

CBSE Class 12 Physical Education
Sample Paper 04 (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 marks each and are Multiple Choice Questions.
- iii. Questions 13-16 carry 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. How we can calculate the total number of matches in a knockout tournament?

- a. $\left(\frac{n \times n - 1}{2}\right)$
- b. $(N - 1)$
- c. $(N \times n - 1)$
- d. $(N^2 - 1)$

OR

In the placement of Byes, IV Bye is given to whom.

- a. Last team of the lower half
- b. Last team of the upper half
- c. 1st Team of the lower half
- d. 1st team of the upper half

2. A balanced diet is complete when it will be
- According to the needs of the person
 - 4 to 5-liter water
 - Complex Carbohydrates
 - Animal fat-rich
3. Asanas that can help to control Asthma is _____.
- Sukasana
 - Vajrasana
 - Pawanpuktasana
 - Trikonasana

OR

Who is called the founder of Yoga in India?

- Sushruta
 - Patanjali
 - Araybhatta
 - Balmiki
4. The symptoms of _____ are difficulty in communication and interaction with people.
- ASD
 - ODD
 - ADHD
 - OCD
5. Which of the following is NOT part of the four stages of motor development in children?

- a. Later childhood
 - b. Infanthood
 - c. Adulthood
 - d. Early childhood
6. Measurement of the field for Zig - Zag
- a. 16×18 m
 - b. 16×12 m
 - c. 16×10 m
 - d. 15×10 m
7. Which of the following is NOT a component of physical fitness?
- a. Agility and Flexibility
 - b. Muscular Strength
 - c. Eating Habits
 - d. Age and Gender

OR





How many physiological factors are determined. Physical fitness?

- a. Three
 - b. Five
 - c. Two
 - d. Four
8. The body will remain in its state of rest or of constant linear velocity unless it is acted upon by some external force. It is _____.





- a. Newton's first law
 - b. Newton's third law
 - c. None of these
 - d. Newton's second law
9. Identify the biological need of a person.
- a. self-esteem
 - b. safety
 - c. hunger
 - d. attitude
10. Which is not the method to improve flexibility?
- a. Ballistic method
 - b. Post Isometric stretch method
 - c. Slow continuous method
 - d. Slow stretch and hold method
11. Given below are the two statements labeled Assertion (A) and Reason (R).
- A. Assertion (A): we can prevent ourselves from Postural deformities by corrective measures up to a certain age.
- B. Reason (R): During Childhood our joints and muscles are flexible.
- 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 wrong statement but the reason is a correct statement.
12. _____ Vitamin keeps eyes and skin healthy.

- a. Vitamin C
- b. Vitamin B
- c. Vitamin A
- d. Vitamin K

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

	_____
	_____
	_____
	_____

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

	_____
	_____
	_____
	_____

15. Enlist various types of disorders.
16. An object thrown into space either horizontally or at an acute angle under the action of gravity is called a projectile. Name the two forces which act on a projectile.

OR

What is the angular movement?

17. Kanak, a student of class 12th, has an unhealthy lifestyle. She eats a lot of fatty food. One day in his physical education class, her teacher explained the method to calculate BMI. So after coming home, she calculated her BMI and found it to be 35. On the basis of the above case, answer the following questions.

- i. Kanak is-
 - a. Overweight
 - b. Obese
 - c. Normal weighted
 - d. Underweight
- ii. What is the correct formula for calculating BMI?
 - a. $\text{BMI} = \text{Weight in inches} / \text{Height in cm}$
 - b. $\text{BMI} = \text{Weight in kg} * \text{Height in m}$
 - c. $\text{BMI} = \text{Weight in kg} / (\text{Height in m})^2$
 - d. $\text{BMI} = \text{Weight in kg} * (\text{Height in m})^2$
- iii. What is the range of BMI for a healthy weight?
 - a. >19
 - b. <20
 - c. 19-20
 - d. 19-25

18. Diabetes has become a common lifestyle disease nowadays. Utkarsh's father is also a diabetes patient. Utkarsh is very curious to know about the causes and types of diabetes. So he goes to his teacher and asks him about it. His teacher explained him in detail. He also told him about Bhujangasana that is very effective in curing diabetes. Based on the above case, answer the following questions.

- i. Which asana is known as 'Cobra Pose'?
 - a. Pawanamuktasana
 - b. Bhujangasana
 - c. Parvatasana
 - d. Paschimottasana
- ii. Which of the following is a symptom of Diabetes?
 - a. Increased hunger
 - b. Blurred vision
 - c. Weight loss
 - d. All of these
- iii. How many types of diabetes are there?
 - a. Two
 - b. Three
 - c. Four
 - d. Five

19. How does the angle of projection help as a factor athletes in games and sports?

OR

What are the major muscles involved in jumping & throwing?

20. Give the names of the tests designed by Rikli and Jones for senior citizen fitness and state what each test is used to test.
21. Sports are good for all age groups. Growing children, middle-aged people and older people, everyone can reap the benefits of physical fitness. The physiological benefits of sports can be felt by everyone. This is the reason why people are motivated to play sports as there are a lot of physiological benefits?
- i. Write two physiological benefits.
 - ii. What are the general disadvantages if old people do not maintain their physical fitness?
22. Explain any three points on the advantage/importance of correct posture?
23. Explain the advantages of fartlek training.

24. How environmental factors cause various types of disorders?
25. Define the term 'sports training'.
26. Enlist the forms of Vitamin B and explain any one in brief.

OR

Discuss the precautions for taking food supplements.

27. Explain any three techniques of motivation for higher achievement in sports.
28. What is the effect of exercise on the cardiovascular system?

OR

What are the effects of exercise on Respiration System? Write in detail.

29. What are the specific sports programmes? Explain with suitable example.

OR

What is league tournament? Draw a fixture of nine (9) teams on the basis of league tournament using cyclic method. Explain British method to declare the winner.

30. Explain the measurement of cardiovascular fitness Harvard Step Test.

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Class 12 - Physical Education

Solution

Section A

1. (b) $(N - 1)$ Here N stands for total number of teams

OR

(b) Last team of upper half

2. (a) According to the needs of the person
3. (a) Sukasana

OR

(b) Patanjali

4. (a) ASD
5. (c) Adulthood
6. (c) 16×10 m
7. (c) Eating Habits

OR

(d) Four

8. (a) Newton's first law
9. (c) hunger
10. (c) Slow continuous method
11. (a) Assertion and reason both are correct statements and reason is correct explanation for assertion.

Explanation: If we are able to identify the Postural deformities in early stages of childhood so that we can correct them with proper corrective measures.

12. (c) Vitamin A
13. i. Gomukhasana
ii. Matsyasana
iii. Parvatasana

- iv. Paschimottasana
14.
 - i. Bow Legs
 - ii. Flat Foot
 - iii. Knock Knee
 - iv. Kyphosis
15. The various types of disorders are:
- a. Attention Deficit Hyperactivity Disorder (ADHD)
 - b. Sensory processing disorder (SPD)
 - c. Autism spectrum disorder (ASD)
 - d. Oppositional defiant disorder (ODD)
 - e. Obsessive compulsive disorder (OSD)
16. The two forces that act on a projectile are amount of force driving it upward and Center of gravity

OR

Angular movement occurs between long bones. By angular movement the angle between the two bones increased or decreased.

17.
 - i. (b) obese
Exp- If the BMI is 30 or greater, the person is considered to be obese.
 - ii. (c) $BMI = \text{Weight in kg} / (\text{Height in m})^2$
Exp- The correct formula for calculating BMI is
 $BMI = \text{Weight in kg} / (\text{Height in m})^2$
 - iii. (d) 19-25
Exp- The BMI for a healthy weight is 19-25.
18.
 - i. (b) Bhujangasana
Exp- Bhujangasana is known as 'Cobra Pose' because in this asana the shape of the body is like a snake.
 - ii. (d) All of these
Exp- Increased hunger, Blurred vision, and weight loss are some of the symptoms of Diabetes.
 - iii. (a) Two

Exp- There are two types of diabetes.

19. The optimum projectile angle for achieving maximum horizontal range in throwing events is considerably less than 45° . This is because an athlete can generate a greater projection velocity at a low projectile angle than at high angles. The range of a projectile is strongly dependent on projectile speed. In sports, the fact is that the projection speed of implement decreases when you throw within the higher projection angle. Shotput has a projectile angle from 26° to 42° . Every athlete has a unique speed, angle curve that depends on his/her stature, strength and throwing technique. The flight of discus is greatly affected by aerodynamic forces acting upon it. The aerodynamic forces come from the movement of the discus through the air. When in flight, the discus is affected by the force of gravity, aerodynamic lift and aerodynamic drag. The stability of discus flight comes from the spine of the discus. Discus has a projectile angle from 27° - 43° for maximum range. To achieve maximum distance in javelin the athlete will have to balance three components-speed, strength and technique. After approach – run of 13 – 17 strides the releasing angle for javelin has to take into consideration aerodynamic lift and drag. The distance achieved in Javelin depends upon the height of release, angle of release and speed of release of Javelin. The optimum angle of release 26° to 40° .

OR

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. 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.

20. The Rikli and Jones Senior Citizen Fitness Test for assessing the functional fitness of older adults describe 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 up 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. The tests are:-

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 min) or Step in Place Test (2 min)-The V, walk Test is used to assess aerobic fitness.

21. i. The physiological benefits are
- a. It improves the cardiovascular system
 - b. It improves the circulatory system
- ii. If old people do not maintain their physical fitness then they can become obese, unhealthy as the internal systems will not work properly. There will be more stress, greater chances of injury and less flexibility.

22. Importance:-

- a. One's personality can be judged,
- b. Better balance, agility and overall physical performance.
- c. helps in maintaining the proper manner of standing, sitting walking of one's body.
- d. it is a measure of one's alertness.
- e. has a better alignment, which translates into less injury.
- f. recovers quicker from exercise or physical exertion, and feels more energetic

23. **Advantages of fartlek training** are:-

- Highly adaptable.

- It is good for increasing strength and speed.
- It is good for increasing cardiorespiratory endurance.
- Several athletics can take part in the training programme at a time.
- It does not require any equipment and can be organised easily.
- Improves fast twitch and slow twitch muscle responses.
- This training method is not rigid, it is flexible in nature.
- It improves the efficiency of the heart and lungs.
- It provides an experience of nature.
- Great and individual for group training

24. 1. A variety of different instructional strategies such as verbal, visual and peer teaching should be used for performing various types of physical activities. These children get the opportunity to learn on their own and become independent.
2. Modification of rules: Rules can be modified according to the needs of the children. They can be provided with extra time or attempt to perform physical activity.
3. Specific environment: For special needs children the area should be limited. In the case of children who have autism, they must be provided with a specific area because they may need some time to relax.
25. The term sports training denotes preparing sportspersons for the highest level of performance. Sports training is overall a scientific and systematic channel or process of preparing an individual for an event or activity or a particular task. According to Harre "Sports training is based on scientific knowledge, and a pedagogical process of sports perfection which through the systematic effect on psychophysical performance ability and performance readiness aims at leading a sportsman to top level of performance". According to Martin "Training in sports is a planned and controlled process in which for achieving a goal, changes in complex sports, motor performance ability to act and behaviour are made through measures of content, methods and organization".
26. There are 12 vitamins under the vitamin 'B' complex. Important forms of vitamin B are B₁, B₂, B₃, B₅, B₆, B₁₂. **Vitamin B₂**: This vitamin is also called **Riboflavin**. It is yellow in color and usually destroyed in sunlight and in cooking for a longer period. It helps in preserving and maintaining the characteristics of youth, tightness and

smoothness of skin, and body tissues etc. It is very essential to keep the eyes, nose, lips, mouth, tongue in a healthy state. Its deficiency cause stunted growth, unhealthy skin, inflamed eyes. Its deficiency also decreases the immunity of WBC's.

OR

Precautions for taking food supplements:- Do not pay heed to the words of salesmen or advertisements which claim that these supplements will improve a child's brain. ;- first of all, ensure that there is a lack of essential nutrients in a child's needs to take food supplements or not. ;- before purchasing an individual should ensure that it is free from preservatives, contains no fillers and does not contain any added sugar.

27. Techniques of motivation our higher achievement in sports are:

- i. **Healthy Sports Environment** A healthy sports environment plays a vital role in motivating the sportsperson. A healthy sports environment consists of proper humidity and temperature, smooth and clean sports fields, good quality of sports equipment and other facilities. **Positive Attitude** For proper motivation, the coaches should try to encourage a positive attitude among sportspersons. Players must think positively.
- ii. **Cash Prizes, Certificates and Trophies** These are good incentives to sportspersons. Governments offer cash prizes to sportspersons who win.
- iii. **The goal setting technique** is one of the most important techniques of motivation. If you do not set a goal, you cannot achieve an apex position in life. A person should set goals according to one's capabilities on a regular basis. Coaches should not be too rigid while setting goals for a sportsperson. There should be some flexibility in their approach.

28. The effects of exercise on the cardiovascular system are

- i. **Cardiac output** is the amount of blood pumped by the heart in 1 min. This increases directly with increasing exercise intensity.
- ii. The heart rate increases from a resting rate of 72 beats/min to 150 beats/min or even more.
- iii. The stroke volume, meaning the amount of blood pumped into the Aorta with every heartbeat, increases from a resting volume of 70-90 mL to 100-120 mL per

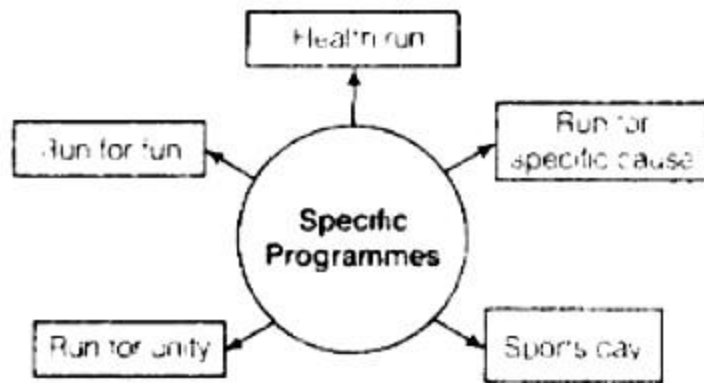
beat.

- iv. Exercise increases the plasma volume of blood by 12 Op:, but total blood volume may reduce slightly.
- v. Blood flow is redistributed with more blood going to the muscles, heart and skin, while blood in the kidneys and abdomen is reduced.
- vi. Blood pressure increases due to exercise because there is more blood flowing in the blood vessels.

OR

Effects of exercise on the respiratory system

- i. Strengthens will power to push beyond the capacity of regular training.
 - ii. Decreases rate of respiration during exercise and at rest.
 - iii. Strengthen muscles of the Diaphragm and chest.
 - iv. Increase in Tidal capacity.
 - v. Activates unused Alveoli since more oxygen is required for endurance activities.
29. Specific sports programmes are such programmes of sports which are not usually related to completion. These sports programmes have various objectives such as creating awareness among people regarding unity, health, and diseases like AIDS, Swine flu, etc. and raising funds for charitable institutions or organizations. Such programmes may be organized for the promotion and maintenance of health among people.
- i. Health Runs
 - ii. Run for Fun
 - iii. Run for Unity



Health Runs: - Health runs are organized in almost every part of the world. In India, health run is organized in almost every state to make people health conscious. Health run does not require any specific preparation. Health runs are organized by the health department, sports department or social organizations. Usually, their purpose is to ameliorate the standard of health in a country along with the raising of funds for charity. For health runs the requirement is only a pair of shoes and light clothes, there is no competition in it but registration of participants is performed in advance. The date and time are also fixed will in advance. There is no age limit in health runs and the distance course of running is also fixed up.

Run for Fun: - These kinds of runs are organized by various organizations for people of all ages. Run for fun is more related to have fun and frolic during running. Run for fun is a friendly race that involves either road running or cross country running taking part for their own enjoyment and recreation rather than competition. It is organized to raise funds for a charity. The sponsors only deduct organizational expenditure. Run for the fun can include novel categories such as wearing costumes and age categories for adults, teenagers, and children.

Run for Unity: - Run for fun is organized by different nations by their central governments, state governments, sports federations, and institutions etc. to create a feeling of unity among the people. The purpose of the run for unity may be national and international integration. It may be in the form of a relay race of long-distance. Every participant runs some distance. In the form or relay, they feel united. It may be in the form of a marathon race as it is usually organized in Mumbai. A lot of people participate in this race from the corporate world, film stars and marathon runners from other countries. The cash prize is given to the first three position holders. Such

runs promote harmony, peace, and solidarity among people of different religions.

OR

- i. League Tournament: In this type of tournament, each team plays with every other team once if it is a single league tournament.

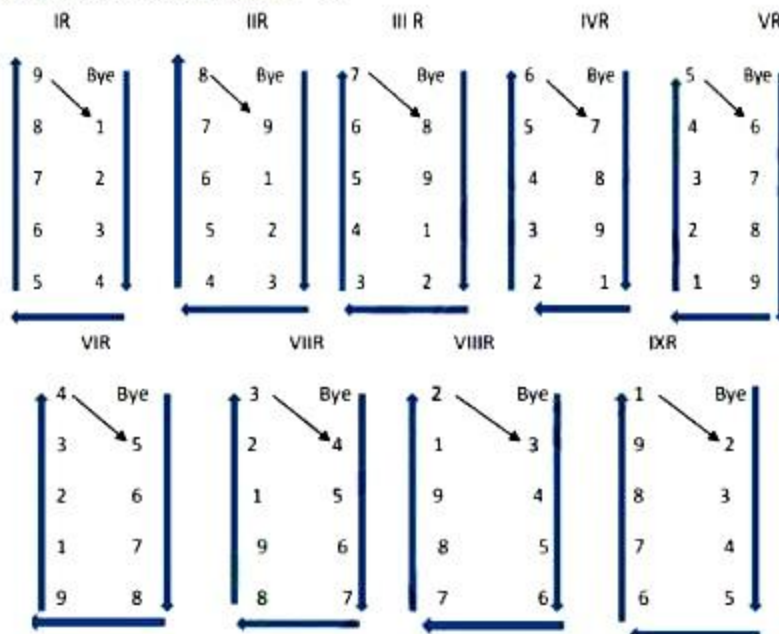
It is a Double league tournament when each team plays with every other team twice.

- ii. A fixture of 9 teams according to the cyclic tournament:

Total no. of teams = 9

$$\text{Total no. of matches} = N \left(\frac{N-1}{2} \right) = 9 \left(\frac{9-1}{2} \right) = 36$$

Total no. of rounds = 9



Continue:

British Method: Divide the total points obtained by the total possible points.

For Eg.:- If a team plays 8 matches in a tournament and wins 6 matches and 2 remains draw, the percentage of points will be (2 points for winning and 1 point for a draw)

$$\text{Total points} = 12 + 2 = 14$$

$$\text{Possible points} = 8 \times 2 = 16$$

$$\text{Percentage of points} = \frac{\text{Total points obtained}}{\text{Total possible points}} \times 100$$

$$= 14/16 \times 100 = 87.5\%$$

30. **Harvard Step Test:-** The Harvard Step Test is a test that measures cardiovascular

fitness. The equipment required to perform the test is bench 20' inches high, a stopwatch and a metronome 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 assistant stops the test after 5 minutes.

As soon as he stops exercising. 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 – Pulse2 The assistant measures the athlete's heart rate (bpm) three minutes after finishing the test – Pulse3 b. Rock fort one-mile test- The main objective to check the development of vo2 max.

The Physical Fitness Index (PFI) is computed using the formula

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

INDEX

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