METHODOLOGY

The information regarding the selection of subjects, sources of data, sampling procedure, selection of the variables, selection of the tests, description of the tests and collection of the data are described in this chapter.

SOURCES OF DATA:

The data pertaining to this study will be collected from the school boys of Tribal and Non Tribal areas of Vidarbha Region of Maharashtra State.

SAMPLING METHOD:

Simple Random Sampling Process will be employed.

SELECTION OF SUBJECTS:

The total number of subjects will be sixty from each district. The number of Concerned Schools will be four from each District.

MATERIALS TO BE USED:

The following materials and specific equipments would be used for the collection of data.

a) Stopwatches are used to record the timing of shuttle run - 50 yard dash and 600 yard run/walk test.

b) A standard measuring steel tap would be used to measure the standing broad jump.

c) Horizontal bar for shoulder girdle and arm strength.

d) Lime powder for marking the lines.

e) Clapper and Whistle for giving start of events.
CRITERION MEASURES AND ITS DESCRIPTION:

1. Cardio-Vascular Efficiency: (Cooper's 12 minute run and walk)

**Purpose** - To measure the cardio-respiratory endurance.

**Equipment** - Stopwatch or clock with sweep second hand.

**Procedure** -

The subject stands behind the starting line of the running space on 400 mts. track. The running space will be divided in sixteen equal parts to facilitate measuring the distance run by the subjects. The subjects will be divided into two groups and each one having one partner from another group. The subjects will be made to run in their respective groups and the partner of each student from other group will record the distance covered by their partners in 12 minutes run/walk. They will be given standing start and the race will be started on the sound on the clapper. The subjects will run/walk to their best, for 12 minutes on the said track and at the end of 12th minute a long whistle will be blown which will be the indication to stop wherever they are then. The distance will be measured accordingly in mts. The same procedure would also be adopted for the next group subjects.

**Scoring** - The distance in 12 minute duration constituted the data.

**Norms** - Norms for males and females aged 13 to 19 and 20 to 29 are presented in table 12.1. Norms or additional ages are available in Cooper.

2. Muscular Strength: (Chin-ups)

**Purpose** - To measure muscular strength.

**Equipments** - Horizontal bar.

**Procedure** -
This event will be performed on a horizontal bar which is sufficiently high from the ground level. The subjects will stand under the bars and jump up to hold the bar in a forward grip style, comes down in a hanging position from the horizontal bar. From these to complete one chin up the subject raises his body up by arms and pushes his chin above the level of the horizontal bar and than lowers himself until the arm will be fully extended as the standing position. If the subject can perform it accordingly, it will be recorded as one count (score). Similarly, number of repetitions that will be performed perfectly would be recorded.

**Scoring** -
1] The point one for correct chin up
2) Faulty performance will not be counted.
3) Chin up performed non stop will only be counted for the record.

3. **Muscular Endurance**: (sit-ups for one minute bent knee)

**Equipments - Clean** floor, mat.

**Procedure** -

The pupil lies on his or her back with the knees bent, fed on the floor and heels not more than 12 inches from the buttocks. The angle at the knees should be less than 90 degree. The pupil puts his or her hand on the back of the neck with finger dropped and place elbows squarely on the mat floor. The feet are held by the pattern to keep them in touch with the surface. The pupil heightened his or her abdominal muscles and brings the head and elbow forward as he or she curls up. Finally touching elbow to knees. This action constitutes one sit up. The pupil returns to the starting position with the elbows on the surface before performing the sit up again.

**Scoring** - Record the number of correctly sit ups the pupil to do in 60 seconds.

4. **Flexibility** (Sit and Reach Test)

**Purpose**: To Measure Trunk Flexion

**Equipment**: Bench or Sit and reach box or lowest row of set of bleacher, yard stick.
Procedure:

Performers assume a sitting position on floor with knee fully extended and soles of feet against bench, box or lowest row of bleachers, performer flexes trunk four times with arms fully extended and hands on top of each other. Last attempt is held for one record so that measurement can be taken. This test can be administered using a partner system and with other flexibility tests can be administered to forty students within a typical class period. The best of three trials should be used.

Scoring:

Tester places yardstick with 15 inch mark at near edge of bench, box or bleacher. Measurement approaching mark are scored negative while those beyond 15 inch mark are scored positive.

Norms:

Norms for a modified test in the said areas are available in Getchell. Johnson and Nelsons' given table, available from AAPHERD in late, 1979.

5. Body Composition -Four Sites Skinfold Test (Biceps, Triceps, subscapular and Supralliac)

(i) Triceps skin fold is taken parallel to long axis of arm with arm at side of body midway between acromion and the elbow (subject would lock elbow to exclude muscle fibers)

(ii) Subscapular skin fold is taken at the interior angle of the scapula running downward and outward in the direction of the this.

COLLECTION OF DATA:

Following the administration of tests, the scores of tests will be properly compiled and tabulated for the analysis and interpretation.

Statistical Procedure:
To Find out the physical fitness difference among the Tribal and non Tribal secondary students the Students t-test will be applied.