EFFECT OF YOGA ON PHYSICAL FITNESS VARIABLES OF COLLEGE GOING STUDENTS

INTRODUCTION:- The word ‘yoga’ is derived from the roots of Sanskrit ‘Yuj’ which means to join, to attach, to bind, yoke and a concentrate or one attention. Practice of Yoga would directly contribute to human resource development and improvement in the quality of life by developing their fitness (Physical, mental, emotional as well as spiritual). It enhances the quality of life by improving motor ability. PURPOSE:- purpose of the study was to find out the effect of Yogasana on physical fitness variables of college going students. MATERIALS & METHODS:- To achieve the purpose, total ninety (90) college going students age range between 18-23 years were randomly selected for the study from Santal Bidroha Sardha Satabashkri Mahavidyalya, Godtore, Paschim Medinipur, West Bengal. The physical fitness variables were flexibility, cardio-vascular endurance, abdominal muscle strength, body fat % and speed. They were measured by sit and reach test, 1 mile run and walk test, sit ups, skin fold calliper and 50 yard dash test respectively. The subjects were divided into two groups. One group was utilized as the control group and the other as experimental group. Each group contains forty five (45) subjects. The Experimental group (yoga group) has been given the eight (8) weeks yoga training in the college campus. The training schedule were fixed in the morning session as well as in the afternoon session minimum time duration 45-60 minutes per session with various types of yogasanas including slow warming up, warm down and resting time between and set of the exercises. On the other hand, Control group (Non-yoga group) has not participated in the yoga training. The Pre-test and post-test mean scores of the two groups have been taken and their scores are recorded. The Independent Paired-‘t’ test is conducted for evaluate the data and the level of significance is fixed at 0.05 level of confidence.

RESULTS & DISCUSSION:- The data was analyzed statistically by computing mean, standard deviation and ‘t’ test. It was observed from the tables that in the experimental group the pre-test mean scores of physical fitness variables were 4.50, 10.50, 15.62, 19.02 and 10.50 respectively which are slightly changed in post-test that is 5.55, 10.70, 16.25, 19.52 and 10.56 respectively. It was also evident from the table that the calculated value of the each variable in the control group is less than the Table value (2.01) at 0.05 level of significant. So the result was insignificant. On the other hand, calculated value of the each physical fitness variable is more than the table value (2.01) at 0.05 level of significant in the experimental group except speed. The hypothesis was accepted since there was a significant improvement in flexibility, cardio-vascular endurance, abdominal muscle strength and body fat % of the experimental group due to 8 weeks of yoga training. The hypothesis was tested at 0.05 level of confidence. The Significant results were found in physical fitness variables of college going students in the experimental group due to yoga training. CONCLUSION:- On the basis of the obtained result, it has been observed that the experimental group has the better physical fitness than the control group except speed due to eight (8) weeks yoga training programmes.

The world is becoming more and more competitive. Quality of performance has become the key factor for personal progress. Excessive stress hampers the students’ performance. Better Motor Ability means high level of physical fitness which helps in the positive self perception and improves the total performance. The
children of today are exposed to far greater stress and trying times than previous generation. According to Nixon, “Physical Fitness refers to the organic capacity of the individual to perform the normal task of daily living without undue fatigue or tiredness having reserves of strength and energy available to meet satisfactorily any emergency demands suddenly placed upon him.” Total fitness looks at the overall individual, combining the absolute levels of physiological, psychological, social and cognitive fitness. Our nation is becoming more concerned with physical fitness. People want quality in life, and adults particularly are becoming more concerned about their health and fitness life style. Yoga will help them cope and emerge stronger and more physically, mentally and emotionally fit. Thus, the present study examines whether there is an effect of yoga on physical fitness variables of college going students.

THE PURPOSE OF THE STUDY:-
The purpose of the study was to see the effects of yoga on physical fitness variables of the college going students.

OBJECTIVES OF THE STUDY:- The objectives of the study are mentioned below:-

i) To measure the flexibility of the college going students.

ii) To measure the cardio-vascular endurance of college going students.

iii) To measure the abdominal muscle strength of the college going students.

iv) To measure the body fat % of the college going students.

v) To measure the speed of the college going students.

vi) To design the specific yoga schedule for eight weeks of the college going students.

vii) To see the effect of yoga training on physical fitness variables of the college going students.

SIGNIFICANCE OF THE STUDY:-

i) This study may be benefitted to all the college going students and even to the other sportsmen, since they can use yoga exercises to improve their suppleness of body.

ii) All the athletes as well as all men and women may be benefitted with the inclusion of yoga in their training schedule.

iii) As yoga deals with the physical, mental and emotional balance, it is expected that the result of this study may help to improve the fitness of college going students and keep themselves physically, mentally and emotionally fit during the difficult practical situation i.e. during stress and tension.

HYPOTHESES:-

i) There would be a significant improvement in flexibility among the college going students due to yoga training.

ii) Yoga training helps to improve the abdominal muscles strength of the students.

iii) Yoga training maintains the normal body fat percentage of the selected students.

iv) There would be a significant improvement in cardio-vascular endurance among the college going students due to yoga training.

v) Yoga training may not improve the speed significantly of the college going students.

METHODOLOGY:-

SUBJECTS:- To achieve the purpose, ninety (90) college going students were randomly selected for the study from Santal Bidroha Sardha Satabarshiki Mahavidyalaya, Goaltore, Paschim Medinipur, West Bengal. Subjects were divided into two groups. One group was considered as the control group and the other as the experimental group. Each group contains forty five (45) subjects. The physical fitness variables were flexibility, cardio-vascular endurance, abdominal muscle strength, body fat % and speed.

PROCEDURE:- Total Ninety (90) college going students were randomly selected for the study. They were divided into two groups. One group was utilized as the control group and the other as experimental group. Each group contains forty five (45) subjects. In the Experimental group, yoga training was given for eight weeks in the college campus. The training schedule were fixed in the morning session as well as in the afternoon session minimum time duration 45-60 minutes per session with various types of asanas including slow warming up, warm down and resting time between and set of exercises. On the other hand, Control group (Non-yoga group) has not given the yoga training. The physical fitness variables were flexibility, cardio-vascular endurance, abdominal muscle strength, body fat % and speed.

RESULTS:- The result of the study is discussed under the following table with the graphical presentation. Table-1 and 2 show the significant difference between pre-test and post-test scores of the subjects on physical fitness variables among the control group and experimental group.

TABLE-1

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Group</th>
<th>Variables</th>
<th>Test Pre-test</th>
<th>Test Post-test</th>
<th>Mean</th>
<th>SD</th>
<th>MD</th>
<th>t-ratio</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Control Group</td>
<td>Flexibility</td>
<td>5.20</td>
<td>5.55</td>
<td>1.62</td>
<td>1.85</td>
<td>0.58</td>
<td>1.17</td>
<td>0.05*</td>
</tr>
<tr>
<td></td>
<td>Cardiovascular Endurance</td>
<td>Pre-test</td>
<td>10.30</td>
<td>10.70</td>
<td>2.08</td>
<td>2.15</td>
<td>0.40</td>
<td>1.42</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-test</td>
<td>2.08</td>
<td>2.15</td>
<td>0.35</td>
<td>0.40</td>
<td>1.70</td>
<td>0.05*</td>
<td></td>
</tr>
</tbody>
</table>
Calculating the Mean, SD and t-ratio of college going students.

### TABLE-2

Significance Difference between Pre-test and Post-test on physical fitness variables of the experimental group after calculating the Mean, S.D & 't'-ratio of the Experimental group of college going students.

<table>
<thead>
<tr>
<th>Sl.</th>
<th>Group</th>
<th>Variables</th>
<th>Test</th>
<th>Mean</th>
<th>SD</th>
<th>MD</th>
<th>t-ratio</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>Flexibility</td>
<td>Pre-test</td>
<td>4.50</td>
<td>2.05</td>
<td>2.85</td>
<td>3.45</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Post-test</td>
<td></td>
<td>7.35</td>
<td>2.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Cardiovascular Endurance</td>
<td>Pre-test</td>
<td>10.50</td>
<td>3.18</td>
<td>2.90</td>
<td>4.62</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>Post-test</td>
<td></td>
<td>7.60</td>
<td>2.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>Abdominal muscle strength</td>
<td>Pre-test</td>
<td>15.62</td>
<td>3.32</td>
<td>4.74</td>
<td>5.34</td>
<td>0.05*</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>Post-test</td>
<td></td>
<td>20.36</td>
<td>3.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td>Body fat %</td>
<td>Pre-test</td>
<td>19.02</td>
<td>2.46</td>
<td>2.67</td>
<td>3.58</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td>Speed</td>
<td>Pre-test</td>
<td>10.50</td>
<td>2.22</td>
<td>2.80</td>
<td>1.02</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td>Post-test</td>
<td></td>
<td>9.70</td>
<td>2.31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant at 0.05 level

### DISCUSSION:-

It is observed from the above tables that in the experimental group the pre-test mean scores of physical fitness variables were 4.50, 10.50, 15.62, 19.02 and 10.50 respectively which are improved in post-test, they were 7.35, 7.60, 20.36, 16.35 and 9.70 respectively except speed. Similarly, in the control group the pre-test mean scores of physical fitness variables were 5.20, 10.30, 15.50, 19.20 and 10.20 respectively which are slightly changed in post-test that is 5.55, 10.70, 16.25, 19.52 and 10.56 respectively.

It is also evident from the above table that the calculated value of each variable in the control group is less than the Table value (2.01) at 0.05 level of significant. So the result was insignificant.

On the other hand, calculated value of each physical fitness variable is more than the table value (2.01) at 0.05 level of significant in the experimental group except speed. The hypothesis is accepted since there was a significant improvement in flexibility, cardio-vascular endurance, abdominal muscle strength and body fat % of the experimental group due to 8 weeks of yoga training.

### CONCLUSION:-

Meditation or Dhyana, a part of Astanga yoga plays an important role for reduce the stress and anxiety which have been reported by Anderson and Freshman (1982), Nagendra3, Deshpande and Raghunath (2009), Morison and Ibrahim (1981) and Yadav (2006). In this study, Meditation reduced stress significantly after six months of yoga treatment. Meditation have a greater impact on the mind and the senses than other exercises with the result that meditation helps to develop one’s physical and mental powers to make the mind clarn and control the emotion.

Yoga involves and includes eight paths (i.e., Astanga yoga – yama, niyama, asana, pranayama, pratyahara, dharana, dhyana and Samadhi). The astanga yoga is based on the idealistic approach, a real road to attain good consciousness, self-confidence and self-concept. Meditation helps the individual to overcome these emotions to facilitate a calm, peaceful mind and healthy and stress free body. It promotes relaxation, develops a self-concept, self-confidence, positive attitude and social ability and reduces stress as well as anxiety. Excessive stress and anxiety hamper the students’ performance. Better Motor Ability means high level of physical fitness which helps in the positive self-perception and improves the total fitness. The children of today are exposed to far greater stress and trying times than previous generation. Yoga will help them to cope and emerge stronger and more physically, mentally and emotionally fit. Hence, the researcher was motivated to take up the present study.

### REFERENCES:-


