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# Test and Measurement in Sports — CBSE Class 12 Physical Education Chapter Test

FREE CHAPTER TEST · CLASS XII · PHYSICAL EDUCATION (048) · PATTERN OF THE CBSE SAMPLE QUESTION PAPER 2026-27

| TIME ALLOWED | MAXIMUM MARKS | QUESTIONS | NAME / ROLL NO. |
|---|---|---|---|
| 1½ hours | 35 | 17 (A 9 · B 3 · C 2 · D 1 · E 2) | |

**GENERAL INSTRUCTIONS**

Read the following instructions very carefully and strictly follow them:

1. This question paper contains 17 questions. All questions are compulsory.
2. This question paper is divided into five sections: A, B, C, D and E.
3. Section A (Q1–9) contains multiple choice questions of 1 mark each, including assertion-reason and match-the-following questions.
4. Section B (Q10–12) contains very short answer questions of 2 marks each; answer in about 60–90 words.
5. Section C (Q13–14) contains short answer questions of 3 marks each; answer in about 100–150 words.
6. Section D (Q15) contains a case study based question of 4 marks, with four sub-parts of 1 mark each; an internal choice is given in the last sub-part.
7. Section E (Q16–17) contains long answer questions of 5 marks each; answer in about 200–300 words. Each has an internal choice: attempt only one of the alternatives.
8. Draw neat diagrams wherever required.
9. This chapter test follows the section structure, question types and marks per question of the CBSE Class XII Physical Education (048) Sample Question Paper 2026-27, at half the length of the 70-mark board paper: 35 marks in 1½ hours. (In the board paper you attempt any 5 of 6 questions in Section B, any 5 of 6 in Section C and any 3 of 4 in Section E; here every question is compulsory.)
10. The answer key and the marking scheme are at the end of this booklet. Attempt the paper in 1½ hours before you look at them.

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**Chapter:** Test and Measurement in Sports · **Topics:** SAI Khelo India Fitness Test · Harvard Step Test and fitness index · Computing BMR · Rikli and Jones Senior Citizen Fitness Test · Johnson–Metheny Test of Motor Educability

## SECTION A

*This section comprises 9 multiple choice questions (MCQs) of 1 mark each, including assertion-reason and match-the-following questions.*

**1.** The Flamingo Balance Test of the SAI Khelo India Fitness Test is meant for the age group 1

(A) 5–8 years (B) 9–18 years

(C) 60–94 years (D) all age groups

**2.** In the Plate Tapping Test, the time taken to complete how many cycles is recorded? 1

(A) 10 (B) 25

(C) 50 (D) 100

**3.** In the Harvard Step Test, the height of the bench is 1

(A) 12 inches (B) 16 inches

(C) 20 inches (D) 24 inches

**4.** A student completes the full 5 minutes of the Harvard Step Test, and the pulse count from 1 to 1½ minutes after exercise is 60. The fitness index is about 1

(A) 90.9 (B) 50.0

(C) 100.0 (D) 54.5

**5.** Using BMR = 10 × weight (kg) + 6.25 × height (cm) − 5 × age (years) + 5, the BMR of a boy of 20 years, 70 kg and 175 cm is 1

(A) 1532.75 kcal (B) 1793.75 kcal

(C) 1698.75 kcal (D) 1598.75 kcal

**6.** The Chair Stand Test of the Rikli and Jones Senior Citizen Fitness Test measures 1

(A) upper body strength (B) lower body strength

(C) lower body flexibility (D) aerobic endurance

**7.** Match the test items of the SAI Khelo India Fitness Test in List I with what they measure in List II. 1

| **List I** | **List II** |
|---|---|
| A. Flamingo Balance Test | (i) Flexibility |
| B. Plate Tapping Test | (ii) Cardiovascular endurance |
| C. 600 m Run/Walk | (iii) Static balance |
| D. Sit and Reach Test | (iv) Coordination |

Choose the correct option:

(A) A-(iii), B-(iv), C-(i), D-(ii) (B) A-(iv), B-(iii), C-(ii), D-(i)

(C) A-(iii), B-(iv), C-(ii), D-(i) (D) A-(ii), B-(i), C-(iv), D-(iii)

**8.** Which of the following is NOT an item of the Johnson–Metheny Test of Motor Educability? 1

(A) Front roll (B) Back roll

(C) Jumping half-turn (D) Sit and reach

**9.** **Assertion (A):** The Sit and Reach Test measures the flexibility of the lower back and hamstrings. 1
**Reason (R):** In the Sit and Reach Test, the farthest reach is held for 1–2 seconds.

(A) A is true, but R is false.

(B) A is false, but R is true.

(C) Both A and R are true and R is the correct explanation of A.

(D) Both A and R are true, but R is not the correct explanation of A.

## SECTION B

*This section comprises 3 very short answer questions of 2 marks each (answer in about 60–90 words).*

**10.** A student weighs 60 kg and is 1.60 m tall. Calculate the BMI and state whether the student is overweight. 2

**11.** Name any four test items of the SAI Khelo India Fitness Test for the age group 9–18 years. 2

**12.** Describe the procedure of the Partial Abdominal Curl-up Test. 2

## SECTION C

*This section comprises 2 short answer questions of 3 marks each (answer in about 100–150 words).*

**13.** Describe the Harvard Step Test. A student stops after 4 minutes, and the pulse count from 1 to 1½ minutes after exercise is 75. Find the fitness index and rate it. 3

**14.** What is Basal Metabolic Rate (BMR)? Calculate the BMR of a girl of 17 years who weighs 55 kg and is 160 cm tall, using BMR = 10 × weight (kg) + 6.25 × height (cm) − 5 × age (years) − 161. 3

## SECTION D

*This section comprises 1 case study based question of 4 marks, with four sub-parts of 1 mark each.*

**15.** A health camp for senior citizens uses the Rikli and Jones Senior Citizen Fitness Test. Mrs Rao, 68, and Mr Rao, 70, both take part.

**(i)** Which test of this battery measures lower body flexibility? [1]

**(ii)** What weight of dumbbell does Mrs Rao use in the Arm Curl Test? [1]

**(iii)** What does the Eight Foot Up and Go Test measure? [1]

**(iv)** Which test may be used instead of the Six Minute Walk Test for people who have difficulty in walking or balancing? [1]

**OR**

**(iv)** For which age range was this test battery designed? [1]

## SECTION E

*This section comprises 2 long answer questions of 5 marks each (answer in about 200–300 words).*

**16.** (a) Name the items of the Johnson–Metheny Test of Motor Educability, and explain the procedure and scoring of any two of them. 5

**OR**

(b) Explain the procedure of any five test items of the SAI Khelo India Fitness Test for the age group 9–18 years.

**17.** (a) Explain the six tests of the Rikli and Jones Senior Citizen Fitness Test. 5

**OR**

(b) Describe the procedure of the Harvard Step Test and give its formula and norms. Find the fitness index of a student who completes 5 minutes with a pulse count of 50.

**END OF THE QUESTION PAPER**

## ANSWER KEY — SECTION A

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 |
|---|---|---|---|---|---|---|---|---|
| (A) | (B) | (C) | (A) | (C) | (B) | (C) | (D) | (D) |

## MARKING SCHEME AND WORKED SOLUTIONS

*Marks for each step are shown in brackets, as in the CBSE marking scheme. Any correct alternative method earns full marks.*

**Q1. Answer (A).** For 5–8 years (classes 1–3) the tests are BMI, Flamingo Balance and Plate Tapping.

**Q2. Answer (B).** The time for 25 full cycles (50 taps) is recorded.

**Q3. Answer (C).** The subject steps on a 20-inch bench at 30 steps a minute for 5 minutes.

**Q4. Answer (A).** 300 × 100/(5.5 × 60) = 30000/330 ≈ 90.9 (good).

**Q5. Answer (C).** 700 + 1093.75 − 100 + 5 = 1698.75 kcal a day.

**Q6. Answer (B).** The number of full stands in 30 seconds measures lower body strength.

**Q7. Answer (C).** Flamingo balance — static balance (iii); plate tapping — coordination (iv); 600 m run/walk — cardiovascular endurance (ii); sit and reach — flexibility (i).

**Q8. Answer (D).** Its four items are the front roll, back roll, jumping half-turn and jumping full-turn.

**Q9. Answer (D).** Both are true, but holding the reach is a rule of the procedure; it does not explain what the test measures. Option (d).

**Q10. (2 marks)** Answer: BMI ≈ 23.4; not overweight.
BMI = weight (kg)/height² (m²) = 60/(1.60 × 1.60) = 60/2.56 ≈ 23.4 kg/m². [1]
Not overweight: overweight begins at a BMI of 25.0 (30.0 or more is obese). [1]

**Q11. (2 marks)** Answer: for example BMI, 50 m dash, 600 m run/walk, sit and reach.
Any four [½ each]: BMI; 50 m speed (dash); 600 m run/walk; sit and reach (flexibility); partial abdominal curl-up; push-ups (boys) / modified push-ups (girls).

**Q12. (2 marks)** Answer: knees at 90°, curl at least 6 inches, maximum in 30 seconds.
The student lies on the back with the knees bent at about 90°, feet flat and arms straight by the sides, fingers at the start mark. [1]
The student curls up, sliding the fingers forward at least 6 inches (to the far mark), and back; the number of correct curl-ups in 30 seconds is the score. It measures abdominal strength and endurance. [1]

**Q13. (3 marks)** Answer: FI ≈ 58.2, average.
Procedure [1½]: the subject steps up and down a 20-inch bench at 30 steps a minute for 5 minutes or until exhaustion; the pulse is counted from 1 to 1½ minutes after stopping.
Fitness index = duration in seconds × 100/(5.5 × pulse count) = 240 × 100/(5.5 × 75) = 24000/412.5 ≈ 58.2. [1]
Rating: 50–80 is average, so the student's fitness is average. [½]

**Q14. (3 marks)** Answer: 1304 kcal a day.
BMR is the energy (calories) the body needs at complete rest to keep its basic functions — breathing, circulation, temperature, cell activity — going. [1]
BMR = 10 × 55 + 6.25 × 160 − 5 × 17 − 161 = 550 + 1000 − 85 − 161 [1] = 1304 kcal a day. [1]

**Q15. (4 marks)** Answer: (i) chair sit and reach; (ii) 5 lb; (iii) agility and dynamic balance; (iv) two-minute step test, or 60–94 years.
**(i)** The Chair Sit and Reach Test. [1]
**(ii)** 5 lb (2.3 kg) (men use 8 lb, 3.6 kg). [1]
**(iii)** Agility and dynamic balance (with speed and power). [1]
**(iv)** The Two-Minute Step Test. [1]
**OR (iv)** 60–94 years. [1]

**Q16. (5 marks)** Answer: the four items, and the procedure and scoring of two.
Items [1]: front roll, back roll, jumping half-turn, jumping full-turn (boys do all four; girls do three).
Any two, procedure and scoring [2 + 2]: **front roll** - two front rolls along the marked lane on the mat, without going outside it; scored out of 10 (5 points a roll), with deductions for errors. **back roll** - two back rolls in the same lane; scored like the front roll. **jumping half-turn** - jump with both feet, turning 180° in the air, landing on both feet in balance, in a series along the marked lane; scored out of 10. **jumping full-turn** - jump with both feet, turning 360° in the air, landing in balance without stepping out; 5 jumps, out of 10, with 2 points deducted for each error.
**OR** Any five [1 each]: **BMI** - weight in kg ÷ (height in m)$^2$; **50 m dash** - standing start, time recorded (speed); **600 m run/walk** - fastest pace, walking allowed, time in minutes and seconds (cardiovascular endurance); **sit and reach** - sitting with legs straight against the box, reach forward along the scale and hold 1–2 s (flexibility of lower back and hamstrings); **partial curl-up** - knees at 90°, curl at least 6 inches, number in 30 s (abdominal strength); **push-ups / modified push-ups** - number of correct push-ups (girls with knees on the ground) (upper body strength and endurance).

**Q17. (5 marks)** Answer: the six tests, what they measure and how.
Each [about 1 mark; any five for full marks]: **Chair Stand (30 s)** - lower body strength: number of full stands from a chair, arms crossed, in 30 seconds. **Arm Curl (30 s)** - upper body strength: number of curls with a dumbbell (5 lb women, 8 lb men) in 30 seconds. **Chair Sit and Reach** - lower body flexibility: sitting on the edge of a chair, one leg straight, reach towards the toes and hold 2 s; distance measured. **Back Scratch** - upper body flexibility: one hand over the shoulder, the other behind the back; gap or overlap of the middle fingers measured. **Eight Foot Up and Go** - agility and dynamic balance: rise from the chair, walk round a cone 8 feet away and sit again; best time of two trials. **Six Minute Walk** - aerobic endurance: maximum distance walked (not run) in 6 minutes round a marked course.
**OR** Procedure [2]: step up and down a 20-inch bench at 30 steps a minute for 5 minutes or until exhaustion; count the pulse from 1 to 1½ minutes after stopping. Formula [1]: fitness index = duration in seconds × 100/(5.5 × pulse count). Norms [1]: up to 49 poor, 50–80 average, 81 and above good. Example [1]: 300 × 100/(5.5 × 50) = 30000/275 ≈ 109.1, good.

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All questions are original and © Master Testing Agency. Free to download and use for personal practice; not for resale. Every fitness index, BMI and BMR in this paper was computed by code from the syllabus and textbook formulas, and every factual answer was checked against the CBSE Physical Education XII textbook.