

PHYSICAL EDUCATION (048)

Class XII

2024-25

Answer Key

TIME ALLOWED: 3 HRS

MAX. MARKS: 70

| Q No. | Answer | Marks |
|-------|--|-------|
| 1. | A. 18 | 1 |
| 2. | A. Both (A) and (R) are true and (R) is the correct explanation of (A). | 1 |
| 3 | A. I-3, II-1, III-4, IV-2 | 1 |
| 4 | B. Protein | 1 |
| 5 | B. Halasana | 1 |
| 6 | A. Bhujangasana | 1 |
| 7 | C. 1924 | 1 |
| 8 | B. Beginning of menstrual period in women | 1 |
| 9 | D. both a and c | |
| 10 | A. I-2, II-1, III-4, IV-3 | 1 |
| 11 | B. Joint structure | 1 |
| 12 | A. Lactic acid | 1 |
| 13 | A law of Inertia | 1 |
| 14 | A. Ice Skating | |
| 15 | A. Achieving goal | 1 |
| 16 | A. Both (A) and (R) are true and (R) is the correct explanation of (A). | 1 |
| 17 | A. specific | 1 |
| 18 | A. Adaptation ability | 1 |
| | Section B | |
| 19 | Q. Enlist different types of postural deformities. a. Kyphosis b. Lordosis c. Scoliosis | ½*4=2 |

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| | | |
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| | d. Knock-Knee e. Flat Foot f. Bow legs (any four) | |
| Q20 | How we can say that protein is an essential component of diet? <ul style="list-style-type: none">• Protein is essential component of diet because protein is known as building block of life and it increase the strength of muscle fibers, repair and maintenance of body tissue and also connected with immune mechanism of the body. | 2 |
| Q21 | Mention the test performed on 9 to 18 yrs. of age group in SAI KheloIndia fitness test & explain any one? a. Body Composition (BMI) b. Strength . Abdominal (Partial Curl-up) Muscular Endurance (Push Ups for Boys, Modified Push Ups for Girls) c. Flexibility (Sit and Reach Test) d. Cardiovascular Endurance (600 Meter Run/Walk) e. Speed (50 mt. Dash) | $\frac{1}{2}$ *4 =2 |
| Q22 | Q. List down the types of bone injuries a. Stress fracture b. Green stick fracture c. Comminuted fracture. d. Transverse Fracture e. Impacted fractures | $\frac{1}{2}$ *4 =2 |
| Q23. | What do you understand by the term goal setting? A. Goal setting is one of the best motivational strategies. It improves performance by directing attention, increasing effort and persistenc. These goals can be short-term or long-term and are designed to help athletes focus their efforts, stay motivated, track progress, and ultimately improve their performance. | 2 |
| Q24. | Define Flexibility and list down its type. | |

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| | <p>A. It is the ability which helps to do the movements with greater amplitude or with a great range of motion or we can say that flexibility refers to the range of movement in a joint or series of joints, and length in muscles that cross the joints to induce a bending movement or motion.</p> <p>Type of Flexibility</p> <p>a. active & passive</p> | 1+1 |
| | <p style="text-align: center;">Section C</p> | |
| Q25 | <p>Specify the purpose of specific sports programme organised for community services.</p> <p>A. These days it is very common that specific sports programmes are organised to make people aware regarding particular cause or any particular issue. These programmes are not related to competitions only, but it has special reason. They create awareness related to a disease like AIDS, Swine Flu, collecting funds for special cause like flood, earth quakes etc.</p> | 3 |
| Q26 | <p>What are the health problem face by a woman due to female athlete triad in its sports and athletic performance.</p> <p>A. The female athlete triad is a problem face by a women consist of Eating Disorder, Osteoporosis and Amenorrhea. The following problem are faced by a woman due to the female athlete triad in sports performance: -</p> <p>a. Increased risk of injury</p> <p>b. Feeling tired</p> <p>c. Shortness of breath</p> <p>d. Stomach inflammation</p> <p>e. Muscle weakness</p> <p>f. Weak bones</p> <p>g. Hormonal imbalance</p> <p>h. Psychological effects.</p> | $\frac{1}{2} * 6 = 3$ |
| Q27. | <p>Write in detail the aims and objectives of paralympic committee</p> <p>A. The Paralympic games are a multi – sports event for athletes with physical, mental and sensorial disabilities. This includes mobility, disabilities, amputees, visual disabilities. The main objective of Paralympics are as follows: -</p> | 3 |

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| | <p>a. Promote Para sport worldwide, without unlawful discrimination on the grounds of disability, race, skin colour, national, ethnic or social origin, age, sex, gender, sexual orientation, language, political or other opinion, religion or other beliefs, circumstances of birth, or other unlawful ground.</p> <p>b. Support and encourage educational and cultural activities and exchanges that contribute to the development and promotion of the Paralympic Movement, enhance awareness of disability, and drive social inclusion.</p> | | | | | | | | | | | |
|---|---|---------------------|--------------------------|---|---|----------------|-----------------------------|---------------------------|------------------------|---------------------|---------------------|----------------|
| <p>Q28.</p> | <p>Differentiate between nutritive and nonnutritive components of a diet o</p> <table border="1" data-bbox="245 741 1329 1296"> <thead> <tr> <th data-bbox="245 741 759 797">Nutritive Component</th> <th data-bbox="759 741 1329 797">Non- Nutritive Component</th> </tr> </thead> <tbody> <tr> <td data-bbox="245 797 759 1131"> Nutritive components of food are those elements that provide a considerable quantity of energy to the system, such as protein, carbohydrates, and fats, all of which are essential to the body. </td> <td data-bbox="759 797 1329 1131"> Non-nutritive components of the diet are those components that do not have any nutritional value but are nonetheless necessary for the body in tiny quantities. </td> </tr> <tr> <td data-bbox="245 1131 759 1184"> Provide Energy </td> <td data-bbox="759 1131 1329 1184"> Provide flavour and texture </td> </tr> <tr> <td data-bbox="245 1184 759 1240"> Support growth and repair </td> <td data-bbox="759 1184 1329 1240"> Acts as food addictive </td> </tr> <tr> <td data-bbox="245 1240 759 1296"> Regulate metabolism </td> <td data-bbox="759 1240 1329 1296"> Provide antioxidant </td> </tr> </tbody> </table> | Nutritive Component | Non- Nutritive Component | Nutritive components of food are those elements that provide a considerable quantity of energy to the system, such as protein, carbohydrates, and fats, all of which are essential to the body. | Non-nutritive components of the diet are those components that do not have any nutritional value but are nonetheless necessary for the body in tiny quantities. | Provide Energy | Provide flavour and texture | Support growth and repair | Acts as food addictive | Regulate metabolism | Provide antioxidant | <p>1.5+1.5</p> |
| Nutritive Component | Non- Nutritive Component | | | | | | | | | | | |
| Nutritive components of food are those elements that provide a considerable quantity of energy to the system, such as protein, carbohydrates, and fats, all of which are essential to the body. | Non-nutritive components of the diet are those components that do not have any nutritional value but are nonetheless necessary for the body in tiny quantities. | | | | | | | | | | | |
| Provide Energy | Provide flavour and texture | | | | | | | | | | | |
| Support growth and repair | Acts as food addictive | | | | | | | | | | | |
| Regulate metabolism | Provide antioxidant | | | | | | | | | | | |
| <p>Q29.</p> | <p>With the help of suitable sports example explain the application of Newtons third law in sports.</p> <p>A. Newton's third law states that for every action, there is an equal and opposite reaction.</p> <p>In swimming, Newton's third law is evident in the propulsion generated by a swimmer's arm strokes against the water. When a swimmer pulls their arm through the water with force (action), the water exerts an equal and opposite force backward on the swimmer's hand (reaction). This reaction force propels the swimmer forward through the water.</p> | <p>3</p> | | | | | | | | | | |
| <p>Q30.</p> | <p>How we can enhance the performance with the help of self-talk and self-esteem.</p> <p>A. Self-talk and self-esteem play significant roles in enhancing sports performance. Motivational self-talks are necessary and productive. It boosts performance by helping you to build confidence, enhance your belief in your ability to perform. It</p> | <p>1.5+1.5</p> | | | | | | | | | | |

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| | <p>also athletes maintain a positive mindset, enhance their confidence, and improve their performance.</p> <p>Self-esteem is also crucial in sports performance. It helps in taking effective decision, Educated anxiety & stress. Individuals with high self-esteem are better equipped to bounce back from setbacks and failures.</p> | |
| Q31. | <p>a. To take care of their stay</p> <p>d. To arrange opening ceremony</p> <p>a. To provide them meals</p> <p>Committees are important for proper planning, organization, control during the tournament.</p> <p>Appropriate path and guidelines are provided by these committees during the tournament. Through committees all understand their work duties and responsibilities no body interferes in any others work.</p> <p>(Question for blind)</p> <p>There should be an organizing committee which should be responsible for the successful and smooth conduct of the sports competitions</p> <p>Committees required pre event:-</p> <p>Publicity Committee</p> <p>Committee for the ground and equipment</p> <p>Committee for Accommodation and Sitting Arrangements</p> <p>Committee for Entries</p> <p>Committees required during event:-</p> <p>Committee for First-Aid:</p> <p>Committee for Refreshment</p> <p>Committee for officials:</p> <p>Committee for Information and announcement</p> <p>Committees required post event:-</p> <p>Committee for closing ceremony</p> <p>Evaluation</p> <p>Record Maintenance</p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> |
| Q32. | <p>A) i. 1960</p> <p>B) ii. Instructions designing for students with special needs</p> <p>C) iii The event runs parallel with the Olympics</p> <p>D) i. Spirit in motion</p> <p>(Question for Blind)</p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> |

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| | <p>Inclusion in physical education refers to the students with disabilities to participate in all the activities. It means that these students get equal chance to participate in all activities, and they too learn the same curriculum just like other students.</p> <p>It helps in increases social skills of students with disabilities. Inclusion is needed to increase motor skills of students with disabilities. A disabled student gets equal chance to participate in age-appropriate activities so, it increases the confidence level.</p> | |
| Q33 | <p>i. Decreased heart rate</p> <p>ii. The volume of blood ejected by the heart per beat</p> <p>i. The volume of blood ejected by the heart per minute</p> <p>ii. The force exerted by blood against the walls of arteries</p> <p>(Question for Blind)</p> <p>Long term effect of exercise on cardio respiratory system are:</p> <p>Increase in heart size:- Regular exercise leads to increase in size and strength of heart muscles. The heart wall grow stronger and thicker.</p> <p>Stroke volume increases at rest:- Resting heart rate is able to slow down , because the heart is now trained to pump a larger quantity of blood with every beat.</p> <p>Faster recovery rate:- Regular exercise leads to faster recovery rate. An athletes heart rate becomes normal earlier compared to a beginner. Rate of respiration also becomes normal quickly. Thus the recovery becomes fast.</p> <p>Short Term effect</p> <p>Short Term / Immediate Effect</p> <p>Increase in heart rate:- On of the short term effect is increase in heart rate, when we doing exercise the heart rate will continue to rise from its normal beat in direct proportion to the intensity of exercise until maximum heart rate is achieved.</p> <p>Cardiac Output:- It is the amount of blood the heart pumps in a period of one minute. It also increase during strenuous exercise.</p> <p>Blood Pressure:- The pressure exerted by blood on the wall of heart, The upper range is called systolic and bottom range is called diastolic. Regular exercise also have effect on our blood pressure, generally there is change in systolic pressure but the diastolic pressure usually remains unchanged during intensive exercise</p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> |
| | Section E | |
| Q34. | <p>List down any four asanas used for prevention of Hypertension. Explain the procedure, benefits and contraindicate of any one of them with help of a stick diagram.</p> <p>A. Blood pressure is the force of your blood pushing against the walls of your arteries. Each time your heart beats, it pumps blood into the arteries.</p> <p>The four asana used for the prevention of hypertension are as follows:-</p> <ul style="list-style-type: none"> • Tadasana, • Katichakransan, | 2+3 |

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- Uttanpadasana,
- Ardha Halasana

Procedure benefit and contraindication of Tadasana:

Tadasana

The word Tada in Sanskrit means 'palm tree'. This asana is called tadasana because in this asana the person stands straight like a palm tree stretching his whole body upwards.

Procedure:

To perform Tadasana the following steps should be performed:

1. Stand erect, feet together, hands by the side of the thighs. Keep the back straight and look in front.
2. Stretch the arms upward; keep them straight and parallel to each other in vertical position, with the palms facing each other.
3. Slowly, raise the heels as much as you can and stand on toes. Stretch body up as much as possible.
4. Maintain the position for 5-10 seconds comfortably.
5. To come back, bring the heels on the floor first. Slowly bring down the hands by side of the thighs and relax.

Benefits:

1. It gives stretch to whole body muscles.
2. It helps in strengthening thighs, knees and ankles.
3. By doing this asana regularly, children can increase their height.
4. It helps to remove laziness and lethargy.

Precautions

1. The inner upper arms should touch the respective ears.
2. Stretch the arms and fingers in full capacity.
3. Keep the head, neck and the body in one straight line.
4. Avoid bending forward or backward.

Contraindications

1. Those having complaints of vertigo should avoid practicing this asana.

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| Q35. | <p>Discuss the purpose of Rikli & Jones fitness test and explain procedure of any two test batteries in detail.</p> <p>A. Even in old age, everybody wants to be able to continue to do what he wants, without pain, for as long as possible. It requires proper fitness during such age. In the beginning, there were not enough tests to assess the functional fitness. Recognizing the need for a tool to evaluate the functional fitness performance of older adults, Dr. Roberta Rikli and Dr. Jessie Jones developed the senior fitness test at Fullerton University. This test is also known as Fullerton Functional Test of senior citizens. The test is based on a functional fitness framework, which points out that being able to perform everyday activities.</p> <ol style="list-style-type: none">1. Chair stand test for lower body 1. Lower body strength, leg strength & strength Endurance2. Arm curl test for upper body 2. The upper body strength, arm flexor, strength, strength & endurance3. Chair sit & reach test for lower 3. The lower back flexibility body flexibility4. Back-scratch test for upper body 4. The upper body flexibility of the body flexibility & range of motion of the shoulders.5. Eight foot up & Go test for agility 5. The motor agility, speed & balance6. Six minute walk test for 6. Cardio-vascular endurance & recovery <p>Chair Stand Test for Lower Body Strength</p> <p>Purpose: The purpose of the Chair-Stand is to measure the strength of lower body of adults over 60 years of age. Lower body strength is important for activities such as getting out of a chair, on the bus, out of the car, and rising up from a kneeling position in the house or garden. The strength of your lower body can directly affect the ease with which you perform the activities you do every day.</p> <p>Equipment required: A straight back or folding chair without arm rests (seat 17 inches/44 cm high), stopwatch.</p> <p>Procedure:</p> <ol style="list-style-type: none">1) Place the chair against a wall where it will be stable. | 2+3 |
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| | <p>2) Sit in the middle of the chair with your feet flat on the floor, shoulder width apart, back straight.</p> <p>3) Cross your arms at the wrist and place them close to the chest.</p> <p>4) On the command ‘go’ you will rise up to a full stand and sit again as many times as you can during the 30 second interval.</p> <p>5) Count the total number of complete chair stands (up and down equals one stand). If the subject has completed a full stand from the sitting position when the time is elapsed, the final stand is counted in the total.</p> <p>Scoring: The score is the number of completed chair stands in 30 seconds. Below is a table showing the recommended ranges for this test based on age groups.</p> <p>Arm Curl (Bicep) Test for Upper Body Strength</p> <p>Purpose: This test measures upper body strength and endurance.</p> <p>Equipment required: 5-pound weight (women), 8-pound weight (for men). A chair without arm rests, stopwatch.</p> <p>Procedure:</p> <p>1) The subject sits on the chair holding the weight in the hand using a suitcase grip (palm facing towards the body).</p> <p>2) This test is conducted on the dominant arm side (or stronger side).</p> <p>3) On the command ‘go’ do as many curls as you can in the allotted 30 second time period.</p> <p>4) Do not swing the weight.</p> <p>5) If you have started raising the weight again and are over halfway up when time is called, you may count that curl.</p> <p>Scoring: The score is the total number of controlled arm curls performed in 30 seconds. Below is a table showing some recommended ranges for this test based on age groups.</p> | |
| Q36. | Define strength and differentiate between Isometric, Iso-tonic and Iso-kinetic exercises. | |

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Strength is the ability of muscles to overcome the resistance. Strength is necessary for the performance of physical activities, whether it is a physical activity associated with daily living.

Barrow and McGee have defined “Strength as, ‘The Capacity of the whole body or any of it’s parts to exert force.’

1+4

| Isometric Exercises | Isotonic Exercises |
|---|---|
| (i) Movements of exercising body parts or object are not visible to third person. | (i) Movements of exercising body parts are visible to third person. |
| (ii) Length of exercising muscles doesn't change. | (ii) Length of exercising muscles change. |
| (iii) Less muscular endurance is developed. | (iii) More muscular endurance is developed. |
| (iv) These exercises can be performed at any place. | (iv) These require specific place. |
| (v) These develop strength at one place. | (v) These develop uniform strength. |
| (vi) Isometric exercises develop strength and less flexibility. | (vi) Isotonic exercises develop strength along with flexibility. |
| (vii) Isometric exercises create boredom. | (vii) Isotonic exercises are interesting because they are self testing. |
| (viii) Recovery from muscular fatigue is slow. | (viii) Recovery from muscular fatigue is faster. |
| (ix) e.g. Exercise by pushing a wall. | (ix) e.g. Exercise with light weights. |

| Isokinetic Exercises |
|---|
| (i) This involves movement but maintains a constant speed. |
| (ii) Isokinetic generally involves muscle contraction against an electronic resistance and is specific to a particular sport. |
| (iii) It develops explosive strength as well as strength endurance. |
| (iv) Iso-same, kinetic-speed. Isokinetic exercises are done with machine that regulates movement, velocity and resistance. |
| (v) Excellent development of power. |
| (vi) Better development of speed as compared to Isotonic. |
| (vii) Examples are |
| (a) Running on Treadmill with prefixed speed of steps, |
| (b) Bicycling with a set of fixed number of revolutions per minute etc. |

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| Q37 | <p>What are the various types of friction? With the help of suitable example explain why friction is necessary in sports</p> <p>A. Friction is a force which oppose efforts to slide or roll one body over another. Without friction it would be impossible to walk or run but on the other hand it increases the difficulty of moving.</p> <p>The amount of friction between one surface and another depends upon the nature of the surface and forces pressing them together generally speaking smooth surface have less friction than rough.</p> <p>Types of Friction:-</p> <ul style="list-style-type: none">• Static Friction:- is the opposing force which acts between two surface in which one tends to move over the other• Dynamic Friction:- which acts between two surfaces in which one is actually moving over the other it may be two types.<ul style="list-style-type: none">– Sliding– Rolling <p>Friction is both helpful in sports: Friction is Necessary: Nothing would be able to move without friction. Friction is how things accelerate. Without friction we would not be able to walk we would just be slipping. Without friction we cannot give better performance in sports. Examples: athletes use spikes and footballers use studs to have appropriate friction while they run fast. A Gymnast uses lime powder on his/her palms to perform many activities like horizontal bar uneven bar Roman Rings. In Badminton players are usually seen to rub their sole of shoes with lime before going to the wooden court. It is done to provide better grip on the floor so that one can move safely</p> | 2+3 |
|-----|---|-----|