</th>
<th>5 – 8 Weeks</th>
<th>9 – 12 Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Four Count Jumping jack</td>
<td>Four Count Jumping jack with turnings</td>
<td>Two Count Jumping jack</td>
</tr>
<tr>
<td>2</td>
<td>Step up</td>
<td>Lateral Step up</td>
<td>Depth Jump</td>
</tr>
<tr>
<td>3</td>
<td>Single leg hopping</td>
<td>Alternate leg split squats</td>
<td>Galaping</td>
</tr>
<tr>
<td>4</td>
<td>Push ups</td>
<td>Tuck jumps</td>
<td>Burpees</td>
</tr>
<tr>
<td>5</td>
<td>Half squat</td>
<td>Hexagonal jumps</td>
<td>Squat jumps</td>
</tr>
<tr>
<td>6</td>
<td>Vertical jump</td>
<td>High bench step up</td>
<td>Double leg high bench jump</td>
</tr>
</tbody>
</table>
The specificity of training programme for aerobic and resistance packages are given below.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>SPECIFICITY</th>
<th>AEROBIC TRAINING</th>
<th>RESISTANCE TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mode of exercises</td>
<td>Aerobic</td>
<td>Resistance</td>
</tr>
<tr>
<td>2.</td>
<td>No. of Stations</td>
<td>09</td>
<td>06</td>
</tr>
<tr>
<td>3.</td>
<td>Duration of exercise in Each Station</td>
<td>30 Sec.</td>
<td>60 Sec.</td>
</tr>
<tr>
<td>4.</td>
<td>No. of Exercises in Each Circuit</td>
<td>09</td>
<td>06</td>
</tr>
<tr>
<td>5.</td>
<td>Rest in between circuit</td>
<td>2-3 minutes</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>6.</td>
<td>Intensity</td>
<td>50 to 60 % of Max. Heart Rate</td>
<td>50 to 60 % of Max. Heart Rate</td>
</tr>
<tr>
<td>7.</td>
<td>Duration of Each Circuit</td>
<td>10 Minutes</td>
<td>15 Minutes</td>
</tr>
<tr>
<td>8.</td>
<td>Number of Circuits</td>
<td>Three</td>
<td>Two</td>
</tr>
<tr>
<td>9.</td>
<td>Number of Session</td>
<td>One (Morning)</td>
<td>One (Morning)</td>
</tr>
<tr>
<td>10.</td>
<td>Total Duration</td>
<td>30 Minutes</td>
<td>30 Minutes</td>
</tr>
</tbody>
</table>

**Collection of Data**

At the end of the treatment period, as post test, the subjects who belong to the treatment groups (namely combination of yogic exercises with aerobic training- *CYEAT*, combination of yogic exercises with resistance training- *CYERT*, combination of yogic exercises with aerobic and resistance training- *CYEART* and
control group-CG) were tested on criterion variables of flexibility, muscular strength and endurance, cardio respiratory endurance (health fitness components), body weight, percent body fat, fat mass, lean body mass (body composition indices) and resting heart rate, resting systolic blood pressure, resting diastolic blood pressure and breath holding time (physiological variables) as such in the pre-test of the same. The collected data were processed with appropriate statistical tool and the detailed procedure of the same is given below.

**Statistical Techniques**

The present study pays attention mainly on testing between means of four treatment groups and secondarily deals with the increase of means in each group from baseline to post treatment for various measures. The statistical tool used for these are:

The individualized effect of the varied combinations of training was analyzed with ‘t’ ratio.

The pre and post training performance of the groups was analyzed with *One-Way Analysis of Variance* (ANOVA).

*Analysis of Co-Variance* (ANACOVA) was used to find out whether there was any significant difference between the adjusted final means. *Scheffe’s Post-hoc* test was used test the significance of difference of pairs of adjusted final group means to find out the better group.

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