

A Textbook of Physical Education Class 11

Chapter 6

TEST, MEASUREMENT AND EVALUATION



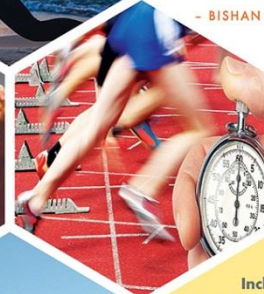
As per the guidelines of NEP 2020

On Board!
BOOKS



“My single achievement is that, with my sincere and honest approach, I inculcated the spirit of oneness and togetherness among players.”

- BISHAN SINGH BEDI



Includes
COMPETENCY-BASED QUESTIONS (CBQs)
Assertion-Reason
Type Questions
Data-Based/Picture-Based/
Case-Based Questions
MCQs



Revised and Updated

A Textbook of

Physical Education

Based on the latest CBSE syllabus

XI

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CONCEPT OF TEST, MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION AND SPORTS

Test

"Test refers to any specific instrument, procedure or technique used by an administrator to elicit a response from the test taker."

– H M Barrow and McGee

"A test is a tool to evaluate the skill, knowledge, capacities or aptitudes of an individual or a group."

– Webster Dictionary

Measurement

"Measurement refers to the process of administering a test to obtain quantitative data."

– H M Barrow

"Measurement aids evaluation process in which various tools and technique are used in collection of data."

– Barry L Johnson and Jack Nelson

Evaluation

"It is the process of education that involves collection of data from the products which can be used for comparison with preconceived criteria to make judgments."

– H M Barrow and McGee

SCALE OF MEASUREMENT

There are four common scales of measurement. They are as follows:

- 1. Nominal scale:** Nominal scale is about the identity property of data. For example, gender is categorized in males and females.
- 2. Ordinal scale:** Ordinal scale places the data in a specific order. For example, first, second and third position in sports.
- 3. Interval scale:** This scale possesses magnitude and equal interval but not an absolute zero. For example, 1, 3, 5, 7 are at equal interval of 2.

This scale does not have an absolute meaning of zero.

- 4. Ratio scale:** This scale possesses magnitude, equal intervals and also an absolute zero. For example, the pulse of a person is zero, it means she/he has no life.

CLASSIFICATION OF TEST IN PHYSICAL EDUCATION AND SPORTS

Psychomotor Tests

Psychomotor tests are done to assess the ability of a participant to understand and follow instructions and perform motor responses. In these tests, participants perform their motor activities and neuro-coordination abilities at their best.

- 1. Health-related physical fitness:** These tests are performed to measure physical attributes of a person. These tests include BMI test, somatotype test, measurement of heart rate, lung capacity, etc. which are necessary for leading a healthy lifestyle.
- 2. Physical Fitness:** It is a set of characteristics that people have or achieve that relate to the ability to perform physical activity of moderate to vigorous level.
- 3. Motor Fitness:** It is a set of attributes that people have or achieve that relate to the ability to perform physical actions during any sports and games engaging neuromuscular coordination.
- 4. Sports Skill Tests:** These skill tests are designed to evaluate the ability of an individual to perform physical tasks associated or related to a particular sports and its related skills.

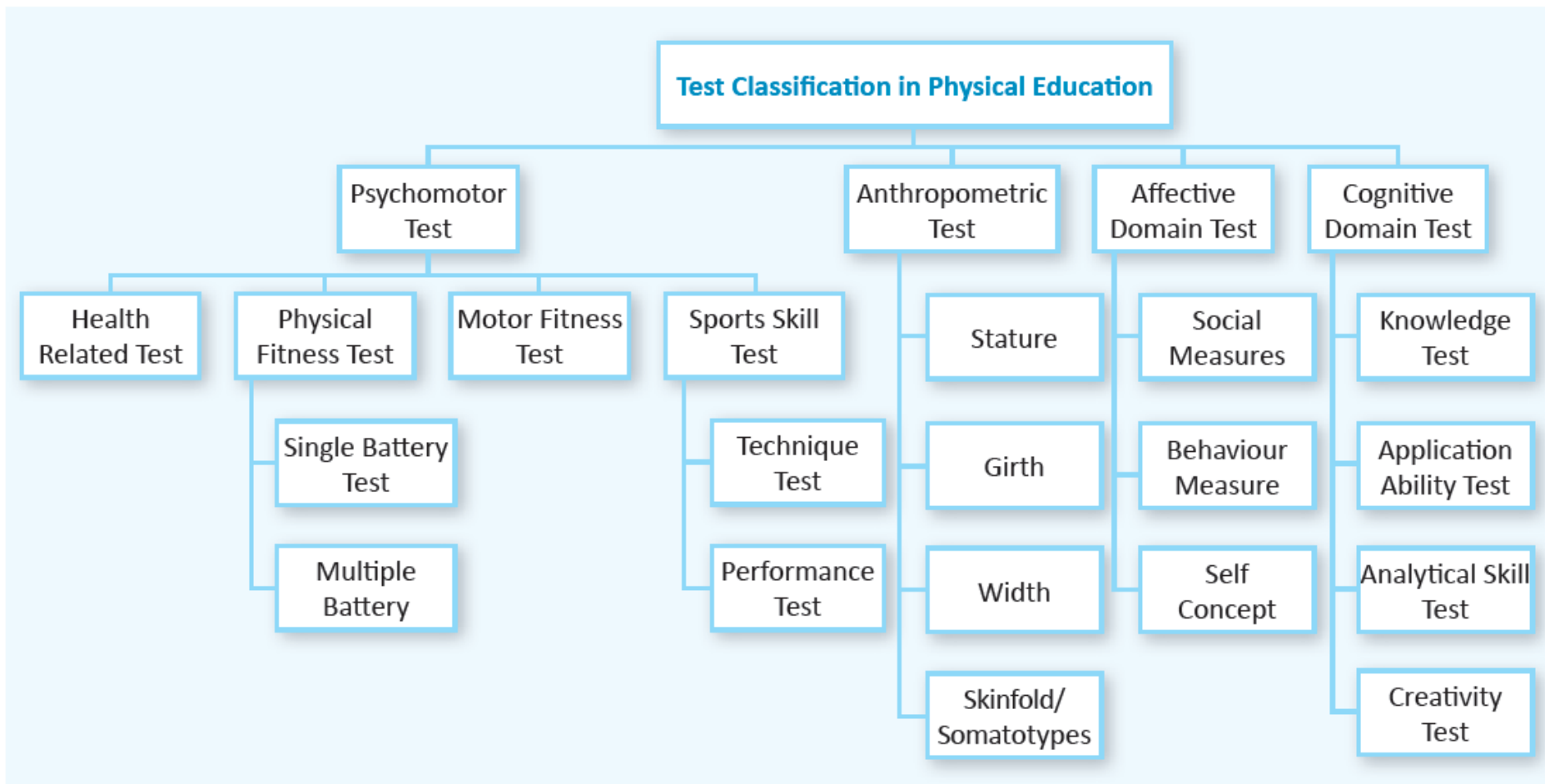


Figure 6.2 Classification of test

ANTHROPOMETRIC TESTS

An anthropometric test is the scientific study of the measurements and proportions of the human body. These are as follows:

1. Body Measurements

- a. Body Weight.
- b. Stature/Height.
- c. Waist-Hip Ratio
- d. BMI (Height–Weight Ratio)

2. Skeletal Girth (Diameters)

- a. Bi-acromial Diameter (Shoulder Width)
- b. Bicristal Diameter (Abdominal Width)
- c. Bitrochanteric Diameter (Hip Width)
- d. Humerus Bicondylar Width (Elbow Width)
- e. Wrist Diameter
- f. Femur Bicondylar Diameter (Knee Width)
- g. Ankle Diameter



3. Circumferences

- a. Chest Circumference
- b. Upper arm Circumference
- c. Fore arm Circumference
- d. Thigh Circumference
- e. Calf Circumference

Physical Tests

Measurement of height, weight, circumference, diameter, skinfolds, blood test, X-rays, etc. are performed in the physical tests. These tests only measure physical features of an individual. These tests measure size or components of body or body parts

Affective Domain Tests

Affective domain tests include social behaviour tests, personality tests, tests that assess stress, emotional aspects, etc. These tests cover sociopsychological area of a person that deals with human feelings and relationship behaviour.

Cognitive Domain Tests

Cognitive domain tests refer to mental performance or achievement. These tests include testing of knowledge and various other mental achievements of athletes such as attention span, concentration, focus, intelligence, creativity. To evaluate athletes and sportspersons effectively, a PE Teacher, coach or trainer must have a clear understanding of the cognitive aspects associated with a particular sport or physical activity.

Test administration guidelines in Physical Education and Sports

The age-appropriate protocols and guidelines developed by Fit India Mission, Ministry of Youth Affairs and Sports are comprehensive and aim to promote physical activity in multiple settings. These test administration guidelines in physical education and sports are as follows:

Environmental Consideration

Warm-up

Hydration

Cool Down

Other Considerations

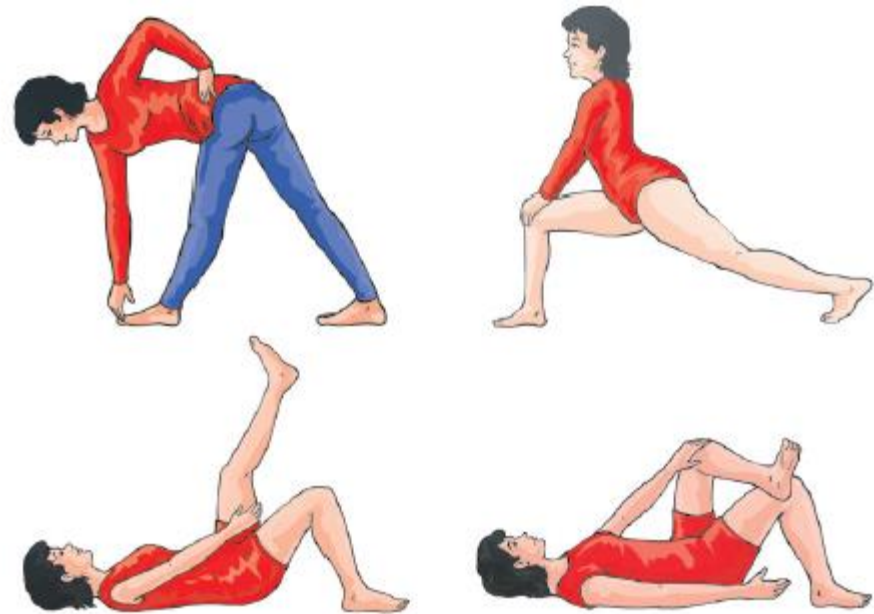


Figure 6.5 Cooling down exercises

Responsibilities of Test Administrators

Pre Test Planning

- Arrange for assistants / volunteers, facility use and other special scheduling as needed.
- Test equipment, testing stations, score sheets/ questionnaire, organisation of group, test layout, etc. must be prepared before the testing. [Refer to textbook for more points](#)

Test Operations

- Prepare students with adequate instruction and practice time in the techniques to properly perform the test items.
- It is the sole responsibility of test administrators to organise and administer the testing sessions.
- Select clean and safe area to conduct tests. Consideration should be given to ensure safety and fairness in testing.
- Select clean and safe area to conduct tests. Consideration should be given to ensure safety and fairness in testing.
- Though it is impossible to avoid all variables (for example, wind, running surfaces, etc.), it is expected that PE teachers/coaches will work to achieve accurate and consistent data.

Post Test Functions

- All answer sheets or score sheets must be compiled in a safe place and raw scores should be converted into standard scores or may be compared with norms.
- The test administrator must summarise/upload the data of each student/ player in the score sheet / on app.

Test administration guidelines in physical education and sports in a nutshell

Pre Test Planning	Test Operations	Post Test Functions
<ol style="list-style-type: none"> 1. Economy of testing <ol style="list-style-type: none"> a. Test stations b. Test Personnel c. Grouping of Subject <ol style="list-style-type: none"> i. Individual testing ii. Mass testing iii. Squad testing 2. Logistic management plan 3. Data record plan <ol style="list-style-type: none"> a. Score units b. Score compilation process c. Score sheet plan 	<ol style="list-style-type: none"> 1. Explanation 2. Demonstration 3. Warm-Up 4. Motivation 5. Safety/Security 	<ol style="list-style-type: none"> 1. Test Record–collection and conversions. 2. Interpretation of result 3. Preparation of report 4. Construction of table/graphs

SUMMARY

1. A test is a tool to evaluate the skill, knowledge, capacities or aptitudes of an individual or a group.
2. In the field of physical education and sports, tests are an important tool for proper planning and management towards achieving an objective or target by sportspersons, to monitor their improvement, and to re-evaluate their needs, strengths and weaknesses.
3. Measurement refers to the process of administering a test to obtain quantitative data.
4. Numerical values let us see at a glance how much progress a sportsperson has made, how much is left to develop, and what limitations should be imposed.
5. The concepts of test, measurement and evaluation are interrelated.
 - Any idea or thought cannot take productive or practical shape without evaluation.
 - It is not possible to evaluate the collected data without measurement.
 - One needs a tool to start measuring and that tool is an appropriate test.
6. Tests are important to ascertain the reliability and validity of the objects to attain the goal of learning.

SUMMARY

- 7.** Measurement is a process of associating academics, skills, knowledge, concept, quality, etc. objectively or subjectively.
- 8.** Evaluation helps in grading the parameters and putting them to various standards.
- 9.** In physical education, tests are classified according to their nature and purpose.
- 10.** Some of the tests are Psychomotor test, Anthropometric test, Affective domain (emotional) test, Cognitive domain test.
- 11.** In 2019, Fit India Mission developed Physical Fitness Test battery for Indian school children in the age group of 9–18.
- 12.** The age-appropriate protocols and guidelines developed by Fit India Mission, Ministry of Youth Affairs and Sports are comprehensive and aim to promote physical activity in multiple settings.
- 13.** Test administrators must be trained in the administration of the test batteries. The complete test administration process includes pre planning, test operation and post test functions.