CBSE Class 12 Physical Education

Sample Paper 05 (2020-21)

Maximum Marks: 70

Time Allowed: 3 hours

General Instructions:

i. The question paper consists of 30 questions and all are compulsory.
ii. Question 1-12 carries 01 mark each and are Multiple Choice Questions.
iii. Questions 13-16carry 02 marks each and shall not exceed 40-60 words.
iv. Questions 17-26 carry 03 marks each and shall not exceed 80 -100 words.
v. Questions 27 - 30 carry 05 marks each and shall not exceed 150-200 words.

Section A

1. Which of the following is NOT a type of tournament?

   a. Challenge Tournament

   b. Knockout

   c. Fixture

   d. League

OR

The other name of League Tournament is -

a. Round robin Tournament

b. Challenge Tournament

c. Combination Tournament

d. Knock out Tournament

2. Sources of Proteins include

    a. Cucumber

    b. Spinach

    c. Fish

    d. Potato

3. What is the healthy BMI range of a person?

    a. Less then 18

    b. 35-40

    c. 18.5-24.9

    d. 25-30

OR

Choose the odd one. Asana helps to improve :

    a. Blood circulation

    b. Depth of respiration

    c. Digestive system

    d. Speed

4. Which of the following is NOT part of strategies to make physical activities accessible to children with special needs?

    a. Assistive technology
    b. Creating special classrooms
    c. Inclusive classrooms
    d. Professional courses

5. _____ uses the smaller muscles of the hand, feet and face for more precise

activities.

a. Fine motor development
b. Gross motor development
c. Strong motor development
d. Healthy motor development

6. Which of the following is NOT part of the AAHPER test?

a. Pull-ups
b. 50 Yard Dash
c. Kraus Weber Test
d. Shuttle Run

7. Which of the following is not a long-term effect of the exercise?

a. Increase in heart rate
b. The decrease in cholesterol level
c. Increase in heart size
d. Increase in height

OR

Taking is oxygen from the atmosphere into the body is known as?

a. Stroke value
b. Exhalation
c. Aerobic capacity
d. Inhalation

8. One of the best examples of the third law of motion in sports is _____.

a. Swimming
b. Soccer
c. Walking
d. Basketball

9. The physical traits Endomorphic, Mesomorphic, Ectomorphic is given by -

    a. Big-5

    b. Eysean

    c. Jung

    d. Sheldon

10. When the body is working so hard that the demand for oxygen and fuel exceed the rate of supply and the muscles have to rely on the stored reserves of fuel is _____ endurance.

    a. Aerobic
    b. Strength
    c. Speed
    d. Anaerobic

11. Given below are the two statements labeled Assertion (A) and Reason (R).
    A. Assertion (A): A deformity In which the body spine takes S or C shape.
    B. Reason (R): It will happen due to carrying heavy loads for a long time on one shoulder.

    a. Assertion and reason both are correct statements and reason is the correct explanation for the assertion.

    b. Assertion and reason both are correct statements but the reason is not the correct explanation for the assertion.

    c. The assertion is a correct statement but the reason is the wrong statement.

    d. The assertion is the wrong statement but the reason is a correct statement.

12. The body needs vitamins and minerals because

    a. They give the body energy

    b. They help carry out metabolic reactions

c. They insulate the body organs

d. They withdraw heat from the body

13. Identify the below-given Asanas and write their names.

	_____
	_____
	_____
	_____

14. Identify the below-given Postural Deformities and write their names.

	_____
	_____
	_____
	_____

15. "Malnutrition may cause disability". Explain this statement.

16. What do you mean by Flexion?

OR

Differentiate between abduction and adduction.

17. Reena, a girl of 16, eats a lot of chocolates and candies. Now, she is regretting as she has got cavities in some of her teeth. She meets a dentist who removed decay from her teeth and filled up the cavity. He also prescribed some vitamin tablets and a calcium-rich diet to her.
Based on this case, answer the following questions.

    i. Which vitamin would have the dentist prescribed?
        a. Vitamin A
        b. Vitamin B
        c. Vitamin C
        d. Vitamin D
    ii. Which among the following is a good source of calcium?
        a. Leafy Vegetables
        b. Paneer
        c. Milk
        d. All of these
    iii. Which of them is not a benefit of calcium?
        a. Builds strong teeth and bones
        b. Cures anxiety
        c. Proper development of body
        d. Helps in blood clotting

18. Ronak is having high blood pressure. He meets his family doctor Shyam who measured his blood pressure. His blood pressure reading was 150- 95 mm Hg. Shyam gave medicines to Ronak and also suggested him to perform Yogasana.
Based on the above case, answer the following questions.

    i. Shyam had suggested Ronak to perform
        a. Shalabhasana
        b. Pavanmuktasana
        c. Vakrasana
        d. Gomukhasana
    ii. A person is said to have hypertension if his blood pressure reading is beyond-

a. 140-90 mm Hg
b. 130-80 mm Hg
c. 150-100 mm Hg
d. 140-95 mm Hg

iii. In the blood pressure reading 150- 95, 150 and 95 stands for____and ____blood pressure respectively.
a. Diastolic, Systolic
b. Systolic, Diastolic
c. Low, High
d. High, Low

19. What are the major muscles involved in jumping & throwing?

OR

Explain the law of inertia?

20. What parts of the body does each of the Kraus Weber tests of fitness test?

21. What any three causes of sports injuries?

22. How does participation in Games and Sports contribute to the psychological development of women athletes in India? Explain.

23. Differentiate between Isometric and Isotonic exercises.

24. Discuss the causes of SPD.

25. What is isometric strength contraction method?

26. What are vitamins? Name the types of vitamins.

OR

Define fat and mention its function

27. Explain the structure of personality. Describe the role of sports in developing the personality.

28. Describe physiological factors determining component of physical fitness.

OR

Explain the benefits of exercise on our circulatory system.

29. What is seeding? Explain, by giving suitable example, the method of giving special seeding.

OR

What is league tournament? Draw a fixture of 9 teams participating in league tournament League tournament.

30. How the cardiovascular fitness is measured with the help of 'Harvard Step Test'? Write in detail about its administrative procedure.

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Solution

Section A

1. (c) Fixture OR
   (a) Round-robin Tournament
2. (c) Fish
3. (c) 18.5-24.9
   Explanation: According to WHO criteria the healthy BMI range of a person is in between 18.5 to 24.9. OR
   (d) Speed
4. (b) Creating special classrooms
5. (a) Fine motor development
6. (c) Kraus Weber Test
7. (d) Increase in height OR
   (d) Inhalation
8. (a) Swimming
9. (d) Sheldon
10. (d) Anaerobic
11. (a) Assertion and reason both are correct statements and reason is the correct explanation for the assertion.
    Explanation: Scoliosis is the deformity in which the spine takes S or C shape due to carrying a heavy weight on one side.
12. (b) They help carry out metabolic reactions
13. i. Matsyasana
    ii. Chakrasana
    iii. Ardh Matsyendrasana
    iv. Paschimottasana
14. i. Lordosis
    ii. Scoliosis
    iii. Bow Legs

iv. Flat Foot

15. Malnutrition is another significant cause of disability. If a child does not get appropriate nutrition, he may be physically weak. Even deficiency of calcium leads to malformation of bones. Deficiency of Iodine may diminish the growth of the body.

16. Bending parts at a joint so that the angle between them decreases and parts come closer together (bending the lower limb at the knee).

OR

Abduction means moving a part away from the midline (lifting the upper limb horizontally to form a right angle with the side of the body)) and adduction means moving a part towards the midline(returning the upper limb from the horizontal position to the side of the body).

17. i. (d) Vitamin D
    Exp- As Vitamin D helps in formation and maintenance of good teeth.
    ii. (d) All of these
    Exp- Milk, Paneer, Leafy vegetables all are rich sources of calcium.
    iii. (b) Cures anxiety
    Exp- There is no direct relationship b/w calcium intake and anxiety level.
18. i. (b) Pavanamuktasana
    Exp- Pavanamuktasana is an effective asana to cure Hypertension.
    ii. (a) 140-90 mm Hg
    Exp- When the blood pressure of a person goes beyond 140-90 mm Hg, the situation is called Hypertension.
    iii. (b) Systolic, Diastolic
    Exp- In the blood pressure reading, the first number represents Systolic blood pressure and the second number represents Diastolic blood pressure.

19. The leg, feet and gluteus muscle groups are used in jumping. Specific muscles that are involved in jumping are the gluteus maximus, hamstrings, quadriceps and soleus. In fact, jumping occurs in three stages. The first stage is the preparatory stage where ankle muscles calf muscles and soleus tense to prepare to launch. The second phase is the launch phase, where hip extensors, the hamstrings and gluteus maximus combine

and the knee extensors extend the knees to allow the body to launch into the air. In the last stage is the landing phase where all the muscles embrace impact and allow the body to return to a resting position. The major muscles are pectoralis, major, latissimus dorsi, anterior deltoid and teres major are involved in throwing. These muscles are comparatively responsible for velocity during the throw. The pectoralis major is the large muscle in the chest and latissimus dorsi are the large muscles on each side of the back. Deltoid, biceps, triceps are also involved in throwing a javelin in athletics.

OR

According to this law a body at rest will remain at rest and a body in motion will remain in motion at the same speed and in the same direction unless acted upon by an external force. There are great examples of this law in sports such as starting in rowing, starting in sprinting, starting in throwing the hammer. Basically, if an object is in motion, it remains in motion unless something or some external force stops it. The external force may be a gravitational force, the surface of the playing field or a defensive player etc.

20. The Kraus Weber test consists of the following si× tests

    - Test 1 tests the strength of the abdominal and psoas muscles.
    - Test 2 tests the strength of the abdominal muscles.
    - Test 3 tests the strength of the psoas muscles.
    - Test 4 tests the strength of the upper back.
    - Test 5 tests the strength of the lower back.
    - Test 6 tests the strength of the back and hamstring muscles.

21. To effectively diagnose, rehabilitate and ultimately prevent subsequent injuries, a sport therapist

    i. Anatomical Factors: These are related to the make-up of the body. Leg length differences and cause injuries to the ankle, hip and back.
    ii. Age-related causes As the body ages, it changes. It is less able to produce force, recovers slower and soft tissues lose the ability to stretch. Therefore it is more prone to injury.

iii. Training related cause's Excessive repetitive loading of the tissues is needed for successive adaptation. However, without suitable recovery, tissues never have the chance to adapt and can fail.

22. Participation in games and sports contributes to the psychological development of women athletes in India in the following ways

    i. **Stress** The stress for women athletes is more as they have to compete in a field that is dominated by males. But women are able to handle stress in a better way as they are more open and have a large social circle.
    ii. **Aggression** The causes of aggression can be increased competition and more peer pressure as well as family tensions that may lead to aggressive behaviour on the playfield. But they are able to manage the aggression and are also less aggressive in nature.
    iii. **Eager to Learn** Women are more eager to learn new skills and techniques. Their learning capacity and concentration is more. Therefore, coaching is easier in case of women athletes.

23. ISOMETRIC EXERCISE Isometric exercises are those exercises, which are not visible. In fact, there are no direct movements, hence they can't be observed. In these exercises, work is performed but is not seen directly. In these exercises, a group of muscles carries out tension against the other group of muscles. For example, pushing against a sturdy wall. ISOTONIC EXERCISE Isotonic exercises are those exercises in which movements can be seen directly. There are various examples of Isotonic exercises such as calisthenics exercises, running and jumping or the spot, lifting of weights or weight training exercises and exercises with the medicine ball.

24. The various causes of SPD are as follows:

    a. **Genetic Factor:** Studies indicate that children born to adults who have Autism Spectrum Disorder (ASD) may be at a higher risk to develop SPD. Scientists allude that the cause of SPD are coded into a child's genetic material.
    b. **Low birth weight:** It is also considered one of the causes of sensory processing disorder.
    c. **Environmental factors:** Usually, children who are adopted often experience

sensory processing disorder due to some restrictions in their early lives or poor parental care.

25. Isometric: Iso means SAME and metric means LENGTH. A contraction is said to be isometric when the tension in the muscle is developed but there is no change in the length of the muscle. This is also called static contraction because the joint angle does not change. For example, holding a weight at arm's length, pushing against the wall. So isometric exercises are those in which no movement takes place while force is exerted against an immovable object. It develops tension only at joint concerned. There is neither shortening nor lengthening which results in no visible muscular effort. Such types of contractions are more useful for weight lifters, gymnasts, wrestlers, etc.
    For example:
    (i) Holding half push-ups
    (ii) Flexed arm hang
    (iii) Pushing against the wall

26. **Vitamins** - Vitamins are compounds of carbon. These protect us from various diseases and are essential for the general growth and development of our body.

    Types of Vitamins
    There are various vitamins such as A, C, D, E, K and B-complex (Bt, B2, B3, B5, B6, B7, B9, and B12)

    There are two groups of Vitamins

    1. Fat-Soluble Vitamins - Fat-soluble vitamins are those vitamins that are soluble in fat. These vitamins are A, D, E and K.
    2. Water-Soluble Vitamins - These vitamins are soluble in water. These contain the elements of nitrogen and sulphur. These vitamins are B and C.

    OR

    Fats are an important source of energy for long endurance activities. It keeps us warm and gives protection to organs. It also helps in the production of hormones, maintenance of skin and hair. The main function of fat is to supply energy to the

body. By offering energy, fats save proteins from being used for energy and they allow proteins to perform their function. Fats also help in building up the structural material of cells and tissues.

27. Sports psychology is the branch of applied psychology which deals with sports performance and the behaviour of a player during training or competitions.
The importance of Sports Psychology is due to:

    1. Learning of Motor Skills Sports psychology plays a major role in the learning of motor skills. Motor; skills learning depends on the individual's level of readiness.
    2. Analysing the Behaviour of Sportsmen Performance of a player depends upon the behaviours which are influenced by various factors such as sex differences, family conditions, personal background, heredity, growth, physical and mental maturity levels etc.
    3. Identifying Talent for Specific Sports Every sports has specific psychological demands, e.g. boxing requires more aggressiveness, whereas archery and shooting require more concentration.
    4. Stabilising the Performance for Longer Period It helps in stabilising the performance of a player for a longer period. Then the performance of the player largely depends upon his psychological makeup and anxiety level.
    5. Important from Research Point of View Sports psychologists work in very close proximity to coaches to uplift the performance of players. Research findings help in the promotion of sports and games.

    Encouraging the Players to Make a Comeback in Professional Sports, Sports psychology encourages the players, who, due to injury or some accident, are forced to take a long break from their professional career, to return to their sport.

28. Physiological factors determining components of physical fitness are:

    i. Muscular strength: This is the maximum force or tension a muscle or a muscle group can exert against a resistance. Physiologically the muscle will increase in strength only if it has to increase its workload beyond what is ordinarily required of it.
    ii. Power: This is the ability of the body to release maximum muscle contraction in

the shortest possible time.

iii. Speed: This is the rapidity with which one can repeat successive movements in the same pattern.
iv. Muscular endurance This is the ability of a muscle or muscle group to perform repeated contractions against a resistance load or to sustain contraction for an extended period of time with less discomfort and more rapid recovery.
v. Agility: This is the ability of a person to change direction or body position as quickly as possible and regain body control to proceed with another movement.
vi. Flexibility: This is a quality of the muscles, ligaments and tendons that enables the joints of the body to move easily through a complete range of movements.

"Most people say that as you get old, you have to give up things. I think you get old because you give up things. "Give your opinion on what you think about this with the help of physiological changes due to ageing, the saying is correct because, by giving up your usual activities, you speed up the ageing process. In fact, the ageing process can be slowed down by continuing your usual activities, Regular exercise keeps the human body livelier, fitter and in better condition, thus delaying the ageing processes like Loss of elasticity from the lungs and chest wall, reduction in muscle strength and hypertrophy, increase in the fat content of the body, reducing flexibility.

OR

Physical exercise/training causes changes in the following parameters of the circulatory systems, such as:

(i) Size of the heart: The blood is supplied to the whole body by the heart. The size of the heart gets changed as a result of endurance training. Endurance training of more than 12 weeks increases the heart's weight and volume, which further increases the thickness of the left ventricle's wall and chamber's size. Then, the contraction ability of the heart also increases.

(ii) Heart rate: It is the number of times the heartbeats per minute. Heart rate is decreased as a result of exercise and training. This decreasing heart rate trend shows the improvement of your cardiovascular fitness.

(iii) Stroke volume: It is the amount of blood pumped by the left or right ventricle of the heart per beat. As a result of endurance training, the stroke volume increases. Stroke volume for untrained individuals at rest is about 55-75 ml. Whereas the stroke

volume of trained athletes at rest is 80-90 ml. In trained athletes, the amount of blood pumped is more in one beat as compared to untrained.

(iv) Cardiac output: The cardiac output at rest remains unchanged but at the maximum level of exercise it increases considerably. This increase results mainly from the increase in maximal stroke volume. Maximum cardiac output ranges from 14-20 litres/min. and in trained individuals, 25-35 litres/min. or more in highly trained athletes engaged in endurance sports.

(v) Blood volume: Exercise/training results in an increase in blood volume which is mainly due to an increase in blood plasma volume (liquid portion of blood). The number of red blood cells also increases. Increased blood plasma volume decreases blood thickness that can improve circulation blood and oxygen availability.

Highly trained male athletes may have more than 7 litres of total blood volume as compared to untrained ones having less than 5.6 litres of total blood volume.

29. Seeding: Seeding is a process by which good teams are fitted in fixtures in such a way that stronger teams do not meet each other in earlier rounds. This seeding method is only possible if the standard of the teams is known beforehand. This method is applied to keep up the interest of spectators alive till the last match. On account of their previous performances, these teams or players are kept in separate halves. Further, it is well known in advance that some of the top-ranking players or teams are generally drawn in the fixture in such a way that they have fitted straight away into the quarter-finals. This is known as the special seeding method. Though this arbitrary method of drawing fixture may be felt as unfair but it is desirable to keep the interest sustained in the tournament.

    Example: Fixture

    Seeding:

    Number of teams = 11

    Bye = 16 – 11 = 5 byes

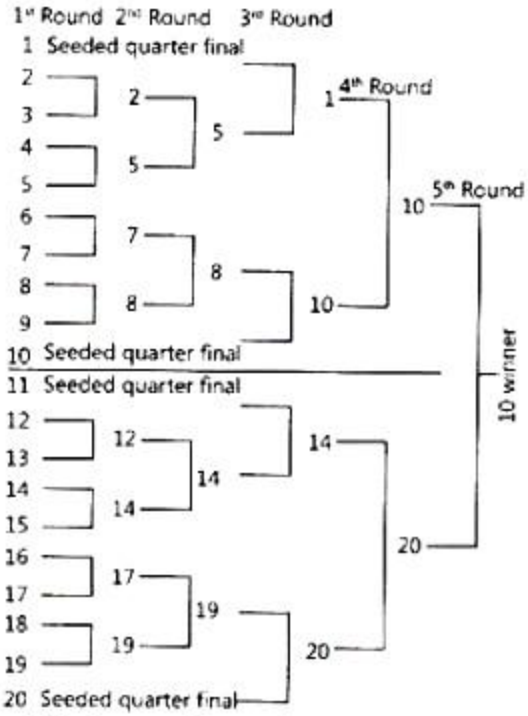
    So, 4 seeded teams shall be given byes and 5th bye would go to any other team.

    Special Seeding:

    Number of teams = 20

    Teams in each quarter = $\frac{20}{4}$ = 5 teams

    (last year semi-finalists are given special seeding or 4 top rankings.)



This is special seeding method

OR

League Tournament - League Tournament It is also known as a round-robin tournament. In this type of tournament, all teams play against each other team irrespective of winning or losing.

- The number of matches played in league tournament is calculated by
  The number of matches: $= \frac{N(N-1)}{2}$; where N is the number of teams
  If the number of teams = 11, then
  Number of matches $= \frac{11(11-1)}{2} = \frac{11\times10}{2} = \frac{110}{2} = 55$ matches
  The fixture of 9 teams
  Staircase Method Total = 9
  Number of matches $= \frac{9(9-1)}{2} = \frac{9\times8}{2} = \frac{72}{2} = 36$ matches

1 - 2							
1 - 3	2 - 3						
1 - 4	2 - 4	3 - 4					
1 - 5	2 - 5	3 - 5	4 - 5				
1 - 6	2 - 6	3 - 6	4 - 6	5 - 6			
1 - 7	2 - 7	3 - 7	4 - 7	5 - 7	6 - 7		
1 - 8	2 - 8	3 - 8	4 - 8	5 - 8	6 - 8	7 - 8	
1 - 9	2 - 9	3 - 9	4 - 9	5 - 9	6 - 9	7 - 9	8 - 9

30. **Harvard Step Test** is a test to measure **cardiovascular fitness** with the help of a 20 inches high bench, a stopwatch and a metronome.

Administrative procedure:- This test requires the athlete to step up and down off a gym bench for 5 minutes at a rate 30 steps/minute which measures the Aerobic fitness test. After the workout, timing, heart rate, has to be measured. The athlete steps up and down onto a standard gym bench once every two seconds for five minutes (150 steps),

The stepping process is performed in four parts in the following sequence

i. One foot is placed on the bench.
ii. One foot is placed on the floor
iii. The other foot is placed on the bench.
iv. The other foot is placed on the floor.

The performer may lead with either foot and can change as long as the four parts of the test are maintained. The stepping exercise continues for exactly 5 minutes. unless the performer is forced to stop sooner because of exhaustion. As soon as he stops exercising. the performer sits on a chair quietly while pulse rates are counted 1 to$1\frac{1}{2}$, 2 to,$2\frac{1}{2}$ and 3 to $3\frac{1}{2}$ minutes after the exercise.

A Physical Fitness Index (PFI) is computed, utilising the following formula

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

Rating	Fitness Index	Rating	Fitness index
Excellent	>96	Below average	54-67
Good	83-96	Poor	<54
average	68-82		