

**CBSE Test Paper 03**  
**CH- 06 Test and Measurement in Sports**

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1. Calculate the Physical Fitness Index for a 12-year-old boy having completed Harvard Step Test for a duration of 3 min and a pulse rate of 54 beats for 1 to 1.5 min, 50 beats for 2 to 2.5 min and 46 beats for 3 to 3.5 min.
2. Your grandmother feels she has reduced her upper body flexibility and therefore she wants to test herself. Which test would you suggest her?
3. Name the tests which we use for cardiovascular fitness?
4. What is the meaning of the term measurement 'in sports'?
5. What is Kraus- Weber test?
6. What is muscular strength? Write its importance.
7. Explain the test items of AAHPER Test.
8. After failing in the pull-up activity, the sports teacher advised Arun not to loose hope as five other tests were remaining. He also advised Arun and other students to do proper warm up before their participation.
  - i. Which test is being talked about in this question? Name its parts.
  - ii. What values are shown by the sports teacher?
9. Describe the measurement of flexibility using the Chair Sit and Reach Test.
10. Describe the procedure for administering Rikli & Jones fitness test.

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**Answer**

1. In the Harvard step test for cardiovascular fitness, the physical efficiency index PEI= (Duration or exercise in seconds  $\times$  100) divided by  $2 \times$  Sum of pulse counts in recovery.

$$\text{Physical fitness Index} = \frac{\text{Duration of exercise in seconds} \times 100}{2 \times \text{Sum of pulse counts in recovery}}$$

$$= 180 \times 100 / 2 \times (54 + 50 + 46) = 18000 / 300 = 60$$

2. I would suggest to my grandmother to take the Back Scratch Test for upper body flexibility.
3. The tests which we use for cardiovascular fitness are Harvard step test and Rockport one mile.
4. Measurement is a specific score given by an expert every time on applying a test, each score tells about the use of a test once, Every time a test is used, it must have its score called measurement.
5. The Kraus Weber Test is a test of minimum muscular fitness of the various muscles of the body. The test consists of six items which indicate the level of muscular strength and flexibility of key muscle groups.
6. Muscular strength is the amount of force the muscle or a group of muscle can exert against resistance for short duration as in aerobic activities. It is essential for performing daily routine work easily and smoothly such as lifting weight and climbing on stairs etc. It is also essential for maintaining good posture, avoiding injuries and remaining independent especially in old age.
7. This test consists of the following six items:
- a. Pull ups : In case of girls, the pull-ups are to be started from a flexed arm hang. This test item judges the arm and shoulder girdle strength.
  - b. Flexed Leg situps : This test is meant to judge the efficiency of abdominal and hip

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flexor muscles.

- c. Shuttle Run : This test item is meant for judging the speed and change of direction.
  - d. Standing Long Jump : For judging the explosive power of leg muscles.
  - e. 50 yard Dash or Sprint : For judging speed.
  - f. 600 yard Run : For judging endurance.
8. i. The test is AAHPER(American Alliance for Health, Physical Education and Recreation).
- Its parts are as follows
- a. Pull-ups (for boys)/Flexed arms hang (for girls)
  - b. Flexed leg sit-ups
  - c. Shuttle run
  - d. Standing long jump
  - e. 50yard dash
  - f. 600 yard run-walk
- ii. The values shown by the sport; teacher is commitment and excellence. The teacher shows care, dedication and also motivates the students.
9. The Chair Sit and Reach test is a part of the Senior Fitness Test Protocol and is designed to test the functional fitness of seniors. It is a variation of the traditional sit and reach flexibility test.

- Purpose: This test measures the flexibility of the lower body.
- Equipment Required: Ruler, straight back or folding chair, (about 17 inches/44 cm high)
- Procedure: The subject sits on the chair placed against a wall for safety. One foot must remain flat on the floor. The other leg is extended forward with the knee straight, heel touching the floor, with ankle bent at 90° Place one hand on top of the other with tips of the middle finger even, exhale and reach forward towards the toes by bending at the hip Keep the back straight and head up. Avoid bouncing or quick movements and never stretch to the point of palm. Keep the knee straight and hold the reach for 2 sec.
- Scoring: Perform two trials. A score is recorded to the nearest inch or 1 cm as the distance reached, either a negative or positive score. Record with leg was used for measurement.

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10. The test used to measure fitness of senior citizen is Rikli and Jones Senior citizen fitness test.

The Senior Fitness Test was developed as part of the Life Span Wellness Program of Fullerton University by Dr. Roberta Rikli and Dr. Jessie Jones. It is a simple easy-to-use battery of test items that assess the functional fitness of older adults. The test describes easy to understand and effective tests to measure aerobic fitness, strength and flexibility using minimal and inexpensive equipment. The Individual fitness test items involve common activities such as getting from a chair, walking, lifting, bending and stretching. The tests were developed to be safe and enjoyable for older adults while still meeting scientific standards for reliability and validity. Here is a list of the tests, with links to more details for each.

1. Chair Stand Test – testing lower body strength
2. Arm Curl Test – testing upper body strength.
3. Chair sit and Reach Test – lower body flexibility test
4. Back Scratch Test – upper body flexibility test
5. 8-Foot Up and Go Test – agility test
6. Walk Test (6 minutes)

**OR**

Step in Place Test (2 minutes) - The walk test is used to assess aerobic fitness unless the person uses orthopedic devices when walking or has difficulty balancing in which case they do the step in place test.