CUET UG Physical Education Sample Paper - 7

Duration: 1 Hour **Maximum Marks: 250**

Instructions

- This paper contains a total of 50 Multiple Choice Questions.
- Each correct answer carries **+5 marks**.
- Each incorrect answer carries **-1 mark**.
- No negative marking for unattempted questions.

Q1. Which of the following is a key objective of the National Rural Health Mission (NRHM) to improve the health status of the rural population in India?

(A) To provide free higher education in urban areas

(B) To reduce Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR)

(C) To focus exclusively on non-communicable diseases in cities

(D) To privatize all primary health centers

Q2. The Mid-Day Meal Scheme was primarily launched to:

(A) Provide employment to all rural adults

(B) Enhance the nutritional status of school-age children and improve enrollment

(C) Distribute sports equipment to all primary schools

(D) Promote international cuisines in government schools

Q3. In the Big Five Personality Theory, a person who is organized, disciplined, and aims for achievement would score high on:

(A) Extraversion

(B) Agreeableness

(C) Conscientiousness

(D) Neuroticism

Q4. Which type of aggression in sports is characterized by the intent to harm an opponent, driven by anger or frustration?

(A) Instrumental Aggression

(B) Hostile Aggression

(C) Assertive Behavior

(D) Proactive Aggression

Q5. According to Sheldon's classification, an 'Endomorph' individual is generally characterized by:

(A) A lean and thin body with narrow shoulders

(B) A muscular and athletic physique

(C) A round body shape with a tendency to store fat

(D) High agility and fast-twitch muscle fibers

Q6. What is the official dimension of a standard Kabaddi field for Men?

(A) 11 m $\times$ 8 m

(B) 13 m $\times$ 10 m

(C) 12 m $\times$ 10 m

(D) 10 m $\times$ 8 m

Q7. In Hockey, which of the following skills is used to move the ball slowly by maintaining constant contact between the stick and the ball?

(A) Flick

(B) Scoop

(C) Dribbling

(D) Slap Hit

Q8. Arrange the following stages of Suryanamaskar in the correct chronological order:

(i) Padahastasana

(ii) Ashwa Sanchalanasana

(iii) Pranamasana

(iv) Hastauttanasana

(A) (iii), (iv), (i), (ii)

(B) (i), (ii), (iii), (iv)

(C) (iii), (i), (iv), (ii)

(D) (iv), (iii), (ii), (i)

Q9. Identify the asana shown in the image and its primary benefit:

(A) Paschimottanasana - Improves flexibility of the hamstrings.

(B) Vajrasana - Helpful for digestion after meals.

(C) Ardha Matsyendrasana - Beneficial for managing Diabetes.

(D) Gomukhasana - Corrects round shoulders.

Q10. Which of the following is considered a 'Micro Nutrient' essential for various physiological functions?

(A) Carbohydrates

(B) Proteins

(C) Minerals

(D) Fats

Q11. A 'Greenstick Fracture' is most commonly observed in:

(A) Senior citizens due to bone density loss

(B) Children because their bones are soft and flexible

(C) Athletes involved in high-impact collision sports

(D) Weightlifters due to excessive load

Q12. The cash prize for the Major Dhyan Chand Khel Ratna Award is:

(A) ₹ 15 Lakh

(B) ₹ 25 Lakh

(C) ₹ 10 Lakh

(D) ₹ 50 Lakh

Q13. Fartlek Training is primarily used to develop:

(A) Maximum Strength

(B) Endurance

(C) Explosive Power

(D) Static Flexibility

Q14. The 'Flamingo Balance Test' is designed to measure:

(A) Explosive leg power

(B) Static balance

(C) Cardiovascular endurance

(D) Speed and agility

Q15. According to Newton's Second Law of Motion ($F = ma$), if the mass of an object is constant, increasing the force applied to it will:

(A) Decrease its acceleration

(B) Increase its acceleration

(C) Keep the acceleration constant

(D) Change the direction of gravity

Q16. Match List-I (Disease Type) with List-II (Example) and select the correct option:

No.	List-I (Disease Type)	ID	List-II (Example)
(I)	Communicable	(A)	Influenza
(II)	Non-Communicable	(B)	Diabetes
(III)	Nutritional Deficiency	(C)	Scurvy
(IV)	Neurodevelopmental	(D)	ADHD

(A) (I)-(B), (II)-(A), (III)-(D), (IV)-(C)

(B) (I)-(A), (II)-(B), (III)-(C), (IV)-(D)

(C) (I)-(B), (II)-(C), (III)-(D), (IV)-(A)

(D) (I)-(D), (II)-(A), (III)-(B), (IV)-(C)

Q17. Which strategy is most effective for including Children with Special Needs (CWSN) in regular physical education activities?

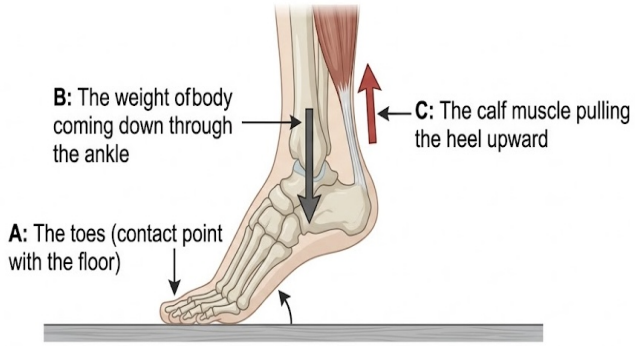
(A) Keeping them as spectators during matches

(B) Modifying rules and equipment to suit their functional abilities

(C) Giving them separate, easier tasks in a different room

(D) Excusing them from all physical activities for safety

Q18. The diagram of a human foot during a calf raise shows the toes (A) as the contact point, body weight (B) acting through the ankle, and the calf muscle (C) pulling the heel upward. This represents which class of lever?



(A) First Class Lever

(B) Second Class Lever

(C) Third Class Lever

(D) Fourth Class Lever

Q19. In sports sociology, 'Socialization' through sports primarily refers to:

(A) Improving individual fitness levels

(B) Learning values, norms, and skills to function in society

(C) Earning high salaries through professional leagues

(D) Winning medals for the country

Q20. What is the height of the net in a standard Volleyball match for Men?

(A) 2.24 m

(B) 2.43 m

(C) 2.45 m

(D) 2.34 m

Q21. In Football, the distance between the penalty spot and the goal line is:

(A) 10 Yards

(B) 12 Yards

(C) 11 Meters

(D) 9.15 Meters

Q22. Which of the following is NOT a benefit of 'Vrikshasana' (Tree Pose)?

(A) Improves neuromuscular coordination

(B) Strengthens the legs

(C) Increases concentration

(D) Cures acute migraine immediately

Q23. Which 'Pranayama' involves making a sound like a humming bee during exhalation?

(A) Ujjayi

(B) Bhramari

(C) Kapalbhati

(D) Sheetali

Q24. Postural deformity 'Flat Foot' is clinically known as:

(A) Pes Cavus

(B) Pes Planus

(C) Genu Valgum

(D) Genu Varum

Q25. Identify the correct match for Vitamin and its deficiency:

(A) Vitamin A - Beri Beri

(B) Vitamin C - Scurvy

(C) Vitamin D - Night Blindness

(D) Vitamin K - Rickets

Q26. The 'Dronacharya Award' is presented to athletes for their outstanding performance in international events.

(A) Statement is True

(B) Statement is False (It is given to Coaches)

(C) Statement is False (It is given to Sports Journalists)

(D) Statement is False (It is given to Referees)

Q27. Which career path in Physical Education requires a 'Master of Physical Education' (M.P.Ed) degree as a primary qualification?

(A) Sports Photographer

(B) University Professor/Lecturer in PE

(C) Gym Receptionist

(D) Sports Commentator

Q28. Isometric exercises are those in which:

(A) Muscle length changes significantly

(B) No visible movement occurs, and muscle length remains constant

(C) Speed of movement remains constant throughout the range

(D) Exercises are performed specifically in water

Q29. PNF (Proprioceptive Neuromuscular Facilitation) is a technique used primarily for improving:

(A) Speed

(B) Flexibility

(C) Agility

(D) Strength

Q30. The 'Rikli and Jones Senior Citizen Fitness Test' includes which of the following to measure upper body strength?

(A) Push-ups

(B) Arm Curl Test

(C) Chair Stand Test

(D) 6-Minute Walk Test

Q31. The '8-Foot Up-and-Go Test' for senior citizens is used to assess:

(A) Aerobic Endurance

(B) Speed, Agility, and Dynamic Balance

(C) Lower body flexibility

(D) Shoulder range of motion

Q32. A see-saw is an example of which class of lever?

(A) First-class lever

(B) Second-class lever

(C) Third-class lever

(D) Fourth-class lever

Q33. During vigorous exercise, what is the effect on the stroke volume of the heart?

(A) It decreases to conserve energy

(B) It remains unchanged

(C) It increases to supply more oxygenated blood to muscles

(D) It stops completely for short intervals

Q34. **Assertion (A):** Fartlek training is an effective method for developing endurance.
Reason (R): It involves a pre-planned, fixed-intensity workout on a synthetic track.

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

(B) Both (A) and (R) are true, but (R) is NOT the correct explanation of (A)

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

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

Q35. Which of the following describes a 'Comminuted Fracture'?

(A) Bone is broken into more than two fragments

(B) Bone is bent but not broken

(C) Bone is broken at an angle

(D) Bone end is driven into another bone

Q36. Which skill in Handball involves a player taking three steps and jumping into the air to shoot at the goal?

(A) Dribbling

(B) Jump Shot

(C) Corner Throw

(D) Pivoting

Q37. The 'Big Five' trait 'Neuroticism' refers to an individual's:

(A) Ability to be social

(B) Emotional stability or instability

(C) Willingness to try new experiences

(D) Level of kindness and cooperation

Q38. The 'Mid-Day Meal' program aims to address which of the following 'Health Status' issues in children?

(A) Vitamin D deficiency from lack of sunlight

(B) Malnutrition and Classroom Hunger

(C) Genetic disorders

(D) Over-hydration

Q39. In Biomechanics, 'Flexion' at the elbow joint refers to:

(A) Increasing the angle between the humerus and radius/ulna

(B) Decreasing the angle between the humerus and radius/ulna

(C) Rotating the forearm outwards

(D) Moving the arm away from the midline of the body

Q40. Identify the correct match for the Award and the field of achievement:

No.	List-I (Award)	ID	List-II (Field/Category)
(i)	Arjuna Award	(1)	Outstanding Coach
(ii)	Dronacharya Award	(2)	Lifetime contribution
(iii)	MAKA Trophy	(3)	University level sports
(iv)	Khel Ratna	(4)	Sports Journalism

(A) Only (iii) is correct

(B) (i) and (ii) are correct

(C) (iii) and (iv) are correct

(D) All are correct

Case Study 1

Read the following passage and answer the questions 41 to 45:

The Government of India has launched several flagship programs to address the health and nutritional status of the population. The National Rural Health Mission (NRHM) focuses on providing quality healthcare to rural areas, particularly focusing on maternal and child health. Alongside, the Mid-Day Meal (MDM) scheme serves as a nutritional support system for school-age children. These programs are vital in a country where communicable diseases still pose a threat while non-communicable diseases (NCDs) like diabetes and hypertension are on the rise due to sedentary lifestyles. For Children with Special Needs (CWSN), these health frameworks include specific strategies to ensure inclusive growth and accessibility to basic health rights.

Q41. 41. According to the passage, what is the primary focus area of the NRHM?

(A) Urban infrastructure development

(B) Maternal and child health in rural areas

(C) Promoting sports in private schools

(D) Eradicating genetic disorders completely

Q42. 42. Which of the following is identified as a rising health threat in the passage?

(A) Only communicable diseases

(B) Only nutritional deficiencies

(C) Non-communicable diseases (NCDs) due to sedentary lifestyles

(D) Occupational hazards in factories

Q43. 43. The Mid-Day Meal scheme mentioned in the text serves as:

(A) A source of income for rural farmers

(B) A nutritional support system for school students

(C) A physical training module for the youth

(D) A research facility for food scientists

Q44. 44. Based on the passage, why are diseases like diabetes and hypertension increasing?

(A) Due to lack of vaccination

(B) Due to sedentary lifestyles

(C) Due to excessive physical education in schools

(D) Due to the success of the NRHM

Q45. 45. For which group does the passage mention 'specific strategies for inclusive growth'?

(A) Professional Athletes

(B) University Professors

(C) Children with Special Needs (CWSN)

(D) International Coaches

Case Study 2

Read the following passage and answer the questions 46 to 50:

Biomechanics plays a crucial role in sports by applying the laws of physics to human movement. Sir Isaac Newton's laws of motion are fundamental in explaining how force affects the movement of athletes and equipment. In sports like Javelin or Shot Put, the Second Law (Acceleration) explains that the acceleration of the implement depends on the net force applied. Furthermore, the human body acts as a system of levers. Most joints in the body, such as the elbow during a bicep curl, function as third-class levers, which prioritize speed and range of motion over mechanical advantage. Understanding these principles helps coaches reduce injury risks and improve performance.

Q46. 46. Newton's Second Law, as discussed in the passage, relates acceleration to:

(A) The shape of the athlete's body

(B) The net force applied to an object

(C) The atmospheric pressure on the field

(D) The length of the training session

Q47. 47. According to the text, what is the primary function of third-class levers in the human body?

(A) To maximize mechanical advantage for heavy lifting

(B) To provide stability during sleep

(C) To prioritize speed and range of motion

(D) To reduce the heart rate during exercise

Q48. 48. Which specific body part is used as an example of a third-class lever in the passage?

(A) The skull at the atlanto-occipital joint

(B) The calf muscle at the ankle

(C) The elbow during a bicep curl

(D) The spine during lordosis

Q49. 49. How does biomechanical understanding benefit coaches according to the passage?

(A) It helps in selecting the color of the team jersey

(B) It helps reduce injury risks and improve performance

(C) It eliminates the need for any physical practice

(D) It helps in calculating the ticket prices for matches

Q50. 50. 'Biomechanics' is defined in the passage as the application of:

(A) Biology to social sciences

(B) Laws of physics to human movement

(C) Chemistry to sports nutrition

(D) Psychology to athlete motivation

Detailed Solutions

Q1.

Solution

Concept:

The National Rural Health Mission (NRHM) was launched by the Government of India in 2005 to provide accessible, affordable, and quality health care to the rural population, especially the vulnerable groups. It focuses on strengthening the primary healthcare delivery system.

Solution:

1. The primary focus of NRHM is on improving maternal and child health indicators. 2. Two major benchmarks for success are the reduction of the Infant Mortality Rate (IMR) and the Maternal Mortality Ratio (MMR). 3. It achieves this through the appointment of ASHAs (Accredited Social Health Activists) and upgrading Primary Health Centres (PHCs). 4. While education and privatization are separate policy areas, NRHM is strictly a public health initiative.

Final Answer: The correct option is B, as reducing IMR and MMR is a core objective.

Answer: (B)

Q2.

Solution

Concept:

The Mid-Day Meal Scheme (now PM-POSHAN) is a school meal program in India designed to better the nutritional standing of school-age children nationwide.

Solution:

1. The scheme provides free lunches on working days for children in primary and upper primary classes in government schools. 2. It has two main objectives: first, to increase student enrollment and attendance by providing an incentive for parents to send children to school. 3. Second, to address malnutrition among children by ensuring they receive at least one balanced meal a day. 4. It is not designed for adult employment or sports equipment distribution.

Final Answer: The objective is to enhance nutritional status and improve enrollment.

Answer: (B)

Q3.

Solution

Concept:

The 'Big Five' personality traits (OCEAN) include Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Each trait represents a continuum of personality characteristics.

Solution:

1. Conscientiousness is the trait of being careful, or vigilant. 2. High scorers in this category are organized, dependable, and show self-discipline. 3. They are typically achievement-oriented and prefer planned rather than spontaneous behavior. 4. Extraversion relates to sociability, while Neuroticism relates to emotional instability.

Final Answer: A disciplined and organized individual scores high on Conscientiousness.

Answer: (C)

Q4.

Solution

Concept:

In sports psychology, aggression is categorized based on intent and the primary goal of the behavior.

Solution:

1. Hostile Aggression (or reactive aggression) is behavior intended to cause physical or psychological harm to another person. 2. It is often motivated by anger, frustration, or a desire for revenge. 3. Instrumental Aggression, by contrast, is a behavior where harm is caused as a means to reach a non-aggressive goal (e.g., tackling to win the ball). 4. Assertive behavior involves using legitimate physical or verbal force to achieve a goal without the intent to injure.

Final Answer: Hostile aggression is driven by the intent to harm and anger.

Answer: (B)

Q5.

Solution

Concept:

William Sheldon proposed a theory of somatotypes that links body build to personality. The three types are Ectomorph, Mesomorph, and Endomorph.

Solution:

1. Endomorphs have a body type characterized by a high percentage of body fat and a round/soft appearance. 2. They often have shorter limbs and a larger trunk. 3. Mesomorphs are muscular and athletic, while Ectomorphs are lean and thin. 4. Therefore, a round body shape and fat storage are the defining physical traits of an endomorph.

Final Answer: Endomorphs are characterized by a round body shape.

Answer: (C)

Q6.

Solution

Concept:

The field dimensions for Kabaddi are strictly regulated by the International Kabaddi Federation (IKF). The size of the play area varies based on the category (Men, Women, or Juniors) to accommodate the physical intensity and raiding distance required for the sport. For the senior men's category, the field is designed to allow enough space for tactical maneuvers, raiding, and defending within the boundaries.

Solution:

1. The standard dimensions for a Senior Men's Kabaddi court are 13 meters in length and 10 meters in width. 2. The court is divided into two equal halves by a midline, making each half 6.5 m $\times$ 10 m. 3. Key markings include the 'Baulk Line', which is 3.75 meters from the midline, and the 'Bonus Line', which is 4.75 meters from the midline. 4. There is also a 'Lobby' area on both sides, measuring 1 meter wide, which becomes active only after a struggle has begun between the raider and the defenders. 5. In contrast, the dimensions for Women and Junior Boys are smaller, typically 12 m $\times$ 8 m, reflecting the different physiological demands of those categories. Understanding these measurements is crucial for competitive play and official officiating.

Final Answer: The official dimension for a standard Kabaddi field for Men is 13 m $\times$ 10 m.

Answer: (B)

Q7.

Solution

Concept:

Hockey involves various specialized stick skills used for passing, shooting, and ball control. Dribbling is the most fundamental skill used by players to navigate through the field while maintaining possession of the ball. Unlike hitting or flicking, which involve explosive movements to propel the ball over distances, dribbling focuses on close-range control and deceptive movement to bypass opponents.

Solution:

1. Dribbling in hockey is the technique of moving the ball in a controlled manner by making small, frequent touches with the flat side of the stick. 2. The player typically keeps the ball slightly in front and to the right side of the body, maintaining constant or near-constant contact to ensure the ball does not bounce away. 3. This skill allows the player to change direction quickly and keep the ball away from the reach of a defender. 4. Other skills like the 'Flick' or 'Scoop' involve lifting the ball into the air, while a 'Slap Hit' is a powerful strike used for long-distance passing. 5. Mastery of dribbling requires a combination of wrist flexibility, vision, and footwork, making it the primary method for advancing the ball under pressure. It is the only skill among the choices that emphasizes constant contact for slow, controlled movement.

Final Answer: The skill used to move the ball slowly with constant contact is Dribbling.

Answer: (C)

Q8.

Solution

Concept:

Suryanamaskar, or Sun Salutation, is a sequence of 12 powerful yoga poses that provide a complete cardiovascular workout. It is performed in a specific chronological flow where each posture counteracts the previous one, stretching and contracting different muscle groups. Proper sequencing is essential to maximize the flow of energy (Prana) and to ensure the physiological benefits to the respiratory and circulatory systems.

Solution:

1. The sequence begins with Pranamasana (Prayer Pose), where the practitioner stands upright with hands in a prayer position to center the mind. 2. The second stage is Hastauttanasana (Raised Arms Pose), involving a backward stretch to open the chest and spine. 3. The third stage is Padahastasana (Hand to Foot Pose), where the practitioner bends forward to touch the floor, stretching the hamstrings and spine. 4. The fourth stage is Ashwa Sanchalanasana (Equestrian Pose), which involves stepping one leg back into a deep lunge to stretch the hip flexors. 5. Following this sequence (iii-iv-i-ii), the flow continues through several other poses like Ashtanga Namaskara and Bhujangasana before returning to the standing position. Incorrect ordering can lead to muscle strain and reduces the meditative rhythm of the practice.

Final Answer: The correct chronological order is (iii), (iv), (i), (ii).

Answer: (A)

Q9.

Solution

Concept: The asana described—sitting with one leg bent over the other and the torso twisted—is **Ardha Matsyendrasana** (Half Lord of the Fishes Pose). This pose is characterized by a deep spinal twist that affects the internal abdominal organs.

Solution: The primary physiological benefit of Ardha Matsyendrasana is its impact on the endocrine and digestive systems.

- **Internal Massage:** The twist provides a deep massage to the abdominal organs, specifically the **pancreas**.
- **Diabetes Management:** By stimulating the pancreas, the pose helps regulate the secretion of insulin. This is why it is often recommended as a complementary yogic practice for managing Diabetes.
- **Spinal Health:** It improves the lateral flexibility of the spine and tones the spinal nerves.

Comparing the options: - (A) Paschimottanasana is a forward fold. - (B) Vajrasana is a kneeling pose for digestion. - (D) Gomukhasana is the "Cow Face Pose" focusing on shoulders.
Therefore, the correctly identified asana and benefit pair is Option (C).

Answer: (C)

Q10.

Solution

Concept:

Nutrients are divided into two main categories based on the quantity required by the human body: Macro Nutrients and Micro Nutrients. Macro nutrients (carbohydrates, proteins, and fats) are needed in large amounts as they provide energy and structural components. Micro nutrients, comprising vitamins and minerals, are required in minute quantities but are vital for biochemical reactions and preventing deficiency diseases.

Solution:

1. Minerals are essential inorganic elements that the body needs for various functions, such as bone formation (calcium), oxygen transport (iron), and nerve signaling (sodium and potassium). 2. Because these are needed in milligrams or micrograms per day, they are classified as 'Micro Nutrients.' 3. Despite the small quantity needed, a lack of minerals can lead to severe health issues, such as anemia or osteoporosis. 4. Carbohydrates, Proteins, and Fats are 'Macro Nutrients' because they form the bulk of our diet and provide the calories (energy) necessary for daily activities and growth. 5. Vitamins, the other half of the micro-nutrient category, work alongside minerals to ensure that the metabolism, immune system, and cellular repair processes function optimally. Understanding this distinction is fundamental to sports nutrition and overall health management.

Final Answer: Minerals are considered a 'Micro Nutrient' among the given options.

Answer: (C)

Q11.

Solution

Concept:

A Greenstick fracture is a specific type of clinical bone injury that occurs when a bone bends and cracks, instead of breaking completely into separate pieces. This phenomenon is closely related to the physiological development of the skeletal system. In adults, bones are highly mineralized and brittle, meaning they tend to snap under pressure. In contrast, the bones of younger individuals have a higher organic content and a thicker periosteum, making them more flexible and resilient.

Solution:

1. Greenstick fractures are most commonly observed in children because their bones are softer and more flexible than those of adults. 2. The name is derived from the analogy of a "green" or young branch of a tree; when you attempt to break a fresh, living branch, it splinters on one side but remains connected on the other. 3. Similarly, in a child, the bone may break on the outer curve of a bend but not go all the way through the width of the bone. 4. This occurs because the ossification process is not yet complete, and the bones contain more collagen, allowing for some degree of deformation before a total break occurs. 5. Understanding this is vital in sports medicine for junior athletes, as the symptoms may be milder than a full fracture, sometimes leading to a delay in diagnosis. Proper immobilization is required to ensure the bone heals straight without permanent deformity.

Final Answer: Greenstick fractures are most commonly observed in children.

Answer: (B)

Q12.

Solution

Concept:

The Major Dhyan Chand Khel Ratna Award (formerly Rajiv Gandhi Khel Ratna) is the highest sporting honor in India. It is awarded annually by the Ministry of Youth Affairs and Sports to athletes who have shown "spectacular and most outstanding performance in the field of sports over a period of four years" at the international level. As of the latest government revisions, the cash incentives for National Sports Awards have been significantly increased to provide better financial security and recognition to elite athletes.

Solution:

1. The current cash prize for the Khel Ratna awardee is ₹ 25 Lakh, along with a medallion and a certificate of honor. 2. This represents a significant increase from previous years, where the prize money was lower (₹ 7.5 Lakh prior to 2020), reflecting the government's commitment to promoting a sporting culture in India. 3. Other awards also have specific cash components: the Arjuna Award and Dronacharya Award (Regular) both carry a prize of ₹ 15 Lakh, while the Dronacharya (Lifetime) and Dhyan Chand Award for Lifetime Achievement carry ₹ 15 Lakh. 4. The Khel Ratna is highly prestigious, and its recipients are considered the pinnacle of Indian sportsmanship. 5. Knowing these financial details is important for the CUET-UG "Awards and Careers" section, as it highlights the professionalization and rewards available in modern Indian sports.

Final Answer: The cash prize for the Major Dhyan Chand Khel Ratna Award is ₹ 25 Lakh.

Answer: (B)

Q13.

Solution

Concept:

Fartlek, a Swedish term meaning "speed play," is a training method that blends continuous training with interval training. Unlike traditional interval training, which involves strict distances and timed rest periods, Fartlek is unstructured and depends on how the athlete feels. The primary goal is to improve the body's ability to utilize oxygen efficiently and to adapt to varying speeds and intensities over a long duration.

Solution:

1. Fartlek training is primarily used to develop cardiovascular and muscular endurance. 2. During a Fartlek session, an athlete changes their pace constantly—from a slow jog to a fast sprint and back to a steady run—without stopping. 3. This variety forces the heart and lungs to work at different capacities, improving both aerobic and anaerobic systems. 4. Because the session is continuous and usually lasts for 45 minutes or more, it is exceptionally effective for long-distance runners, footballers, and hockey players who need to sustain energy throughout a long match while occasionally performing high-intensity bursts. 5. It is often performed in natural settings like woods or hills, which adds psychological variety and helps prevent the boredom often associated with track running. Thus, it remains a cornerstone method for building a "base" of endurance.

Final Answer: Fartlek Training is primarily used to develop endurance.

Answer: (B)

Q14.

Solution

Concept:

Fitness testing is an essential part of sports science used to evaluate an individual's physical capabilities. The Flamingo Balance Test is a widely recognized standardized test used in various fitness batteries, such as the Eurofit test, to measure one of the key components of physical fitness: balance. Balance is the ability to maintain the body's center of gravity within its base of support, which is critical for almost all sporting activities and daily movements.

Solution:

1. The Flamingo Balance Test specifically measures static balance. 2. The test requires the subject to stand on one leg on a beam of specific dimensions while bending the other leg and holding it at the ankle (resembling a flamingo). 3. The objective is to remain balanced for as long as possible or to count the number of falls (loss of balance) within a one-minute period. 4. This test evaluates the integration of visual, vestibular (inner ear), and proprioceptive (body position) signals. 5. Good static balance is a prerequisite for sports like gymnastics, diving, and even contact sports where stability is needed to resist being pushed over. It differs from dynamic balance, which is the ability to stay balanced while moving. For the CUET-UG syllabus, distinguishing between these types of balance and their respective tests is a high-frequency area of study.

Final Answer: The Flamingo Balance Test is designed to measure static balance.

Answer: (B)

Q15.

Solution

Concept:

Newton's Second Law of Motion, often called the Law of Acceleration, describes the relationship between an object's mass, the net force acting on it, and its acceleration. In sports, this law explains how a player can change the speed or direction of a ball or their own body. The fundamental equation is Force (F) equals Mass (m) times Acceleration (a), or $a = F/m$.

Solution:

1. According to this law, the acceleration of an object is directly proportional to the magnitude of the net force applied and inversely proportional to its mass. 2. If the mass of an object (like a shot put or a football) remains constant, applying a greater force will result in a higher rate of acceleration. 3. This means the object will increase its velocity more quickly over a given period of time. 4. In practical sports terms, if a football player kicks a ball with more strength (force), the ball will travel faster and accelerate more rapidly than if it were tapped lightly. 5. Conversely, if the force remains the same but the mass increases (e.g., throwing a heavy medicine ball instead of a tennis ball), the acceleration will decrease. Therefore, in the context of the question, increasing the force on a constant mass directly leads to an increase in acceleration, which is essential for explosive movements in sprinting and throwing events.

Final Answer: Increasing the force applied to a constant mass will increase its acceleration.

Answer: (B)

Q16.

Solution

Concept:

Classifying diseases is a fundamental aspect of public health and physical education. Diseases are generally categorized based on their cause and mode of transmission. Communicable diseases are infectious and can spread from one person to another through pathogens like viruses or bacteria. Non-communicable diseases (NCDs) are usually chronic and result from genetic, physiological, environmental, or behavioral factors. Nutritional deficiency diseases occur due to a lack of specific vitamins or minerals in the diet, while neurodevelopmental disorders affect the development of the nervous system and brain function.

Solution:

1. Influenza (B) is a viral infection that spreads through respiratory droplets, making it a classic 'Communicable' disease (I). 2. Diabetes (A) is a chronic metabolic condition where the body cannot regulate blood sugar, categorized as 'Non-Communicable' (II) because it cannot be "caught" from someone else. 3. Scurvy (D) is caused by a severe lack of Vitamin C in the diet, placing it under 'Nutritional Deficiency' (III). 4. ADHD (C), or Attention-Deficit/Hyperactivity Disorder, is a condition that affects brain development and behavior, making it a 'Neurodevelopmental' (IV) disorder. 5. Matching these pairs leads to the sequence (I)-(B), (II)-(A), (III)-(D), and (IV)-(C). Understanding these distinctions helps health professionals and educators implement the right prevention and support strategies.

Final Answer: The correct match is option A.

Answer: (A)

Q17.

Solution

Concept:

Adaptive Physical Education (APE) is a sub-discipline of physical education that provides a safe and successful participation environment for Children with Special Needs (CWSN). The philosophy of inclusion dictates that every child, regardless of physical or mental challenges, has a right to engage in physical activity alongside their peers. The goal is not just participation but "meaningful" participation, where the child feels included, challenged, and supported by the environment.

Solution:

1. Effective inclusion strategies focus on removing barriers rather than removing the child from the activity. 2. Modifying rules (e.g., allowing more than one bounce in tennis) or equipment (e.g., using larger, softer balls for easier catching) ensures the task matches the child's functional ability. 3. Keeping children as spectators or giving them separate tasks in another room is a form of exclusion or segregation, which can lead to social isolation and a lack of self-esteem. 4. Excusing them from activities for safety is often a result of over-protection; instead, a risk assessment should be performed to adapt the activity safely. 5. Therefore, modification of the environment and task is the gold standard for CWSN inclusion. This approach fosters a sense of belonging and helps develop physical and social skills in an integrated setting.

Final Answer: Modifying rules and equipment is the most effective strategy.

Answer: (B)

Q18.

Solution

Concept: A lever is classified based on the relative positions of the Fulcrum (F), Load (L), and Effort (E). - **First Class:** Fulcrum is in the middle ($E - F - L$). - **Second Class:** Load is in the middle ($F - L - E$). - **Third Class:** Effort is in the middle ($F - E - L$).

Solution: In the context of a human foot during a calf raise:

- **Fulcrum (A):** The axis of rotation is at the metatarsophalangeal joints (the toes/ball of the foot) where it contacts the floor.
- **Load (B):** The resistance is the body weight, which centers downward through the tibia at the ankle joint.
- **Effort (C):** The force is applied by the gastrocnemius and soleus muscles pulling upward on the calcaneus (heel) via the Achilles tendon.

Since the **Load (B)** is located between the **Fulcrum (A)** and the **Effort (C)**, this configuration follows the $F - L - E$ pattern. This identifies it as a Second Class Lever, which provides a mechanical advantage, allowing the body to lift its own weight efficiently.

Answer: (B)

Q19.

Solution

Concept:

Socialization is a lifelong process through which individuals learn the values, customs, and norms of their society. Sports serve as a powerful "microcosm" of society, acting as an agency of socialization. When children or adults participate in sports, they aren't just improving their physical fitness; they are learning how to exist within a social structure. This process helps in character building and preparing individuals for the complexities of life outside the stadium.

Solution:

1. Through sports, participants learn essential social values such as teamwork, discipline, respect for authority (officials), and the importance of following rules. 2. It teaches individuals how to handle both victory with humility and defeat with grace—a concept known as sportsmanship. 3. While winning medals or earning high salaries are outcomes of professional sports, they are not the "process of socialization." 4. Socialization is about the 'internalization' of social norms. For example, a player learns that they must cooperate with teammates to achieve a common goal, which translates to workplace collaboration in the future. 5. Therefore, the primary role of socialization in sports sociology is helping the individual learn how to function effectively and harmoniously within a larger community or society.

Final Answer: Socialization refers to learning values, norms, and skills for society.

Answer: (B)

Q20.

Solution

Concept:

Volleyball is a sport with precise technical specifications regarding equipment and field dimensions to ensure fair play and standardization across international competitions. The height of the net is one of the most critical measurements and is adjusted based on the gender and age of the players to account for physiological differences in height and jumping ability. These measurements are strictly enforced by the Fédération Internationale de Volleyball (FIVB).

Solution:

1. For men's international and official matches, the height of the net is set at 2.43 meters (approximately 7 feet 11.6 inches). 2. The height is measured from the center of the playing court. The height of the net over the two sidelines must be exactly the same and must not exceed the official height by more than 2 cm. 3. For women, the net height is lower, set at 2.24 meters (approximately 7 feet 4.2 inches), reflecting the average height difference. 4. The net itself is 1 meter wide and 9.5 to 10 meters long. 5. Knowing these dimensions is fundamental for students of Physical Education as it relates to the "Basics of Games" section of the CUET-UG syllabus. Accurate knowledge of these measurements is essential for field preparation and officiating.

Final Answer: The height of the net for Men is 2.43 m.

Answer: (B)

Q21.

Solution

Concept:

In Football (Soccer), the field markings are standardized by the IFAB (International Football Association Board). The penalty area and the penalty spot are critical zones where specific rules apply regarding fouls and restarts. The penalty spot is the exact location from which a penalty kick is taken, and its distance from the goal line is designed to provide a fair scoring opportunity while allowing the goalkeeper a chance to make a save based on reaction time and reach.

Solution:

1. The penalty spot is marked at a distance of 12 yards (11 meters) from the center of the goal line. 2. It is located within the penalty area, which itself extends 18 yards from each goalpost and 18 yards into the field. 3. During the execution of a penalty kick, all players except the kicker and the goalkeeper must remain outside the penalty area and at least 10 yards (9.15 meters) away from the penalty spot. 4. This 10-yard distance is maintained by the 'penalty arc' or 'D' marked outside the penalty box. 5. In competitive exams, it is important to distinguish between yards and meters, as both are used in official documentation; however, 12 yards is the standard historical measurement used in the Laws of the Game. Therefore, the distance between the spot and the goal line is exactly 12 yards.

Final Answer: The distance between the penalty spot and the goal line is 12 Yards.

Answer: (B)

Q22.

Solution

Concept:

Yoga asanas are categorized based on their physical benefits and the bodily systems they influence. Vrikshasana, or the Tree Pose, is a standing balance posture. It involves standing on one leg with the other foot placed on the inner thigh of the standing leg. This pose is primarily aimed at improving physical stability, mental poise, and the alignment of the skeletal system. While yoga offers holistic health benefits, specific claims regarding "immediate cures" for acute medical conditions are generally inaccurate in a scientific and academic context.

Solution:

1. Vrikshasana is highly effective for improving neuromuscular coordination as it requires the brain and muscles to work together to maintain balance. 2. It strengthens the ligaments and tendons of the feet and builds strength in the legs, particularly the calves and thighs. 3. Mentally, the focus required to stay upright significantly increases concentration and patience. 4. However, the claim that it "cures acute migraine immediately" (Option D) is incorrect. While yoga can reduce stress—a common trigger for migraines—an acute migraine attack requires medical intervention or rest in a dark room, and a balancing posture could actually exacerbate the dizziness associated with it. 5. Therefore, in the context of the CUET-UG syllabus, identifying the limitations of asanas is as important as knowing their benefits. The other three options are well-documented physical and psychological benefits of the Tree Pose.

Final Answer: Curing acute migraine immediately is NOT a benefit of Vrikshasana.

Answer: (D)

Q23.

Solution

Concept:

Pranayama is the fourth limb of Ashtanga Yoga and refers to the regulation of breath. Each type of Pranayama has a distinct technique and physiological effect on the nervous system. Some are cooling (like Sheetali), while others are energizing or calming. Bhramari Pranayama is specifically known for its ability to calm the mind and reduce agitation by using sound vibrations created during the breathing process.

Solution:

1. Bhramari is derived from the Sanskrit word 'Bhramar', which means a black Indian humming bee. 2. The technique involves closing the ears with the thumbs and the eyes with the fingers (Shanmukhi Mudra) and exhaling slowly while producing a steady, low-pitched humming sound in the throat. 3. This vibration resonates within the skull and has a soothing effect on the cerebral cortex, making it excellent for reducing stress, anxiety, and high blood pressure. 4. In contrast, Ujjayi involves a slight constriction of the throat to create an ocean-like sound, Kapalbhati is a cleansing kriya involving forceful exhalations, and Sheetali involves inhaling through a rolled tongue to cool the body. 5. Because Bhramari specifically mimics the sound of a bee during exhalation, it is easily identified by this unique characteristic. It is often recommended as a preparatory practice for meditation because it internalizes the practitioner's awareness.

Final Answer: Bhramari Pranayama involves making a sound like a humming bee.

Answer: (B)

Q24.

Solution

Concept:

Postural deformities are deviations from the normal skeletal alignment, often caused by poor habits, muscle weakness, or congenital factors. The human foot normally has a medial longitudinal arch that acts as a shock absorber during walking and running. When this arch collapses or fails to develop, the entire sole of the foot touches the ground, a condition known as 'Flat Foot.' In clinical and anatomical terminology, specific Latin terms are used to describe these conditions.

Solution:

1. 'Pes Planus' is the clinical term for Flat Foot, where 'Pes' means foot and 'Planus' means flat. 2. It can lead to pain in the arches, heels, and even the lower back because the body's weight is not distributed correctly. 3. In contrast, 'Pes Cavus' refers to an abnormally high arch in the foot, which is the opposite of flat foot. 4. 'Genu Valgum' and 'Genu Varum' refer to knee deformities; Genu Valgum is 'Knock-Knees' (where the knees tilt inward), and Genu Varum is 'Bow-Legs' (where the knees tilt outward). 5. Identifying these terms is a high-yield area in the "Nutrition and Care" section of the Physical Education syllabus. Corrective exercises for Pes Planus include walking on heels, skipping rope, and performing 'Vajrasana,' which help in strengthening the muscles that support the foot's arch.

Final Answer: Flat Foot is clinically known as Pes Planus.

Answer: (B)

Q25.

Solution

Concept:

Vitamins are organic compounds required in small quantities for the maintenance of health and the prevention of specific deficiency diseases. They are divided into fat-soluble (A, D, E, K) and water-soluble (B-complex, C). Each vitamin plays a unique role in the body's biochemistry. For example, Vitamin A is crucial for vision, Vitamin C for tissue repair and immunity, Vitamin D for bone health, and Vitamin K for blood clotting.

Solution:

1. Vitamin C (Ascorbic acid) deficiency leads to 'Scurvy,' characterized by bleeding gums, skin spots, and delayed wound healing. Therefore, Option B is a correct match. 2. Vitamin A deficiency leads to 'Night Blindness,' not Beri Beri (which is caused by Vitamin B1 deficiency). 3. Vitamin D deficiency leads to 'Rickets' in children and 'Osteomalacia' in adults, not Night Blindness. 4. Vitamin K is essential for blood coagulation; its deficiency leads to excessive bleeding, not Rickets. 5. In the context of the CUET-UG syllabus, students must memorize the chemical names and primary deficiency symptoms for all major vitamins. Vitamin C is particularly emphasized in sports nutrition due to its role in collagen synthesis, which is vital for the health of ligaments and tendons in athletes.

Final Answer: Vitamin C - Scurvy is the correct match.

Answer: (B)

Q26.

Solution

Concept:

The Dronacharya Award is one of the most prestigious national sports awards in India, instituted in 1985. It is named after Drona, the legendary archer-teacher from the Indian epic Mahabharata. The award is specifically designed to recognize the contribution of coaches who have successfully trained athletes or teams to achieve outstanding results in international sports events. This distinction is crucial in physical education to understand the hierarchy of sports honors and the specific roles they celebrate.

Solution:

1. The statement in the question is false because the Dronacharya Award is presented to Coaches, not to athletes. 2. Athletes are instead recognized with awards like the Arjuna Award (for outstanding performance over four years) or the Major Dhyan Chand Khel Ratna (the highest honor for spectacular performance). 3. The Dronacharya Award aims to honor those who have shown excellence in training and providing technical support to sportspersons, helping them win medals at the Olympics, Asian Games, or World Championships. 4. There are two categories for this award: the 'Regular' category for current coaching achievements and the 'Lifetime' category for those who have contributed to the growth of sports over a period of 20 years or more. 5. Understanding the difference between these awards is a key part of the "Awards and Career" section of the CUET-UG syllabus, as it highlights the professional ecosystem of Indian sports.

Final Answer: The statement is False (It is given to Coaches).

Answer: (B)

Q27.

Solution

Concept:

A career in Physical Education has evolved from basic physical training to a complex academic and professional field. Different roles within the sector require specific educational qualifications. While a Bachelor's degree (B.P.Ed) is often sufficient for school-level teaching, higher academic positions within universities and specialized research institutions require advanced degrees that provide deeper knowledge of sports science, pedagogy, and administration.

Solution:

1. A Master of Physical Education (M.P.Ed) is a postgraduate degree that builds upon the foundations of physical education and sports science. 2. To become a University Professor or Lecturer in Physical Education, an M.P.Ed degree is a mandatory primary qualification, usually followed by clearing the National Eligibility Test (NET) or completing a Ph.D. 3. This degree covers advanced topics like sports psychology, exercise physiology, and research methodology, which are essential for teaching at the higher education level. 4. In contrast, roles like sports photographers or commentators do not strictly require a physical education degree; they rely more on media skills and journalism. 5. Gym receptionists generally require basic administrative skills rather than postgraduate academic training. Therefore, for someone aiming for an academic or administrative leadership role in the field of PE, the M.P.Ed is the essential stepping stone.

Final Answer: University Professor/Lecturer in PE requires an M.P.Ed degree.

Answer: (B)

Q28.

Solution

Concept:

Resistance exercises are classified into three main types based on how the muscles contract and whether movement occurs: Isometric, Isotonic, and Isokinetic. These terms are derived from Greek roots ('Iso' meaning same, 'metron' meaning measure, and 'tonos' meaning tension). Understanding these classifications is fundamental in sports training to determine which method best suits an athlete's goals, such as building raw strength or improving muscular endurance.

Solution:

1. Isometric exercises are those in which the length of the muscle remains constant during the contraction, and there is no visible movement in the joint. 2. A classic example of an isometric exercise is pushing against a stationary wall or holding a plank position. While the muscle fibers are under significant tension and are working hard, the distance between the origin and insertion of the muscle does not change. 3. These exercises are highly effective for developing static strength and are often used in rehabilitation because they put less stress on the joints than dynamic movements. 4. In contrast, 'Isotonic' exercises (like a bicep curl) involve changes in muscle length and visible movement. 5. 'Isokinetic' exercises involve movement at a constant speed, usually requiring specialized machinery. Since isometric exercises involve no visible movement and constant muscle length, Option B is the correct definition.

Final Answer: In Isometric exercises, no visible movement occurs, and muscle length remains constant.

Answer: (B)

Q29.

Solution

Concept:

Flexibility is the range of motion around a joint and is a key component of physical fitness. There are several methods to improve flexibility, including static, dynamic, and ballistic stretching. However, Proprioceptive Neuromuscular Facilitation (PNF) is considered one of the most advanced and effective techniques. It was originally developed for rehabilitation but has become popular in athletics for its ability to produce rapid gains in the range of motion.

Solution:

1. PNF stretching involves both the stretching and contraction of the muscle group being targeted. 2. The most common technique is the 'contract-relax' method, where a muscle is passively stretched, then contracted isometrically against resistance, and then stretched again to a greater range. 3. This process utilizes the body's neuromuscular inhibitory mechanisms (like the Golgi Tendon Organ reflex) to allow the muscle to relax further than a standard static stretch would permit. 4. While it can indirectly help with strength, its primary and most direct application is the improvement of flexibility. 5. It is usually performed with the help of a partner and is highly effective for athletes who require an extreme range of motion, such as gymnasts or martial artists. For the CUET-UG syllabus, PNF is categorized under training methods specifically designed to enhance flexibility.

Final Answer: PNF is a technique used primarily for improving flexibility.

Answer: (B)

Q30.

Solution

Concept:

As individuals age, maintaining physical independence becomes a priority. Standard fitness tests for young athletes are often unsuitable for the elderly. The Rikli and Jones Senior Citizen Fitness Test (also known as the Fullerton Functional Fitness Test) was developed to assess the functional fitness of older adults. It uses simple, safe, and effective exercises to measure strength, endurance, flexibility, and balance—the four pillars of physical health in senior citizens.

Solution:

1. The Arm Curl Test is a specific component of the Rikli and Jones battery designed to measure upper body strength, which is essential for daily tasks like carrying groceries or lifting objects. 2. The test involves sitting on a chair and performing as many bicep curls as possible with a specific weight (5 lbs for women, 8 lbs for men) within a 30-second time limit. 3. Other tests in the battery serve different purposes: the 'Chair Stand Test' measures lower body strength, the '6-Minute Walk Test' measures aerobic endurance, and the 'Chair Sit and Reach' measures lower body flexibility. 4. Push-ups are generally not part of this specific senior battery as they can be too strenuous on the wrists and shoulders of older individuals. 5. Therefore, the Arm Curl Test is the correct measure for upper body strength in this context.

Final Answer: The Arm Curl Test is used to measure upper body strength in the Rikli and Jones battery.

Answer: (B)

Q31.

Solution

Concept:

The '8-Foot Up-and-Go Test' is a critical component of the Rikli and Jones Senior Citizen Fitness Test battery. It is specifically designed to evaluate an older adult's functional mobility, which is their ability to move around safely and independently in their daily environment. This test is a composite measure because it requires the integration of several physical components, including power, speed, agility, and dynamic balance, all of which are essential for tasks like getting out of a chair to answer the phone or avoiding a trip while walking.

Solution:

1. In this test, the participant starts in a seated position on a chair. On the signal 'Go', they stand up, walk as quickly as possible (without running) to a cone placed 8 feet away, turn around the cone, and return to the chair to sit back down. 2. The score is the time taken to complete the entire sequence. A faster time indicates better functional mobility. 3. This test is particularly important for assessing the risk of falls in the elderly. While a static balance test measures stability while standing still, 'Dynamic Balance' (measured here) is the ability to maintain stability while the body is in motion. 4. Aerobic endurance is measured by the 6-minute walk test, and flexibility is measured by the 'Back Scratch' or 'Chair Sit and Reach' tests. 5. Therefore, the 8-Foot Up-and-Go Test uniquely assesses speed, agility, and dynamic balance.

Final Answer: The 8-Foot Up-and-Go Test is used to assess Speed, Agility, and Dynamic Balance.

Answer: (B)

Q32.

Solution

Concept:

In biomechanics, a lever is a rigid bar (such as a bone) that rotates around a fixed point called a fulcrum (a joint) when a force (muscle contraction) is applied to move a resistance (weight of a limb or object). Levers are classified into three types based on the relative positions of the Fulcrum (F), the Effort (E), and the Resistance/Load (L). Understanding these classes helps in analyzing the mechanical efficiency of human movement and the stress placed on various joints during sports activities.

Solution:

1. A First-Class Lever is characterized by having the Fulcrum (F) located between the Effort (E) and the Load (L). 2. A classic non-biological example of this is a see-saw, where the central pivot point is the fulcrum, and the children on either end represent the load and the effort. 3. In the human body, an example of a first-class lever is the atlanto-occipital joint (where the skull meets the spine), allowing the head to nod up and down. 4. In a Second-Class Lever, the Load is in the middle (e.g., a wheelbarrow or standing on toes), and in a Third-Class Lever, the Effort is in the middle (e.g., a bicep curl). 5. Since a see-saw has the pivot point in the center with force and resistance on opposite sides, it strictly follows the configuration of a first-class lever.

Final Answer: A see-saw is an example of a First-class lever.

Answer: (A)

Q33.

Solution

Concept:

Exercise physiology focuses on how the body's systems, particularly the cardiovascular and respiratory systems, adapt to the increased demands of physical activity. Stroke Volume (SV) is the amount of blood ejected by the left ventricle of the heart in a single contraction or beat. It is a key determinant of Cardiac Output ($CO = SV \times HR$), which is the total volume of blood the heart pumps per minute to meet the metabolic needs of the tissues.

Solution:

1. During vigorous exercise, the working muscles require a significantly higher supply of oxygen and nutrients, as well as faster removal of waste products like carbon dioxide and lactic acid. 2. To meet this demand, the heart adapts by increasing both the Heart Rate (HR) and the Stroke Volume (SV). 3. The increase in stroke volume is achieved through mechanisms like the Frank-Starling Law, where increased venous return stretches the heart chambers, leading to a more powerful contraction. 4. Additionally, sympathetic nervous system stimulation increases myocardial contractility, allowing the heart to pump more blood per beat. 5. While heart rate can increase dramatically, stroke volume typically increases and then plateaus at about 40-60

Final Answer: During vigorous exercise, stroke volume increases to supply more oxygenated blood.

Answer: (C)

Q34.

Solution

Concept:

Evaluating the relationship between training methods and their characteristics is essential for sports science students. This involves understanding the definitions, goals, and physiological impacts of various conditioning programs. Fartlek training is a unique cardiovascular conditioning method that relies on varying the intensity of the workout based on the athlete's perception and the natural terrain. Identifying logical inconsistencies between an assertion and its reason is a common analytical task in the CUET-UG pattern.

Solution:

1. The Assertion (A) states that Fartlek training is an effective method for developing endurance. This is factually correct, as Fartlek (Swedish for "speed play") is one of the most widely used methods to improve both aerobic and anaerobic endurance by varying pace over a continuous run. 2. The Reason (R) states that it involves a "pre-planned, fixed-intensity workout on a synthetic track." This is factually incorrect. 3. Fartlek is characterized by being "unstructured" and "unplanned," where the athlete decides when to speed up or slow down based on their feeling or the environment (e.g., sprinting to the next tree). 4. Fixed-intensity workouts on a track are more characteristic of interval training or continuous steady-state training. 5. Because the assertion is a true statement about the benefit of the training, but the reason provides an incorrect definition of how that training is conducted, Option C is the only logical choice.

Final Answer: (A) is true, but (R) is false.

Answer: (C)

Q35.

Solution

Concept:

Fractures are classified based on the nature of the break in the bone, the direction of the fracture line, and whether the skin is broken. Understanding these classifications is vital in sports medicine for immediate first aid and long-term rehabilitation planning. Some fractures are simple (clean breaks), while others are complex and involve multiple bone fragments or the displacement of the bone structure. A 'Comminuted' fracture is one of the more severe types of bone injury.

Solution:

1. A Comminuted Fracture is defined as a break in which the bone is splintered, crushed, or broken into more than two fragments. 2. This typically occurs as a result of high-impact trauma, such as a severe fall from a height or a high-speed collision in sports like motor racing or skiing. 3. Because the bone is in multiple pieces, these fractures are difficult to treat and often require surgical intervention with plates, screws, or pins (internal fixation) to hold the pieces together during the long healing process. 4. Other options describe different injuries: a bone that is bent but not broken is a 'Greenstick' fracture; a break at an angle is an 'Oblique' fracture; and a bone end driven into another is an 'Impacted' fracture. 5. Mastery of these definitions is a high-frequency area for the "Nutrition and Care" (specifically First Aid and Injuries) section of the Physical Education syllabus.

Final Answer: A Comminuted Fracture is where the bone is broken into more than two fragments.

Answer: (A)

Q36.

Solution

Concept:

Handball is a fast-paced team sport that combines elements of basketball, soccer, and netball. The rules regarding movement with the ball are very specific: a player can take a maximum of three steps with the ball in their hands and can hold it for only three seconds before passing or shooting. The jump shot is considered the most effective and spectacular way to score in handball because it allows the player to gain height, bypass defenders, and get closer to the goal before releasing the ball.

Solution:

1. The 'Jump Shot' involves a player running towards the goal area, taking up to three steps to build momentum, and then leaping into the air before reaching the goal-area line. 2. While in mid-air, the player has a better angle to see the goalkeeper's position and can release the ball with significant force and accuracy. 3. The rules strictly state that the player must release the ball before landing back on the ground if they have entered the "crease" or goal area. 4. Other options do not fit this description: 'Dribbling' is the act of bouncing the ball while moving; a 'Corner Throw' is a restart method after the ball goes out over the outer goal line; and 'Pivoting' is a movement where a player keeps one foot stationary while moving the other to change direction. 5. Mastery of the jump shot requires coordination, explosive leg power, and core stability, making it a central focus in the "Basics of Games" section of the syllabus.

Final Answer: The skill involving three steps and a leap for a goal is the Jump Shot.

Answer: (B)

Q37.

Solution

Concept:

In psychology, personality refers to individual differences in characteristic patterns of thinking, feeling, and behaving. The 'Big Five' model (also known as the Five-Factor Model or OCEAN) is the most widely accepted framework in modern psychology. One of its key dimensions is 'Neuroticism,' which assesses an individual's emotional stability and their tendency to experience negative emotions. Understanding this trait is essential for coaches and educators to support the mental well-being and performance consistency of athletes.

Solution:

1. Neuroticism is a trait characterized by sadness, moodiness, and emotional instability. 2. Individuals who score high in neuroticism tend to experience emotional instability, anxiety, irritability, and sadness. They are more likely to interpret ordinary situations as threatening and minor frustrations as hopelessly difficult. 3. Conversely, individuals who score low in neuroticism are more emotionally resilient, calm, and stable, even under high-pressure situations like a major sports competition. 4. The other options describe different Big Five traits: 'Ability to be social' refers to Extraversion; 'Willingness to try new experiences' is Openness to Experience; and 'Level of kindness' refers to Agreeableness. 5. In sports sociology and psychology, identifying an athlete's level of neuroticism helps in designing personalized stress-management interventions to ensure they don't "choke" during critical moments of a game.

Final Answer: Neuroticism refers to an individual's emotional stability or instability.

Answer: (B)

Q38.

Solution

Concept:

The Mid-Day Meal (MDM) Scheme, now known as PM-POSHAN, is a school meal program in India designed to improve the nutritional standing of school-age children. This initiative recognizes that health status and education are deeply intertwined. A child who is hungry or malnourished cannot concentrate on studies or participate effectively in physical education. By providing a hot, cooked meal, the government aims to tackle the dual problems of 'classroom hunger' and chronic malnutrition among the youth.

Solution:

1. Classroom hunger occurs when children come to school on an empty stomach, which significantly impairs their cognitive functions and attention spans. 2. The program ensures that students receive a meal that meets specific calorie and protein requirements (e.g., 450 calories and 12g of protein for primary students). 3. This nutritional support is crucial for addressing 'Health Status' indicators like stunting (low height for age) and wasting (low weight for height), which are prevalent in underprivileged communities. 4. It does not target genetic disorders or over-hydration, nor is it primarily about Vitamin D, which is mainly synthesized via sunlight. 5. By improving the nutritional intake of millions of children, the MDM scheme indirectly enhances the effectiveness of physical education programs, as healthier children have more energy for physical activity and sports training.

Final Answer: The Mid-Day Meal program aims to address Malnutrition and Classroom Hunger.

Answer: (B)

Q39.

Solution

Concept:

Biomechanics and kinesiology study human movement by analyzing the actions of muscles and joints. Movements are classified based on the plane in which they occur and the change in the angle between the bones involved. The elbow joint is a hinge joint (ginglymus) that primarily allows for two types of movement: flexion and extension. These movements are fundamental to almost every sport involving the upper body, from throwing a ball to lifting weights.

Solution:

1. 'Flexion' is a movement that decreases the angle between two body parts. 2. At the elbow joint, flexion occurs when the forearm moves toward the upper arm (humerus), thereby decreasing the angle at the joint. The primary muscle responsible for this action is the Biceps Brachii. 3. 'Extension' is the opposite of flexion; it increases the angle between the bones (e.g., straightening the arm). 4. Other movements mentioned, like 'rotating the forearm outwards' (supination) or 'moving the arm away from the midline' (abduction), involve different joints or different types of movement patterns entirely. 5. Understanding these terms is vital for analyzing sports techniques. For example, during a basketball shot, the elbow goes from a state of flexion to rapid extension to propel the ball toward the hoop. Correct terminology ensures clear communication between coaches, athletes, and medical staff.

Final Answer: Flexion at the elbow refers to decreasing the angle between the humerus and radius/ulna.

Answer: (B)

Q40.

Solution

Concept:

Knowledge of the various national sports awards and their criteria is a core component of the "Awards and Career" section of the Physical Education syllabus. Each award has a specific target group and purpose. The Arjuna Award honors individual athletes for consistent excellence; the Dronacharya Award honors coaches; and the Maulana Abul Kalam Azad (MAKA) Trophy is unique because it is an institutional award given to a collective body rather than an individual.

Solution:

1. The Maulana Abul Kalam Azad (MAKA) Trophy is awarded annually to the "top-performing university" in inter-university tournaments. It aims to promote a competitive sports culture at the collegiate level. Thus, (iii) is a correct match. 2. The Arjuna Award (i) is for athletes, not coaches. The Dronacharya Award (ii) is for coaches, but the description "Lifetime contribution" is only one category of it; however, in this specific list, the match for (iii) is the most distinct and accurate. 3. The Khel Ratna (iv) is for the highest sporting performance of an athlete, not for sports journalism. 4. By analyzing the options, we find that the description for the MAKA Trophy perfectly aligns with its official mandate to reward university-level sports excellence. 5. Understanding these distinctions helps students recognize the different layers of the sports incentive system in India, from the grassroots university level to the professional international level.

Final Answer: Only (iii) is correct as the MAKA Trophy is for University-level sports.

Answer: (A)

Q41.

Solution

Concept:

Health initiatives like the National Rural Health Mission (NRHM) are strategic government interventions designed to address systemic gaps in healthcare delivery. These programs prioritize specific demographic indicators that reflect the overall well-being of a nation. Maternal and child health are the most sensitive indicators of a healthcare system's efficiency. By focusing on these areas, the mission aims to ensure that the most vulnerable sections of the rural population have access to professional medical care during critical life stages.

Solution:

1. As stated in the passage, the NRHM focuses specifically on providing quality healthcare to rural areas. 2. The text explicitly mentions a focus on "maternal and child health" as a core priority. 3. This is achieved through systemic improvements such as upgrading primary health centers and introducing community health activists. 4. While urban infrastructure or private school sports are important, they fall outside the mandate of the NRHM as described in the provided text. 5. Eradicating genetic disorders is a long-term medical goal, but the immediate functional focus of the mission is the reduction of mortality rates among mothers and infants in rural settings. Therefore, Option B is the only answer directly supported by the passage's description of the mission's scope.

Final Answer: The primary focus area is Maternal and child health in rural areas.

Answer: (B)

Q42.

Solution

Concept:

The epidemiological transition in developing nations involves a shift from infectious diseases to chronic, lifestyle-related conditions. While traditional health threats (communicable diseases) persist, modern environmental and behavioral factors have introduced a new category of health challenges. These are often termed "silent killers" because they develop over a long period, often without symptoms, and are closely linked to how individuals live, eat, and move in an increasingly digitized and automated world.

Solution:

1. The passage identifies that while communicable diseases are still a threat, there is a specific "rise" in another category. 2. It explicitly names non-communicable diseases (NCDs) such as diabetes and hypertension as the rising threat. 3. The text attributes this increase to "sedentary lifestyles," which involve prolonged sitting and a lack of physical exertion. 4. This reflects a major concern in Physical Education: the "hypokinetic" disease trend where a lack of movement leads to chronic health failure. 5. Other options like occupational hazards or only nutritional deficiencies do not capture the specific emphasis the passage places on the lifestyle-disease link. Understanding this trend is vital for students to advocate for regular physical activity as a preventive measure against NCDs.

Final Answer: Non-communicable diseases (NCDs) due to sedentary lifestyles.

Answer: (C)

Q43.

Solution

Concept:

Nutritional support programs in schools are designed to mitigate the effects of poverty on child development. The Mid-Day Meal (MDM) scheme is one such intervention that recognizes that a hungry child cannot learn effectively. Nutrition is the foundation of physical and cognitive growth, and for many children in developing regions, the meal provided at school represents the most balanced and substantial part of their daily caloric intake.

Solution:

1. The passage describes the Mid-Day Meal (MDM) scheme as a "nutritional support system." 2. It is targeted specifically at "school-age children" to ensure they have the physical energy required for both academic and physical education tasks. 3. By providing essential macronutrients and micronutrients, the scheme helps prevent deficiencies that could lead to stunted growth or weakened immune systems. 4. It is not designed as a physical training module, nor is it a research facility or a direct income source for farmers, although it may involve local sourcing. 5. In the context of the passage, its primary identity is a health-linked social safety net that ensures students remain in the school system while improving their overall health status through better nutrition.

Final Answer: It serves as a nutritional support system for school students.

Answer: (B)

Q44.

Solution

Concept:

Diabetes and hypertension are metabolic and cardiovascular conditions that are highly sensitive to physical activity levels. In a sedentary lifestyle, the body's energy expenditure is significantly lower than its intake, leading to obesity and insulin resistance. Physical education focuses on reversing these trends by promoting "active living." Analyzing the causes of these diseases through a passage requires identifying the specific behavioral link mentioned by the author.

Solution:

1. The passage explicitly links the increase in diabetes and hypertension to "sedentary lifestyles." 2. A sedentary lifestyle is one characterized by a lack of regular physical exercise and excessive time spent being inactive (sitting or lying down). 3. This lack of movement reduces the metabolic rate and the body's efficiency in processing glucose and managing blood pressure. 4. The text does not mention a lack of vaccination as a cause, as these are non-communicable and cannot be prevented by traditional vaccines. 5. Similarly, it does not blame the NRHM or excessive physical education; in fact, more physical education is the recommended solution for these issues. Therefore, the behavioral choice of being sedentary is the root cause identified in the text.

Final Answer: These diseases are increasing due to sedentary lifestyles.

Answer: (B)

Q45.

Solution

Concept:

Inclusion is the practice of ensuring that all individuals, regardless of their physical or cognitive abilities, have equal access to opportunities and rights. In the health and education sectors, specific strategies are required to accommodate individuals who may face barriers to standard services. Children with Special Needs (CWSN) represent a group that requires "Adaptive" measures to ensure that health frameworks and physical education programs are effective for them.

Solution:

1. The final sentence of the passage states that health frameworks include "specific strategies to ensure inclusive growth." 2. This inclusivity is specifically directed toward "Children with Special Needs (CWSN)." 3. This matches the "Health Status" section of the syllabus, which emphasizes the need for specialized care and accessible environments for differently-abled students. 4. While professional athletes or coaches might have their own strategies, they are not the focus of the "inclusive growth" discussion in this health-policy-oriented passage. 5. The goal for CWSN is to remove barriers to accessibility, ensuring they have the same health rights as any other child. This reflects the broader social goal of equity in public health initiatives.

Final Answer: The group mentioned is Children with Special Needs (CWSN).

Answer: (C)

Q46.

Solution

Concept:

Biomechanics provides the scientific framework for analyzing athletic performance. Newton's Second Law of Motion, the Law of Acceleration, is particularly relevant for "explosive" sports where an object must be moved as quickly or as far as possible. It establishes a direct mathematical relationship between the force generated by the athlete's muscles and the resulting movement of the sports implement.

Solution:

1. The passage states that the Second Law (Acceleration) explains that the acceleration of an implement (like a javelin) depends on the "net force applied." 2. Mathematically, this is expressed as $F = ma$, where acceleration is directly proportional to force. 3. This means if an athlete applies more force to the implement, it will accelerate faster, leading to a greater distance in throwing events. 4. The passage focuses on the physics of the movement rather than the shape of the body, atmospheric pressure, or the duration of the training. 5. Understanding this helps athletes realize that improving their strength (the ability to generate force) is the key to increasing the acceleration of the ball or implement they are using. This application of physics to sports is a core theme in biomechanics.

Final Answer: Acceleration relates to the net force applied to an object.

Answer: (B)

Q47.

Solution

Concept:

Levers in the human body are mechanical systems that trade one advantage for another. A third-class lever has the effort (muscle force) located between the fulcrum (joint) and the load (weight). While this configuration requires more force to move a smaller weight (lacking mechanical advantage), it allows the end of the lever to move through a much larger distance and at a much higher speed than the muscle itself is contracting.

Solution:

1. According to the text, third-class levers "prioritize speed and range of motion over mechanical advantage." 2. Most human joints are configured this way because, in the evolution of human movement, the ability to move limbs quickly (for running, throwing, or striking) was more advantageous than the ability to lift extremely heavy loads slowly. 3. This allows a small contraction of a muscle like the biceps to move the hand through a wide arc very rapidly. 4. It does not provide "stability during sleep" or "reduce the heart rate," and it is specifically noted as *not* providing mechanical advantage for heavy lifting. 5. Therefore, the correct answer is that they are designed for speed and range of motion, which is essential for almost all athletic maneuvers.

Final Answer: Their primary function is to prioritize speed and range of motion.

Answer: (C)

Q48.

Solution

Concept:

Identifying the location and type of levers in the human body is a fundamental skill in biomechanics. It requires mapping the anatomical components to the theoretical parts of a lever: the bone as the lever arm, the joint as the fulcrum, the muscle insertion as the point of effort, and the weight of the limb/object as the load. The elbow during a bicep curl is the quintessential example of this system in action.

Solution:

1. The passage explicitly identifies the "elbow during a bicep curl" as an example of a third-class lever. 2. In this system, the elbow joint serves as the fulcrum. 3. The effort is applied by the biceps muscle, which attaches to the radius bone just below the elbow. 4. The load is the weight of the forearm and any object held in the hand. 5. Since the effort (biceps attachment) is between the fulcrum (elbow) and the load (hand), it satisfies the definition of a third-class lever. The other examples provided, like the skull (first-class) or the ankle (second-class), were not used as the example in the provided text. Accurate identification of these joints helps in understanding why humans are built for speed rather than raw mechanical power.

Final Answer: The elbow during a bicep curl is the example used.

Answer: (C)

Q49.

Solution

Concept:

The application of scientific principles to sports coaching is what differentiates modern training from traditional methods. Biomechanics allows coaches to break down a movement into its constituent parts, identifying where energy is wasted or where excessive stress is placed on the joints. By optimizing the "mechanics" of a movement, a coach can ensure that the athlete achieves the best possible result with the least risk of physical harm.

Solution:

1. The passage concludes by stating that understanding these principles "helps coaches reduce injury risks and improve performance." 2. By knowing how forces and levers work, a coach can correct a player's technique (e.g., the angle of a throw or the placement of a foot) to prevent "overuse" injuries. 3. Improving performance is achieved by maximizing the application of force and the efficiency of the body's natural lever systems. 4. The passage does not suggest that biomechanics helps with jersey colors, ticket prices, or eliminating the need for practice; science supports practice, it does not replace it. 5. Therefore, the two primary benefits identified in the text are safety (injury reduction) and excellence (performance improvement), making it an indispensable tool for professional coaches and physical educators.

Final Answer: It helps reduce injury risks and improve performance.

Answer: (B)

Q50.

Solution

Concept:

Biomechanics is an interdisciplinary field that sits at the intersection of biology and physics. It treats the human body as a mechanical system subject to the same physical laws as any other machine or object in the universe. By defining biomechanics correctly, students can understand that sports performance is not just a matter of "willpower" but is also a matter of engineering and physics.

Solution:

1. In the first sentence, the passage defines biomechanics as "applying the laws of physics to human movement." 2. This involves analyzing internal forces (muscle contractions) and external forces (gravity, friction, air resistance) that act upon the body. 3. While biology is involved, the specific focus on "laws" (like Newton's) indicates a physics-based approach. 4. It is not about social sciences, chemistry (which is nutrition/biochemistry), or psychology (which is the study of the mind). 5. A clear definition allows the student to recognize that topics like levers, force, acceleration, and equilibrium are all part of the biomechanical study of sports. This provides a scientific foundation for the entire Physical Education curriculum.

Final Answer: Biomechanics is the application of laws of physics to human movement.

Answer: (B)

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	B	3	C	4	B	5	C
6	B	7	C	8	A	9	C	10	C
11	B	12	B	13	B	14	B	15	B
16	A	17	B	18	B	19	B	20	B
21	B	22	D	23	B	24	B	25	B
26	B	27	B	28	B	29	B	30	B
31	B	32	A	33	C	34	C	35	A
36	B	37	B	38	B	39	B	40	A
41	B	42	C	43	B	44	B	45	C
46	B	47	C	48	C	49	B	50	B