

CHAPTER 7 – TEST, MEASUREMENT & EVALUTION

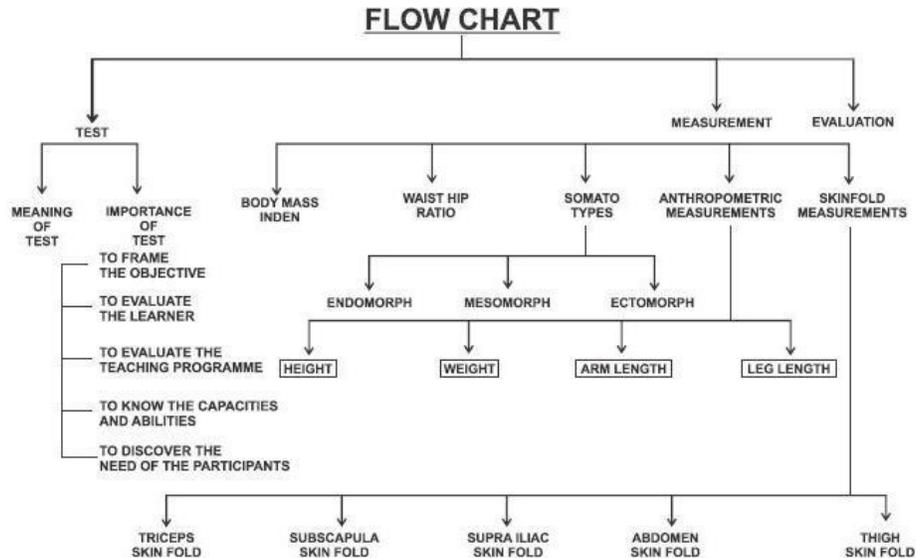


Fig: Flow chart of test and measurement

TEST

A test is a tool which is used to evaluate the skills, performance, and reliability of the task completed by a sports person.

MEASUREMENT-

Measurement is about the collection of data about performance or task completed by a sports person by using a test.

Evaluation: It is a systematic determination of a subjects' merit, worth and significance, using criteria governed by a set of standards.

IMPORTANCE OF TEST AND MEASUREMENT -

1. To frame the objectives.
2. To evaluate the learners.
3. To evaluate the teaching programme.
4. To know the capacities and abilities.
5. To discover the needs of the participants.

BODY MASS INDEX (B.M.I.)-It is the value derived from the mass (weight) and height of an individual.

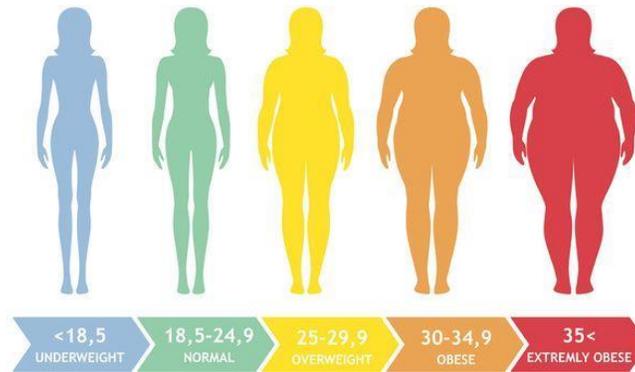


Fig: Body Mass Index

FORMULA FOR CALCULATING B.M.I. –

$$\text{Body Mass Index} = \frac{\text{Weight in Kg}}{\text{Height in m}^2}$$

WAIST-HIP RATIO-

Waist Hip Ratio is the ratio of the circumferences of waist to that of the hips.

FORMULA FOR CALCULATING WAIST-HIP RATIO-

$$\text{Waist-hip ratio} = \frac{\text{Waist Circumference}}{\text{Hip Circumference}}$$

SOMATO TYPES (ENDOMORPH, MESOMORPH, ECTOMORPH)

Somato Types means human body shape and physique type.

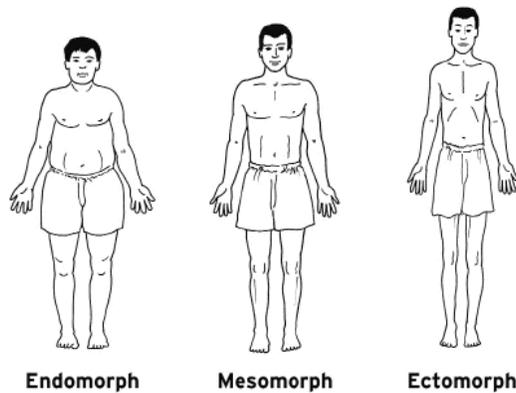


Fig: Body Type

According to W.H. Sheldon, human beings can be classified into three extreme body types i.e.

1. ENDOMORPHY-

People with endomorph body structure have rounded physique. Their excessive mass hinders their ability to compete in sports. Suitable games weightlifting and powerlifting.

2. MESOMORPHY-

People with mesomorphy body structure have thick bones and muscles with a rectangular shaped body. They have a larger and broader chest and shoulders and can be top sports person in any sport.

3. ECTOMORPHY-

These are slim persons because their muscles and limbs are elongated. They have a flat chest and have less muscle mass. They have less strength but dominate endurance sports.

Measurement of health related fitness –

- **Cardiovascular endurance** – ability to exercise the entire body for long period .
- **Muscular strength** – amount of force a muscle can exert
- **Muscular endurance** – ability to use muscles , which are attached to bones , several times even without getting tired .

Harvard Step Test

Testing and measurement are the means of collecting information upon which subsequent performance evaluations and decisions are made but, in the analysis, we need to bear in mind the factors that may influence the results. The Harvard Step Test was developed by Brouha et al. (1943)

Required Resources

To undertake this test, you will require:

- Gym bench (45cm high)
- Stopwatch
- Assistant

How to conduct the test

This test requires the athlete to step up and down off a 45cm high gym bench for 5 minutes at a rate 30 steps/minute

- The athlete warms up for 10 minutes
- The assistant gives the command "GO" and starts the stopwatch
- The athlete steps up and down onto a standard gym bench once every two seconds for five minutes (150 steps)
- The assistant stops the test after 5 minutes
- The assistant measures the athlete's heart rate (bpm) one minute after finishing the test - Pulse1
- The assistant measures the athlete's heart rate (bpm) two minutes after finishing the test -

CHIRKUT STUDY - YOUTUBE

Pulse2

- The assistant measures the athlete's heart rate (bpm) three minutes after finishing the test - Pulse3

Gender	Excellent	Above Average	Average	Below Average	Poor
Male	>90.0	80.0 - 90.0	65.0 - 79.9	55.0 - 64.9	<55
Female	>86.0	76.0 - 86.0	61.0 - 75.9	50.0 - 60.9	<50