CUET-UG Physical Education Sample Paper-4

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. The National Rural Health Mission (NRHM) was primarily launched to address the health needs of the urban poor and provide tertiary care facilities in metropolitan cities.

(A) True

(B) False

Q2. According to the 'Big Five' Personality Theory, an individual who is highly organized, goal-oriented, and shows great self-discipline is said to score high in 'Agreeableness'.

(A) True

(B) False

Q3. Arrange the following stages of a training session in the correct chronological order: (A) Main Part (Skill/Tactics) (B) Warm-up (C) Limbering Down (D) Specific Conditioning

(A) (B), (D), (A), (C)

(B) (B), (A), (D), (C)

(C) (D), (B), (A), (C)

(D) (A), (B), (D), (C)

Q4. Arrange the following components of the 'Dietary Pyramid' from the base (largest consumption) to the apex (smallest consumption): (A) Fats, Oils, and

Sweets (B) Pulses, Meat, and Dairy products (C) Cereals and Grains (D) Fruits and Vegetables

(A) (C), (D), (B), (A)

(B) (C), (B), (D), (A)

(C) (D), (C), (B), (A)

(D) (A), (B), (D), (C)

Q5. Match List-I (Personality Type) with List-II (Dominant Trait) according to Sheldon's Classification:

List-I	List-II
(A) Endomorph	(I) Assertive and Energetic
(B) Mesomorph	(II) Fragile and Intellectual
(C) Ectomorph	(III) Sociable and Relaxed

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

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

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

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

Q6. Which of the following describes the 'Law of Inertia' in the context of a goalkeeper standing still before a penalty kick?

(A) The goalkeeper remains at rest unless an external force (muscular contraction) acts to move them.

(B) The goalkeeper's acceleration is proportional to the force applied by their legs.

(C) The force the goalkeeper exerts on the ground is equal to the ground's reaction.

(D) The goalkeeper's momentum is conserved during the dive.

Q7. The 'Rikli and Jones' Senior Citizen Fitness Test uses the '8-Foot Up and Go Test' primarily to evaluate which functional ability?

(A) Lower body strength

(B) Aerobic endurance

(C) Agility and dynamic balance

(D) Upper body flexibility

Q8. In the context of sports psychology, 'Instrumental Aggression' is characterized by:

(A) An intent to harm the opponent out of anger.

(B) Aggressive behavior used as a means to achieve a non-aggressive goal (e.g., winning the ball).

(C) A release of pent-up emotions through physical activity.

(D) Behavior that strictly follows all rules of the game without physical contact.

Q9. Which postural deformity is characterized by the knees touching each other while there is a significant gap between the ankles?

(A) Genu Varum (Bow Legs)

(B) Genu Valgum (Knock Knees)

(C) Scoliosis

(D) Pes Planus (Flat Foot)

Q10. The 'Fartlek Training' method is unique because the heart rate and intensity are regulated by:

(A) A strict coach-monitored whistle system.

(B) The athlete's internal feeling and the varied terrain.

(C) Fixed time intervals of work and rest.

(D) High-tech electronic heart rate monitors only.

Q11. Which specific Kriya in Yoga involves cleansing the stomach by swallowing a long strip of cloth and then withdrawing it?

(A) Vastra Dhauti

(B) Jala Neti

(C) Nauli

(D) Kapalbhati

Q12. What is the primary reason for a 'Greenstick Fracture' being common in children but rare in adults?

(A) Children have more brittle bones than adults.

(B) Children's bones are more flexible and have a thicker periosteum.

(C) Adults have better protective gear during sports.

(D) Children engage in more high-impact contact sports.

Q13. In a tournament, which type of fixture ensures that even after losing a match, a team gets another chance to play and potentially win the tournament?

(A) Single Knock-out

(B) Round Robin

(C) Double Elimination

(D) Single League

Q14. The 'Chair Sit and Reach Test' in the Senior Citizen Fitness battery is specifically designed to assess the flexibility of:

(A) Shoulders and Upper Back

(B) Lower Back and Hamstrings

(C) Quadriceps and Hip Flexors

(D) Neck and Cervical Spine

Q15. Which of the following training principles suggests that the training load must be gradually increased to continue improving performance?

(A) Principle of Specificity

(B) Principle of Continuity

(C) Principle of Progressive Overload

(D) Principle of Individual Differences

Q16. Observe the image provided below and identify the specific stage of Suryanamaskar being performed:

(A) Ashwa Sanchalanasana

(B) Parvatasana

(C) Ashtanga Namaskara

(D) Padahastasana

Q17. The _____ is a physiological process where the body experiences an increase in temperature and heart rate, preparing the muscles for intense physical activity.

(A) Cooling down

(B) Specific conditioning

(C) Warm-up

(D) Recovery phase

Q18. In the context of the Mid-Day Meal Scheme, the primary objective is to enhance the _____ status of children in government-aided schools.

(A) Psychological

(B) Nutritional

(C) Financial

(D) Social

Q19. Which of the following describes the 'Law of Acceleration' (Newton's Second Law) in sprinting?

(A) A sprinter stays in the blocks until the gun fires.

(B) The force produced by the sprinter's legs is proportional to the acceleration achieved.

(C) For every push against the track, the track pushes back with equal force.

(D) The sprinter maintains a constant velocity in the middle of the race.

Q20. Which type of lever is characterized by the 'Resistance' (Load) being located between the 'Fulcrum' and the 'Effort' (e.g., a wheelbarrow or standing on tiptoes)?

(A) First Class Lever

(B) Second Class Lever

(C) Third Class Lever

(D) Fourth Class Lever

Q21. The 'Flamingo Balance Test' is specifically used to measure which component of physical fitness?

(A) Static Balance

(B) Dynamic Balance

(C) Explosive Power

(D) Reaction Time

Q22. Which of the following personality traits in the 'Big Five' model describes a person who is creative, curious, and willing to try new training methods?

(A) Extraversion

(B) Neuroticism

(C) Openness to Experience

(D) Conscientiousness

Q23. The 'Major Dhyan Chand Khel Ratna Award' is given for spectacular and most outstanding performance in the field of sports over a period of:

(A) 1 Year

(B) 2 Years

(C) 4 Years

(D) 10 Years

Q24. Which mineral is primarily responsible for the formation of strong bones and teeth and is vital for blood clotting?

(A) Iron

(B) Calcium

(C) Sodium

(D) Potassium

Q25. In 'Circuit Training', the primary purpose of arranging exercises for different muscle groups in a sequence is to:

(A) Increase the difficulty of each exercise.

(B) Allow specific muscle groups to recover while others work.

(C) Shorten the total duration of the workout.

(D) Focus only on upper body strength.

Q26. A 'Sprain' is an injury specifically associated with the tearing or overstretching of:

(A) Muscles

(B) Tendons

(C) Ligaments

(D) Bones

Q27. Which of the following Newton's Laws is best illustrated by a swimmer pushing water backward to move forward?

(A) Law of Inertia

(B) Law of Acceleration

(C) Law of Action and Reaction

(D) Law of Conservation of Energy

Q28. In sports sociology, 'Socialization through Sports' refers to:

(A) The process of learning values, norms, and skills through athletic participation.

(B) The amount of money a player earns through social media.

(C) The number of fans following a particular team.

(D) The physical structure of a stadium.

Q29. Which asana is highly recommended for correcting 'Kyphosis' (Hunchback) as it involves backward bending of the spine?

(A) Chakrasana

(B) Paschimottanasana

(C) Halasana

(D) Vajrasana

Q30. The 'Shuttle Run' test is used to measure which of the following fitness components?

(A) Flexibility

(B) Agility and Speed

(C) Cardiovascular Endurance

(D) Muscular Strength

Q31. Who was the flag bearer for India at the opening ceremony of the Paris 2024 Olympic Games alongside PV Sindhu?

(A) Neeraj Chopra

(B) Sharath Kamal

(C) Lakshya Sen

(D) Rohan Bopanna

Q32. The 'Khelo India Rising Talent Identification' (KIRTI) program, recently launched, primarily targets school children in which age group?

(A) 5 to 12 years

(B) 9 to 18 years

(C) 15 to 25 years

(D) 18 to 30 years

Q33. In 2024, which Indian chess prodigy became the youngest ever challenger for the World Chess Championship title by winning the Candidates Tournament?

(A) R. Praggnanandhaa

(B) D. Gukesh

(C) Vidit Gujrathi

(D) Arjun Erigaisi

Passage 1: Read the following text and answer questions 34 to 38. *Yoga is not merely a physical exercise but a holistic approach to health. Among the 'Shatkarmas', or purification processes, 'Neti' is used for nasal cleansing. Lifestyle diseases like hypertension and diabetes are increasingly managed through specific asanas. For instance, 'Pawanmuktasana' helps in relieving gastric pressure, while 'Ardh-Matsyendrasana' is beneficial for the pancreas. Modern sports science integrates these ancient techniques to improve the respiratory efficiency and mental focus of elite athletes.*

Q34. According to the passage, 'Ardh-Matsyendrasana' is specifically beneficial for which organ?

(A) Heart

(B) Pancreas

(C) Lungs

(D) Liver

Q35. Which 'Shatkarma' mentioned in the text is utilized for the purification of the nasal passage?

(A) Dhauti

(B) Neti

(C) Nauli

(D) Trataka

Q36. What is the primary function of 'Pawanmuktasana' as per the provided text?

(A) Improving eyesight

(B) Relieving gastric pressure

(C) Strengthening the shoulders

(D) Enhancing skin glow

Q37. Yoga is described in the passage as a _____ approach to health.

(A) Purely Physical

(B) Holistic

(C) Temporary

(D) Competitive

Q38. Based on the passage, why does modern sports science integrate Yoga for elite athletes?

(A) To increase body weight

(B) To improve respiratory efficiency and mental focus

(C) To replace cardiovascular training

(D) To avoid all other forms of exercise

Passage 2: Read the following case study and answer questions 39 to 43.

During an Inter-School Athletics Meet, Rohan, a 100m sprinter, suffered a sudden injury where his ankle turned inward while landing. The school physiotherapist immediately applied the PRICE protocol. Upon further inspection, it was noted that Rohan had 'Flat Foot' (Pes Planus), which likely contributed to his instability. The coach suggested that Rohan should incorporate 'Vajrasana' and specific strength training for the arches of his feet. Additionally, the coach noted that Rohan often displayed 'Hostile Aggression' when losing, which hindered his performance focus.

Q39. Which protocol did the physiotherapist apply immediately after Rohan's injury?

(A) Fartlek

(B) PRICE

(C) Circuit

(D) PNF

Q40. What is the medical term for 'Flat Foot' as mentioned in the case study?

(A) Genu Valgum

(B) Pes Planus

(C) Scoliosis

(D) Kyphosis

Q41. According to the coach, which asana would help Rohan in correcting his foot condition?

(A) Shavasana

(B) Vajrasana

(C) Tadasana

(D) Chakrasana

Q42. The 'Hostile Aggression' displayed by Rohan is primarily characterized by:

(A) An intent to reach a goal without harm

(B) An intent to harm the opponent fueled by anger

(C) Playing within the rules of the game

(D) A calm and focused mental state

Q43. Rohan's injury occurred because his ankle turned _____ during landing.

(A) Outward

(B) Inward

(C) Upward

(D) Downward

Q44. Which test is best suited to measure the cardiovascular endurance of an athlete like Rohan?

(A) Harvard Step Test

(B) Sit and Reach Test

(C) Plate Tapping Test

(D) Push-ups Test

Q45. In 'Circuit Training', the time spent at each exercise station is known as:

(A) Recovery period

(B) Dosage

(C) Interval

(D) Frequency

Q46. Which Newton's Law explains why a heavier athlete requires more force to reach the same acceleration as a lighter athlete?

(A) First Law

(B) Second Law

(C) Third Law

(D) Law of Gravitation

Q47. The process of identifying high-potential athletes at a young age is called:

(A) Talent Identification

(B) Socialization

(C) Specificity

(D) Periodization

Q48. Which of the following is a 'Macro Nutrient' essential for providing long-term energy?

(A) Vitamin C

(B) Iron

(C) Carbohydrates

(D) Iodine

Q49. A 'Compound Fracture' is characterized by:

(A) A simple crack in the bone

(B) The bone breaking and piercing the skin

(C) A bone bending without breaking

(D) Multiple breaks in the same bone

Q50. The 'Dronacharya Award' is specifically presented to:

(A) Outstanding Players

(B) Outstanding Coaches

(C) Sports Journalists

(D) Umpire and Referees

Detailed Solutions

Q1.

Solution

Concept:

The National Rural Health Mission (NRHM) is a flagship program of the Government of India, launched on April 12, 2005. Its primary objective is to provide accessible, affordable, and quality healthcare to the rural population, especially vulnerable groups such as women and children. The mission focuses on strengthening the public health delivery system in rural areas through the decentralization of healthcare services and the involvement of community-based workers. While urban health is addressed under the National Urban Health Mission (NUHM), the NRHM is strictly dedicated to rural infrastructure, covering Primary Health Centres (PHCs) and Community Health Centres (CHCs).

Solution:

(a) The statement claims that NRHM was launched for the "urban poor" and to provide "tertiary care" (specialized consultative care, usually in large hospitals) in "metropolitan cities."

(b) By definition, the "Rural" in National Rural Health Mission signifies its focus on villages and rural districts, not urban centers.

(c) Furthermore, the mission focuses on primary and secondary healthcare (basic clinics and district hospitals) rather than high-end tertiary care in metros.

(d) Urban healthcare needs are handled by a separate wing called the National Urban Health Mission (NUHM), which together with NRHM forms the National Health Mission (NHM).

(e) Therefore, the statement is factually incorrect regarding the target demographic and geographic scope.

Final Answer: The statement is False.

Answer: (B)

Q2.

Solution

Concept:

The Five-Factor Model, often known as the 'Big Five', is a widely accepted psychological framework that categorizes personality into five broad dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN). Each dimension represents a spectrum of traits. In sports, these traits determine how an athlete trains, interacts with teammates, and handles pressure. Conscientiousness, in particular, is the trait that describes an individual's tendency to be organized, dependable, and disciplined. Agreeableness, on the other hand, refers to being kind, sympathetic, and cooperative with others.

Solution:

(a) The question describes an individual who is "highly organized, goal-oriented, and shows great self-discipline."

(b) In the Big Five model, "Agreeableness" is associated with being trusting, helpful, and getting along with others (team cohesion).

(c) The traits of "self-discipline" and "organization" are the core characteristics of the "Conscientiousness" dimension.

(d) An athlete high in Conscientiousness is likely to follow strict training regimes and stick to long-term goals.

(e) Since the description matches Conscientiousness and not Agreeableness, the statement provided in the question is incorrect.

Final Answer: The statement is False.

Answer: (B)

Q3.

Solution

Concept:

A systematic training session in physical education and sports must follow a logical sequence to ensure maximum performance while minimizing the risk of injury. This sequence generally follows a curve of physiological readiness. It begins with preparing the body (Warm-up), moves to specialized preparation (Specific Conditioning), proceeds to the core objective of the session (Main Part), and concludes with bringing the body back to a resting state (Limbering Down/Cool Down). Skipping any of these phases can lead to reduced efficiency or physical strain.

Solution:

(a) **Warm-up (B):** This is the first step. It increases body temperature, heart rate, and blood flow to the muscles to prepare for activity.

(b) **Specific Conditioning (D):** After a general warm-up, the athlete performs exercises specific to the sport (e.g., agility drills for football) to prepare the neuromuscular system.

(c) **Main Part (A):** This is the core of the session where the actual skill acquisition, tactical training, or high-intensity work occurs.

(d) **Limbering Down (C):** The final phase involves light activity and stretching to remove lactic acid and prevent blood pooling, helping the body recover.

(e) Following this logic, the sequence is B-D-A-C.

Final Answer: The correct sequence is (B), (D), (A), (C).

Answer: (A)

Q4.

Solution

Concept:

The Food or Dietary Pyramid is a visual representation designed to guide healthy eating. It places food groups in layers, where the size of each layer indicates the proportion of that food group that should be included in a daily diet. The broad base represents foods that should form the bulk of the diet (complex carbohydrates), while the narrow apex represents foods that should be consumed sparingly (fats and simple sugars). Proper alignment with this pyramid ensures a balance of macronutrients and micronutrients necessary for health and athletic performance.

Solution:

(a) **Base (Cereals and Grains - C):** These provide complex carbohydrates and energy, forming the foundation of the human diet.

(b) **Second Layer (Fruits and Vegetables - D):** These are essential for vitamins, minerals, and fiber, and should be consumed in large quantities.

(c) **Third Layer (Pulses, Meat, and Dairy - B):** These provide proteins and calcium. While important, they are consumed in smaller quantities than grains and vegetables.

(d) **Apex (Fats, Oils, and Sweets - A):** These are energy-dense but should be consumed in the smallest amounts to avoid health issues.

(e) Thus, from base to apex, the order is C-D-B-A.

Final Answer: The correct order is (C), (D), (B), (A).

Answer: (A)

Q5.

Solution

Concept:

William Sheldon's somatotype theory classifies human physiques into three distinct categories: Endomorph, Mesomorph, and Ectomorph. He believed that these physical builds were linked to specific personality traits (Constitutional Psychology).

1. Endomorphs are characterized by a rounder, softer body and are often associated with a "Viscerotonic" personality (relaxed, sociable). 2. Mesomorphs have a muscular, athletic build and are associated with a "Somatotonic" personality (assertive, energetic). 3. Ectomorphs are lean, thin, and fragile, associated with a "Cerebrotonic" personality (intellectual, introverted, anxious).

Solution:

(a) **(A) Endomorph:** Matches with (III) Sociable and Relaxed. Their physical roundness is psychologically linked to a love of comfort and social interaction.

(b) **(B) Mesomorph:** Matches with (I) Assertive and Energetic. Their muscular strength is linked to a desire for physical adventure and dominance.

(c) **(C) Ectomorph:** Matches with (II) Fragile and Intellectual. Their delicate frame is linked to a preference for mental over physical activity.

(d) Comparing these pairs: A-III, B-I, C-II.

(e) This matching correctly reflects Sheldon's theory of somatotypes and their corresponding temperaments.

Final Answer: The correct match is (A)-(III), (B)-(I), (C)-(II).

Answer: (A)

Q6.

Solution

Concept:

Newton's First Law of Motion, also known as the Law of Inertia, states that an object will remain in its state of rest or uniform motion in a straight line unless acted upon by an external unbalanced force. In sports, inertia is a fundamental concept because every movement involves overcoming the inertia of rest or changing the inertia of motion. The mass of an object is a direct measure of its inertia; the greater the mass, the more force is required to change its state. In the case of a goalkeeper, maintaining a static position requires the body to stay at rest until the nervous system triggers a muscular contraction to produce the force necessary for a dive.

Solution:

(a) The question asks for an application of the 'Law of Inertia' regarding a stationary goalkeeper.

(b) Option (A) states that the goalkeeper remains at rest until an external force (muscular force) acts on them. This is the definition of inertia of rest.

(c) Option (B) refers to Newton's Second Law (Force = Mass $\times$ Acceleration), which describes how much the goalkeeper accelerates once they move.

(d) Option (C) refers to Newton's Third Law (Action and Reaction), which describes the ground reaction force during the push-off.

(e) Option (D) refers to the Law of Conservation of Momentum, which is a different physical principle.

(f) Therefore, the tendency to stay still until a force is applied is the perfect example of the First Law.

Final Answer: The goalkeeper remains at rest unless an external force acts to move them.

Answer: (A)

Q7.

Solution

Concept:

The Rikli and Jones Senior Citizen Fitness Test is a battery of six tests designed to assess the functional fitness of older adults. Functional fitness refers to the physical capacity to perform daily activities (like walking, climbing stairs, or reaching for objects) safely and independently. The '8-Foot Up and Go Test' is a composite test that requires the participant to stand up from a chair, walk 8 feet, turn around a cone, and return to sit down. This test specifically targets the physical attributes required for maneuvering in a household environment, such as getting out of bed or avoiding obstacles.

Solution:

(a) The 8-Foot Up and Go Test involves standing up, walking, turning, and sitting back down as quickly as possible.

(b) Lower body strength (Option A) is primarily tested by the '30-Second Chair Stand Test'.

(c) Aerobic endurance (Option B) is measured by the '6-Minute Walk Test' or the '2-Minute Step Test'.

(d) Upper body flexibility (Option D) is measured by the 'Back Scratch Test'.

(e) Because the Up and Go test requires rapid changes in direction and movement while maintaining balance, it is the standard measure for agility and dynamic balance in seniors.

Final Answer: The test evaluates agility and dynamic balance.

Answer: (C)

Q8.

Solution

Concept:

In sports psychology, aggression is defined as any behavior intended to harm another living being who is motivated to avoid such treatment. Psychologists categorize aggression into two main types: Hostile Aggression and Instrumental Aggression. Hostile aggression is reactive, impulsive, and fueled by anger, with the primary goal being to cause physical or psychological pain. Conversely, Instrumental Aggression is proactive and goal-oriented. The primary intent is not to cause pain, but to use the aggressive act as a tool or "instrument" to achieve a competitive advantage, such as securing the ball or stopping a play.

Solution:

(a) The question asks for the characteristic of 'Instrumental Aggression'.

(b) Option (A) describes 'Hostile Aggression', where the intent is driven by anger and harm.

(c) Option (C) refers to 'Catharsis', a theory suggesting that acting out reduces future aggression, which is not a type of aggression itself.

(d) Option (D) describes 'Assertive Behavior', which is playing hard within the rules without the intent to harm.

(e) Option (B) correctly identifies that instrumental aggression is a means to an end. For example, a tactical foul to stop a counter-attack is instrumental because the goal is to save a goal, not necessarily to injure the player.

Final Answer: Aggressive behavior used as a means to achieve a non-aggressive goal.

Answer: (B)

Q9.

Solution

Concept:

Postural deformities are abnormalities in the alignment of the skeletal system, often caused by poor habits, malnutrition, or weak muscles. Two of the most common lower-limb deformities are Genu Valgum and Genu Varum. Genu Valgum, commonly known as 'Knock Knees', occurs when the knees tilt inward and touch each other while the person is standing with their feet together. This condition places excessive stress on the outer aspect of the knee joint and can lead to difficulty in walking and running. Corrective measures usually include horse riding and using walking calipers, along with strengthening the hip abductors.

Solution:

(a) The description provided is: "knees touching each other while there is a significant gap between the ankles."

(b) In Genu Varum (Bow Legs - Option A), the opposite happens: the ankles touch, but the knees stay far apart.

(c) Scoliosis (Option B) is a lateral or "S" shaped curvature of the spine, not a leg deformity.

(d) Pes Planus (Flat Foot - Option D) involves the loss of the medial longitudinal arch of the foot.

(e) The specific inward inclination of the knees described in the question is the hallmark of Genu Valgum.

Final Answer: The deformity is Genu Valgum (Knock Knees).

Answer: (B)

Q10.

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 uses rigid time or distance markers, Fartlek is spontaneous and unstructured. The athlete varies their pace according to how they feel (subjective effort) or based on the natural characteristics of the environment (uphill, downhill, sand, or grass). This method is highly effective for improving both aerobic and anaerobic systems and is widely used by middle and long-distance runners to develop "race-feel" and adaptability to changing intensities.

Solution:

(a) The core philosophy of Fartlek is that it is "unstructured" and "natural."

(b) Option (A) and (C) describe structured training like Interval or Circuit training, where external signals (whistles or timers) dictate the work-rest ratio.

(c) Option (D) is incorrect because while technology can be used, it is not the defining "unique" regulatory factor of the Fartlek method.

(d) Option (B) correctly states that the athlete's internal feeling and the terrain (nature) regulate the intensity. For instance, an athlete might decide to sprint to the next tree and then jog until their breathing recovers.

Final Answer: The heart rate and intensity are regulated by the athlete's internal feeling and the varied terrain.

Answer: (B)

Q11.

Solution

Concept:

In the ancient science of Yoga, 'Shatkarmas' or 'Kriyas' are the six purification techniques intended to cleanse the internal organs and balance the three 'doshas' (Vata, Pitta, and Kapha). Among these, 'Dhauti' specifically refers to the cleansing of the digestive tract. There are various forms of Dhauti, such as 'Jala Dhauti' (using water) and 'Vastra Dhauti' (using a cloth). Vastra Dhauti is a specialized practice where a thin, long strip of cotton cloth (about 2.5 inches wide and 15-20 feet long) is gradually swallowed and then gently pulled out. This process helps in removing excess mucus and bile from the stomach lining, improving digestion, and treating respiratory issues like asthma by stimulating the vagus nerve.

Solution:

(a) The question describes a Kriya that involves "swallowing a long strip of cloth and then withdrawing it."

(b) `Jala Neti` (Option B) involves pouring salted lukewarm water through one nostril and out the other to cleanse the nasal passages.

(c) `Nauli` (Option C) is the abdominal massage technique involving the isolation and rotation of the rectus abdominis muscles.

(d) `Kapalbhati` (Option D) is a breathing technique or 'frontal brain cleansing' exercise focusing on forceful exhalations.

(e) `Vastra Dhauti` (Option A) is the specific term where 'Vastra' means cloth and 'Dhauti' means washing/cleansing. It is the only Kriya matching the description of using a physical cloth for gastric purification.

Final Answer: The specific Kriya is Vastra Dhauti.

Answer: (A)

Q12.

Solution

Concept:

Fractures are classified based on the nature of the break and the maturity of the skeletal system. A 'Greenstick Fracture' is a unique type of incomplete fracture typically seen in pediatric patients (children). Because children's bones are not yet fully mineralized or "ossified," they possess a higher degree of organic collagen, making them more pliable and resilient than the brittle bones of adults. In a Greenstick fracture, the bone bends and cracks on one side but does not break all the way through, much like a fresh "green" branch from a tree. The outer layer of the bone, called the periosteum, is also much thicker and stronger in children, which helps keep the bone segments aligned even after a partial break.

Solution:

(a) The question seeks the biological reason why Greenstick fractures are prevalent in children but rare in adults.

(b) Option (A) is incorrect because children's bones are actually less brittle and more elastic than adult bones.

(c) Option (C) and (D) are external environmental factors (gear and sport types) rather than the physiological "primary reason" for the specific bone-break pattern.

(d) Option (B) correctly identifies the internal physiological factor: children's bones are more flexible and have a thicker periosteum.

(e) As humans age, bones become more mineralized and brittle, leading to complete breaks (like transverse or comminuted fractures) rather than bending/splitting.

Final Answer: Children's bones are more flexible and have a thicker periosteum.

Answer: (B)

Q13.

Solution

Concept:

Tournament fixtures are categorized into various types like Knock-out (Elimination), League (Round Robin), and Combination. In a standard 'Single Knock-out' tournament, a team is eliminated immediately after its first loss. This is time-efficient but can be unfair to strong teams that might have had one bad day. To address this, the 'Double Elimination' format is used. In this system, a team must lose two matches to be completely out of the competition. Teams that lose their first match in the "Winners' Bracket" are moved to a "Losers' Bracket" (or Consolation Bracket), where they continue to play. The winner of the losers' bracket eventually faces the winner of the winners' bracket for the championship.

Solution:

(a) The core requirement of the question is a fixture that provides "another chance" after a loss to "potentially win the tournament."

(b) In `Single Knock-out` (Option A), there is no second chance; one loss results in exit.

(c) In `Round Robin` (Option B), every team plays every other team, so a single loss doesn't end the tournament, but it isn't specifically designed as a "second chance" elimination mechanic.

(d) In `Double Elimination` (Option C), the structure is explicitly built to allow a team to lose once and still progress through the back-door bracket to reach the final.

(e) This format ensures that the final rankings are a more accurate reflection of the teams' true abilities.

Final Answer: The correct fixture type is Double Elimination.

Answer: (C)

Q14.

Solution

Concept:

As individuals age, maintaining lower-body flexibility is crucial for preventing falls and ensuring mobility. The 'Chair Sit and Reach Test' was developed as part of the Senior Citizen Fitness Test (Rikli and Jones) as a safer alternative to the traditional floor sit-and-reach test. Because many seniors have difficulty getting down to or up from the floor, this test is performed while sitting on the edge of a sturdy chair. The participant extends one leg forward with the heel on the floor and toes pointed up, then reaches toward their toes. This specific movement stretches the posterior chain of the lower body, primarily focusing on the hamstring muscles and the lower back.

Solution:

(a) The Chair Sit and Reach Test is a functional fitness assessment for the elderly.

(b) Option (A) is measured by the 'Back Scratch Test'.

(c) Option (C) and (D) are not the primary muscle groups targeted by a reaching movement while the leg is extended.

(d) When a person reaches forward with an extended knee, the primary tension is felt in the hamstrings (back of the thigh) and the lumbar region (lower back).

(e) Good performance in this test indicates that the senior is less likely to suffer from lower back pain or gait-related issues.

Final Answer: The test assesses the flexibility of the lower back and hamstrings.

Answer: (B)

Q15.

Solution

Concept:

The principles of sports training are fundamental rules that guide the design of an effective training program. One of the most critical is the 'Principle of Progressive Overload'. This principle states that for a physiological system (like the muscular or cardiovascular system) to improve, it must be challenged with a workload that is greater than what it is normally accustomed to. If the training load remains constant, the body adapts and performance plateaus. Therefore, variables such as intensity, duration, frequency, or volume must be increased gradually over time. This ensures that the body continues to undergo "super-compensation" and gains in strength, speed, or endurance are sustained.

Solution:

(a) The question defines a principle where the "training load must be gradually increased" to ensure continuous improvement.

(b) `Principle of Specificity` (Option A) means training must be specific to the sport (e.g., a swimmer should swim).

(c) `Principle of Continuity` (Option B) emphasizes that training should be regular and without long breaks.

(d) `Principle of Individual Differences` (Option D) states that every athlete responds differently to the same training stimulus.

(e) `Principle of Progressive Overload` (Option C) perfectly matches the description of increasing the load (overload) in a gradual (progressive) manner to avoid injury while ensuring progress.

Final Answer: The principle is the Principle of Progressive Overload.

Answer: (C)

Q16.

Solution

Concept:

Suryanamaskar, or Sun Salutation, is a sequence of 12 powerful yoga poses that provide a full-body workout. Each pose has a specific name and associated mantra. Stage 5 (and sometimes repeated as Stage 8) is 'Parvatasana' or the Mountain Pose. In this pose, the body forms an inverted 'V' shape. The palms and heels are pressed firmly into the floor, the hips are pushed upward, and the head is tucked between the arms looking toward the navel. This pose strengthens the nerves and muscles in the arms and legs, increases blood flow to the brain, and stretches the calves and hamstrings.

Solution:

(a) The image shows the body in an inverted 'V' position with heels touching the ground.

(b) `Ashwa Sanchalanasana` (Option A) is the equestrian/lunge pose.

(c) `Ashtanga Namaskara` (Option C) is the eight-limbed salute where knees, chest, and chin touch the floor.

(d) `Padahastasana` (Option D) is the standing forward bend.

(e) The inverted position shown is uniquely identified as `Parvatasana` (Mountain Pose).

Final Answer: The stage is Parvatasana.

Answer: (B)

Q17.

Solution

Concept:

A 'Warm-up' is a preliminary set of physical activities performed before a main sports event or training session. Its primary physiological purpose is to prepare the body for the upcoming stress by gradually increasing the core body temperature and heart rate. An effective warm-up increases blood flow to active muscles, which enhances oxygen delivery and improves the elasticity of muscles and tendons. This reduces the risk of strains and tears. Psychologically, it helps the athlete focus and mentally prepare for the competition. It usually consists of a general phase (jogging) followed by a specific phase (sport-related movements).

Solution:

(a) The question describes a process that increases temperature and heart rate to "prepare" the muscles.

(b) `Cooling down` (Option A) happens after exercise to return the body to a resting state.

(c) `Specific conditioning` (Option B) is part of the training but doesn't define the initial temperature-raising phase.

(d) `Warm-up` (Option C) is the technical term for this preparatory phase.

(e) Therefore, "Warm-up" is the correct fit for the blank.

Final Answer: The process is Warm-up.

Answer: (C)

Q18.

Solution

Concept:

The Mid-Day Meal Scheme (now known as PM POSHAN) is a massive school meal program in India designed to better the nutritional standing of school-age children nationwide. The program provides free lunches on working days for children in primary and upper primary classes in government and government-aided schools. By providing at least 450-700 calories and 12-20 grams of protein per meal, the scheme aims to combat malnutrition, improve school enrollment and attendance, and ensure that hunger does not impede a child's ability to learn. It also plays a role in social integration as children from all backgrounds eat together.

Solution:

(a) The primary intervention of a "meal" scheme is directly related to diet and health.

(b) The term "status" in the context of food intake refers to the "Nutritional" status of the individual.

(c) While it may have indirect social or psychological benefits, its core mandate is providing "nutrition" to prevent deficiencies.

(d) "Financial" status (Option C) is addressed by other welfare schemes, not meals directly.

(e) Thus, "Nutritional" is the only logically correct term for the blank.

Final Answer: The primary objective is to enhance the Nutritional status.

Answer: (B)

Q19.

Solution

Concept:

Newton's Second Law of Motion, the Law of Acceleration, states that the acceleration of an object is directly proportional to the net force acting on it and inversely proportional to its mass ($F = ma$). In sprinting, this law explains how a sprinter moves from a stationary position to maximum speed. To accelerate, the sprinter must apply a large amount of force against the ground. The more force they apply through their muscular contractions (relative to their body mass), the greater their acceleration out of the blocks. This law is fundamental for athletes in sports requiring explosive starts, like sprinting, long jump, or weightlifting.

Solution:

(a) The question asks for the application of the Law of Acceleration.

(b) Option (A) describes the Law of Inertia (staying at rest).

(c) Option (C) describes the Law of Action and Reaction (Third Law).

(d) Option (B) correctly links "force produced" to "acceleration achieved," which is the essence of the Second Law.

(e) Option (D) describes zero acceleration (constant velocity), which does not illustrate the law of changing motion.

Final Answer: The force produced by the sprinter's legs is proportional to the acceleration achieved.

Answer: (B)

Q20.

Solution

Concept:

A lever is a rigid bar that rotates around a fixed point called a fulcrum. Levers are classified into three classes based on the relative positions of the Fulcrum (F), Resistance/Load (R), and Effort/Force (E).

1. First Class: Fulcrum is in the middle (E-F-R). 2. Second Class: Resistance is in the middle (F-R-E). This class provides a mechanical advantage, allowing a small force to move a large weight. An example in the human body is standing on tiptoes, where the ball of the foot is the fulcrum, the body weight is the resistance, and the calf muscles provide the effort. 3. Third Class: Effort is in the middle (F-E-R). Most muscles in the human body act as third-class levers.

Solution:

(a) The question specifies the "Resistance" is between the "Fulcrum" and "Effort."

(b) This specific arrangement (F-R-E) defines a Second Class Lever.

(c) In a wheelbarrow, the wheel is the fulcrum, the load is in the middle, and the handles are where effort is applied.

(d) Therefore, it is a Second Class Lever.

Final Answer: The correct class is Second Class Lever.

Answer: (B)

Q21.

Solution

Concept:

The Flamingo Balance Test is a prominent assessment tool used in physical education to evaluate an individual's static balance. Static balance refers to the ability to maintain the body's center of gravity within its base of support while remaining stationary. This test is a component of the Eurofit Physical Fitness Test Battery and is particularly effective because it requires significant neuromuscular coordination and core stability. It involves the subject standing on one leg on a beam of specific dimensions while the other leg is flexed at the knee and held by the hand. The number of falls or loss of balance incidents within a one-minute period is recorded to determine the balance quality.

Solution:

(a) The question asks for the specific fitness component measured by the Flamingo Balance Test.

(b) Static balance (Option A) is the ability to hold a position without moving, which perfectly describes the requirement of standing still on a narrow beam.

(c) Dynamic balance (Option B) involves maintaining equilibrium while in motion (like walking on a tightrope), which is not the primary focus of the Flamingo test.

(d) Explosive power and Reaction time (Options C and D) involve rapid force production and speed of response, respectively, which are irrelevant to this specific balancing task.

(e) Therefore, the Flamingo Balance Test is the gold standard for measuring static balance in school-aged children and athletes.

Final Answer: The test measures Static Balance.

Answer: (A)

Q22.

Solution

Concept:

In the 'Big Five' Personality Model (also known as the OCEAN model), 'Openness to Experience' is one of the five broad dimensions used to describe human personality. This trait distinguishes imaginative, creative people from down-to-earth, conventional people. Individuals high in Openness are intellectually curious, appreciative of art, and sensitive to beauty. In a sporting context, an athlete with high Openness is more likely to experiment with novel training techniques, seek out diverse coaching perspectives, and adapt quickly to unconventional game strategies. They are generally less resistant to change and possess a high degree of cognitive flexibility, which allows them to process complex tactical information creatively.

Solution:

(a) The question identifies a person who is "creative, curious, and willing to try new training methods."

(b) Extraversion (Option A) relates to being outgoing and energetic in social settings.

(c) Neuroticism (Option B) relates to emotional instability and anxiety.

(d) Conscientiousness (Option D) relates to being disciplined, organized, and achievement-striving.

(e) Openness to Experience (Option C) is the specific trait that encompasses curiosity, creativity, and a preference for variety over routine.

(f) Thus, the description aligns perfectly with high scores in the Openness dimension.

Final Answer: The personality trait is Openness to Experience.

Answer: (C)

Q23.

Solution

Concept:

The Major Dhyan Chand Khel Ratna Award (formerly the Rajiv Gandhi Khel Ratna Award) is the highest sporting honor in India. It is named after the legendary Indian hockey player Major Dhyan Chand. The award is presented annually by the Ministry of Youth Affairs and Sports. The criteria for selection are rigorous: it is awarded to an athlete for "spectacular and most outstanding performance" in the field of sports at the international level. To ensure that the award recognizes sustained excellence rather than a single "fluke" performance, the government established a specific window of time for evaluating the athlete's achievements. This long-term evaluation helps in identifying truly consistent performers who have brought glory to the nation.

Solution:

(a) The question asks for the specific duration over which an athlete's performance is evaluated for the Khel Ratna.

(b) While many awards look at the current year, the Khel Ratna specifically analyzes the preceding 4-year cycle.

(c) This 4-year period (Option C) aligns with the typical Olympic and Commonwealth Games cycles, allowing the committee to see the athlete's progress and peak performance during major world events.

(d) 1, 2, or 10 years are not the official periods stipulated in the Ministry's guidelines for this specific award.

(e) Therefore, the 4-year performance window is the mandatory criteria for this highest sporting honor.

Final Answer: The period is 4 Years.

Answer: (C)

Q24.

Solution

Concept:

Minerals are inorganic substances required by the body in small amounts for various physiological functions. Calcium is a macro-mineral and is the most abundant mineral in the human body. Approximately 99

Solution:

(a) The question asks for a mineral responsible for bone formation and blood clotting.

(b) Iron (Option A) is primarily responsible for hemoglobin formation and oxygen transport.

(c) Sodium and Potassium (Options C and D) are electrolytes responsible for fluid balance and nerve impulses but not for the structural formation of bones.

(d) Calcium (Option B) is the primary constituent of bone hydroxyapatite and is a necessary cofactor in the blood clotting cascade (specifically in the activation of Factor X).

(e) Consequently, Calcium is the mineral that fulfills both functional requirements mentioned in the question.

Final Answer: The mineral is Calcium.

Answer: (B)

Q25.

Solution

Concept:

Circuit Training is a high-intensity training method that involves performing a series of different exercises (stations) in a specific sequence with minimal rest in between. A "circuit" typically consists of 6 to 12 stations. One of the most important scientific principles in designing a circuit is the "Alternation of Muscle Groups." This means if the first station targets the upper body (e.g., push-ups), the second station should target the lower body (e.g., squats) or the core. This strategic arrangement prevents localized muscular fatigue, allowing an athlete to maintain a high heart rate for cardiovascular benefits while giving specific muscles a "working rest" period. This makes circuit training an excellent method for developing both strength and endurance simultaneously.

Solution:

(a) The question asks why exercises for different muscle groups are arranged in a specific sequence in a circuit.

(b) Option (A) is incorrect as alternating groups often makes the session more manageable, not harder.

(c) Option (C) and (D) are secondary or incorrect observations of the training method.

(d) Option (B) correctly identifies the physiological reasoning: by switching from upper to lower body, the upper body muscles can recover while the lower body is being taxed.

(e) This ensures that the athlete can complete the entire circuit at a high intensity without premature muscle failure.

Final Answer: The purpose is to allow specific muscle groups to recover while others work.

Answer: (B)

Q26.

Solution

Concept:

A 'Sprain' is a common sports-related injury that affects the soft tissues surrounding a joint. In the human body, ligaments are tough, fibrous bands of connective tissue that link one bone to another, providing stability to the joints and preventing excessive or abnormal movements. A sprain occurs when a joint is forced beyond its normal range of motion—such as twisting an ankle or a wrist—causing the ligaments to overstretch or tear. Sprains are categorized into three grades: Grade I (mild stretching), Grade II (partial tear), and Grade III (complete rupture). The immediate management for a sprain typically follows the P.R.I.C.E. protocol (Protection, Rest, Ice, Compression, and Elevation) to control inflammation and facilitate the healing process.

Solution:

(a) The question asks for the specific structure involved in a 'Sprain'.

(b) A 'Strain' (with a 'T') refers to an injury to Muscles (Option A) or Tendons (Option B), which connect muscle to bone.

(c) A 'Fracture' refers to a break in the Bone (Option D).

(d) In medical and sports science terminology, a 'Sprain' is exclusively defined as an injury to the Ligaments (Option C).

(e) Therefore, identifying the difference between a strain (tendon/muscle) and a sprain (ligament) is crucial for correct first-aid application.

Final Answer: A sprain is an injury associated with Ligaments.

Answer: (C)

Q27.

Solution

Concept:

Newton's Third Law of Motion, also known as the Law of Action and Reaction, states: "For every action, there is an equal and opposite reaction." This means that whenever one object exerts a force on a second object, the second object exerts a force of equal magnitude and opposite direction on the first object. In swimming, this law is the fundamental principle of propulsion. When a swimmer performs a stroke, their hands and feet push the water backward (the action). According to Newton's law, the water simultaneously pushes the swimmer's body forward (the reaction) with the same amount of force. The efficiency of a swimmer depends on their ability to maximize this backward push to generate the greatest possible forward reaction.

Solution:

(a) The scenario describes a swimmer "pushing water backward to move forward."

(b) This is a classic demonstration of forces acting in opposite directions between two interacting bodies.

(c) `Law of Inertia` (Option A) relates to staying at rest or in constant motion.

(d) `Law of Acceleration` (Option B) relates to how force affects the rate of speed change.

(e) `Law of Action and Reaction` (Option C) perfectly explains the dual-force interaction between the swimmer and the water.

(f) Thus, the backward action resulting in forward motion is the Third Law.

Final Answer: The law illustrated is the Law of Action and Reaction.

Answer: (C)

Q28.

Solution

Concept:

Sports sociology is the study of sports as a social phenomenon and how it influences human behavior, social structures, and culture. 'Socialization through Sports' is a critical concept within this field, referring to the process by which individuals internalize the values, beliefs, and norms of a society through their participation in athletic activities. Sports serve as a "microcosm of society," where participants learn essential life skills such as teamwork, discipline, respect for authority (officials), and the importance of fair play. This process is not just about learning the rules of a game, but about how the competitive environment shapes an individual's character and their ability to function effectively within a larger social group.

Solution:

(a) The question seeks the definition of 'Socialization through Sports'.

(b) Option (B) and (C) refer to commercial or popularity aspects, which are part of sports management or marketing, not sociology.

(c) Option (D) refers to physical infrastructure, which belongs to sports facilities management.

(d) Option (A) correctly identifies socialization as a "process of learning values, norms, and skills."

(e) Through sports, a child learns how to deal with victory and defeat, which are essential social behaviors.

Final Answer: It refers to the process of learning values, norms, and skills through athletic participation.

Answer: (A)

Q29.

Solution

Concept:

Kyphosis, commonly referred to as 'Hunchback', is a postural deformity characterized by an excessive outward curvature of the upper back (thoracic spine). This leads to a rounded shoulder appearance and can be caused by malnutrition, weak muscles, or carrying heavy loads. To correct Kyphosis, one must perform Yoga asanas that involve "extension" or backward bending of the spine to counteract the forward slump. 'Chakrasana' (Wheel Pose) is one of the most effective asanas for this purpose. In Chakrasana, the body is arched upward like a semi-circle, which stretches the abdominal and chest muscles while deeply compressing and strengthening the muscles of the upper and lower back, effectively reducing the kyphotic curve.

Solution:

(a) Kyphosis is a forward-bending deformity; therefore, the remedy must be a backward-bending exercise.

(b) `Paschimottanasana` (Option B) and `Halasana` (Option C) are forward-bending poses, which would likely worsen Kyphosis.

(c) `Vajrasana` (Option D) is a sitting pose for digestion and has minimal impact on thoracic curvature.

(d) `Chakrasana` (Option A) is a deep backward bend that opens the chest and reverses the "hunching" effect of the spine.

(e) Therefore, Chakrasana is the recommended therapeutic asana.

Final Answer: The asana is Chakrasana.

Answer: (A)

Q30.

Solution

Concept:

Agility is the ability of an athlete to change direction rapidly and accurately while maintaining balance and speed. It is a vital component in almost all field and court sports, such as football, basketball, and kabaddi. The 'Shuttle Run' test (specifically the 4×10 meter shuttle run) is the standard field test used to measure agility. In this test, the participant must run between two lines, picking up or touching blocks or the line itself, and returning to the starting point multiple times. This requires frequent deceleration, turning, and re-acceleration. The time taken to complete the cycles is recorded, with faster times indicating higher levels of agility and anaerobic power.

Solution:

(a) The Shuttle Run involves repeated changes of direction over a short distance.

(b) Flexibility (Option A) is measured by tests like 'Sit and Reach'.

(c) Cardiovascular Endurance (Option C) is measured by 'Cooper's 12-Minute Run' or 'Harvard Step Test'.

(d) Muscular Strength (Option D) is measured by dynamometers or 1-Rep Max tests.

(e) Because the test emphasizes the "start-stop-turn" mechanic, it is the primary measure of Agility and Speed (Option B).

Final Answer: The test is used to measure Agility and Speed.

Answer: (B)

Q31.

Solution

Concept:

The Olympic Games are the pinnacle of international sports, and being chosen as a flag bearer is one of the highest honors for any athlete. For the Paris 2024 Summer Olympics, the Indian Olympic Association (IOA) selected veteran table tennis player Achanta Sharath Kamal and ace shuttler PV Sindhu to lead the Indian contingent during the unique opening ceremony held on the Seine River. This selection was significant as Sharath Kamal became the first table tennis player from India to be accorded this honor, recognizing his incredible longevity and contribution to the sport over two decades, including multiple Commonwealth Games gold medals and numerous Olympic appearances.

Solution:

(a) The question asks for the male flag bearer who accompanied PV Sindhu at the Paris 2024 opening ceremony.

(b) Neeraj Chopra (Option A), while a defending champion, was focused on his training schedule and did not serve as the flag bearer for the opening ceremony.

(c) Lakshya Sen (Option C) and Rohan Bopanna (Option D) were part of the contingent but were not designated as official flag bearers.

(d) Achanta Sharath Kamal (Option B) was officially named by the IOA for this role, marking a historic moment for Indian Table Tennis.

(e) His selection emphasized the importance of veteran leadership in a young and evolving Indian sporting landscape.

Final Answer: The flag bearer was Sharath Kamal.

Answer: (B)

Q32.

Solution

Concept:

Talent identification is a structured process used by sports organizations to recognize individuals with the potential to become elite athletes. The Government of India, under the Ministry of Youth Affairs and Sports, launched the 'KIRTI' (Khelo India Rising Talent Identification) program as a massive nationwide initiative. Unlike previous scouting methods that were often localized, KIRTI aims to create a centralized pool of talent using modern technology and data analytics. The program focuses on catching talent at the grassroots level, specifically targeting school-going children during their formative years of physical development to ensure they receive world-class coaching and nutritional support early in their careers.

Solution:

(a) The KIRTI program is designed as a "grassroots" talent identification hunt.

(b) The age group 5 to 12 (Option A) is generally considered for basic physical literacy rather than formal sports talent identification.

(c) The age group 15 to 25 or 18 to 30 (Options C and D) is usually too late for primary talent identification in high-performance sports.

(d) The specified target for KIRTI is 9 to 18 years (Option B), which covers the transition from primary school to late adolescence—the ideal window for specializing in a sport.

(e) This age bracket allows the government to nurture athletes through the crucial developmental phases of their sporting lives.

Final Answer: The target age group is 9 to 18 years.

Answer: (B)

Q33.

Solution

Concept:

The World Chess Championship cycle involves a rigorous selection process, culminating in the 'Candidates Tournament,' where eight of the world's top players compete to earn the right to challenge the reigning World Champion. In April 2024, the chess world witnessed a historic moment in Toronto, Canada, when an 18-year-old Indian Grandmaster defied all odds to win the tournament. This achievement was monumental as it broke a 40-year-old record held by Garry Kasparov, making the Indian teenager the youngest player in history to win the Candidates and become the official challenger for the world crown. This success highlighted India's growing dominance as a global powerhouse in chess.

Solution:

(a) The question identifies a "chess prodigy" who became the "youngest ever challenger" in 2024.

(b) R. Praggnanandhaa (Option A) performed exceptionally well but did not win the tournament.

(c) Vidit Gujrathi and Arjun Erigaisi (Options C and D) are top-tier players but were not the winners of the 2024 Candidates.

(d) Dommaraju Gukesh (D. Gukesh - Option B) secured the first place, finishing with 9/14 points.

(e) At 17 years and 11 months, his victory officially made him the youngest challenger for a World Chess Championship.

Final Answer: The chess prodigy is D. Gukesh.

Answer: (B)

Q34.

Solution

Concept:

Yoga therapy uses specific postures (asanas) to stimulate internal organs and improve metabolic functions. 'Ardh-Matsyendrasana', or the Half Lord of the Fishes Pose, is a spinal twist that has profound effects on the abdominal region. When the body is twisted in this position, the internal organs are compressed, and upon release, they are flooded with fresh, oxygenated blood. This "squeeze and release" mechanic is particularly effective for the pancreas. By stimulating the pancreas, the asana helps in the secretion of insulin, making it a highly recommended practice for individuals managing Type-2 Diabetes. It also aids in improving the health of the spine and digestive system.

Solution:

(a) The provided passage states: "'Ardh-Matsyendrasana' is beneficial for the pancreas."

(b) This is a direct factual question based on the comprehension text.

(c) Option (A) Heart, (C) Lungs, and (D) Liver are not mentioned as the primary beneficiaries of this specific asana in the text.

(d) Science confirms that the mechanical pressure of the twist targets the pancreatic region situated behind the stomach.

(e) Therefore, based strictly on the passage provided in Phase 3, the Pancreas is the correct answer.

Final Answer: The asana is beneficial for the Pancreas.

Answer: (B)

Q35.

Solution

Concept:

The 'Shatkarmas' are six groups of purification practices in Hatha Yoga designed to bring balance to the body and mind. One of the most commonly practiced Shatkarmas is 'Neti'. Neti is a method of cleansing the nasal passages to ensure smooth and unrestricted breathing. This is essential for the practice of Pranayama (breathing exercises) and general respiratory health. The two main types are 'Jala Neti' (using a saline solution) and 'Sutra Neti' (using a cotton thread). By removing excess mucus, pollutants, and allergens from the nasal cavity, Neti helps in preventing upper respiratory infections and improves the sense of smell and mental clarity.

Solution:

(a) The question asks for the Shatkarma utilized for "nasal cleansing" based on the text.

(b) The text explicitly mentions: "'Neti' is used for nasal cleansing."

(c) `Dhauti` (Option A) is for the digestive tract/stomach.

(d) `Nauli` (Option C) involves abdominal muscle isolation.

(e) `Trataka` (Option D) involves steady gazing for eye purification and concentration.

(f) Neti is the only practice in the list that deals with the respiratory/nasal path.

Final Answer: The Shatkarma is Neti.

Answer: (B)

Q36.

Solution

Concept:

Yoga is often described as a therapeutic tool for managing various physiological ailments, especially those related to the digestive system. 'Pawanmuktasana', commonly known as the Wind-Relieving Pose, is a foundational yoga posture that specifically targets the abdominal region. The name is derived from the Sanskrit words 'Pawan' meaning wind/air and 'Mukta' meaning release. When a practitioner performs this asana by pressing the knees against the chest, it exerts a gentle but firm pressure on the internal organs. This mechanical compression helps in stimulating the movement of gas through the digestive tract and improves blood circulation to the intestines. Beyond its primary function of relieving flatulence and acidity, it is also beneficial for strengthening the lower back and improving the flexibility of the hip joints.

Solution:

(a) The question asks for the primary function of 'Pawanmuktasana' as described in the provided passage.

(b) The text states: "'Pawanmuktasana' helps in relieving gastric pressure."

(c) Option (A) is incorrect as eyesight is usually associated with 'Trataka' or 'Tratak'.

(d) Option (C) and (D) are secondary physical or cosmetic benefits not mentioned as the "primary function" in the source text.

(e) Therefore, based strictly on the passage, the relief of gastric pressure (trapped air in the stomach) is the identified purpose.

Final Answer: The function is relieving gastric pressure.

Answer: (B)

Q37.

Solution

Concept:

The term 'Holistic' in the context of health and wellness refers to an approach that considers the whole person—mind, body, and spirit—rather than just focusing on physical symptoms or isolated parts of the body. In the provided passage, Yoga is characterized as a holistic approach because it does not limit itself to muscle toning or cardiovascular fitness. Instead, it integrates internal purification (Shatkarmas), physical postures (Asanas), and mental focus (Meditation/Dharana). This comprehensive nature ensures that while the body becomes physically fit, the internal organs are cleansed, the nervous system is calmed, and metabolic disorders like diabetes are managed. A holistic approach recognizes the interconnectedness of different bodily systems and the impact of mental well-being on physical health.

Solution:

(a) The question asks how Yoga is described in the passage regarding its approach to health.

(b) The first sentence of the passage explicitly says: "Yoga is not merely a physical exercise but a holistic approach to health."

(c) Option (A) "Purely Physical" is explicitly rejected by the word "merely" in the text.

(d) Option (C) and (D) are inaccurate descriptions that contradict the long-term, comprehensive benefits of Yoga.

(e) Thus, "Holistic" is the correct term used by the author to define the scope of Yoga.

Final Answer: Yoga is described as a Holistic approach.

Answer: (B)

Q38.

Solution

Concept:

Modern sports science has evolved from purely focusing on strength and speed to incorporating recovery and psychological regulation. Elite athletes operate under extreme physical stress and high-pressure environments. Yoga provides a unique set of tools that complement high-intensity training. Respiratory efficiency is crucial for endurance athletes because better lung capacity and controlled breathing (Pranayama) allow for more efficient oxygen transport to the muscles. Mental focus, on the other hand, is essential for 'clutch' performances—the ability to stay calm and precise during critical moments of a game. By integrating Yoga, coaches can help athletes lower their resting heart rate, reduce the production of stress hormones like cortisol, and improve their proprioception (awareness of body position), leading to fewer injuries and better performance.

Solution:

(a) The question asks why modern sports science integrates Yoga for elite athletes according to the passage.

(b) The final sentence of the passage states: "Modern sports science integrates these ancient techniques to improve the respiratory efficiency and mental focus of elite athletes."

(c) Option (A) is incorrect as Yoga is often used for weight management, not necessarily weight gain.

(d) Option (C) and (D) are false because Yoga is used as a 'complementary' tool, not a total replacement for cardio or other exercises.

(e) Therefore, the improvement of breathing (respiratory efficiency) and concentration (mental focus) are the key reasons cited.

Final Answer: To improve respiratory efficiency and mental focus.

Answer: (B)

Q39.

Solution

Concept:

In emergency sports medicine, the P.R.I.C.E. protocol is the gold standard for the immediate management of soft tissue injuries, such as sprains, strains, and contusions. The acronym stands for:

1. **Protection:** Preventing further injury by using a splint or crutches. 2. **Rest:** Avoiding activity to allow the healing process to begin. 3. **Ice:** Applying cold packs for 15-20 minutes every few hours to cause vasoconstriction and reduce swelling and pain. 4. **Compression:** Using an elastic bandage to minimize internal bleeding and edema. 5. **Elevation:** Keeping the injured limb above the level of the heart to help fluid drain away from the site. Applying this protocol within the first 24-48 hours is critical for reducing the total recovery time of the athlete.

Solution:

(a) The case study describes Rohan suffering an ankle injury.

(b) It states that the "physiotherapist immediately applied the PRICE protocol."

(c) `Fartlek` and `Circuit` (Options A and C) are training methods, not injury management techniques.

(d) `PNF` (Option D) is a stretching technique (Proprioceptive Neuromuscular Facilitation) used for flexibility.

(e) As a direct reference to the text, the PRICE protocol was the method used for the acute injury phase.

Final Answer: The physiotherapist applied the PRICE protocol.

Answer: (B)

Q40.

Solution

Concept:

'Pes Planus', commonly known as Flat Foot, is a postural deformity where the longitudinal arches of the foot are collapsed or absent, causing the entire sole of the foot to come into contact with the ground while standing. The arches of the foot are essential for shock absorption and providing a stable base for movement. When these arches are missing, the foot loses its ability to distribute weight efficiently during running or landing, leading to increased strain on the ankles, knees, and hips. Athletes with flat feet are more prone to injuries like ankle sprains because their "landing gear" is inherently less stable. Corrective measures include walking on heels, using arch supports (orthotics), and performing strengthening exercises like 'Tadasana' or picking up marbles with the toes.

Solution:

(a) The question asks for the medical term for 'Flat Foot' based on the case study.

(b) The text states: "...Rohan had 'Flat Foot' (Pes Planus)..."

(c) `Genu Valgum` (Option A) refers to Knock Knees.

(d) `Scoliosis` (Option C) is a lateral curvature of the spine.

(e) `Kyphosis` (Option D) is a rounded upper back/hunchback.

(f) Therefore, `Pes Planus` is the correct medical synonym for flat feet.

Final Answer: The medical term is Pes Planus.

Answer: (B)

Q41.

Solution

Concept:

Postural deformities are often treated through the regular practice of specific Yoga asanas that strengthen the weak muscle groups and stretch the tight ones. For 'Pes Planus' (Flat Foot), the goal is to recreate the natural longitudinal arch of the foot. 'Vajrasana', or the Thunderbolt Pose, is a kneeling posture where the practitioner sits on their heels with the toes pointing backward and touching each other. This position puts a healthy amount of pressure on the instep and the arches of the feet. Over time, sitting in Vajrasana helps in stretching the ligaments and muscles of the feet that have become flattened, assisting in the gradual restoration of the arch. It is also the only asana that can be performed immediately after a meal to aid digestion.

Solution:

(a) The case study mentions that the coach suggested a specific asana to help Rohan correct his "foot condition" (Flat Foot).

(b) `Shavasana` (Option A) is a relaxation pose with no corrective impact on foot arches.

(c) `Tadasana` (Option C) is excellent for flat feet when performed on tiptoes, but the text specifically points toward the coach's suggestion.

(d) `Chakrasana` (Option D) is for spinal flexibility and Kyphosis.

(e) The case study text explicitly states: "...suggested that Rohan should incorporate 'Vajrasana'..."

(f) Therefore, based on the provided narrative, Vajrasana is the correct answer.

Final Answer: The asana suggested is Vajrasana.

Answer: (B)

Q42.

Solution

Concept:

Aggression in sports is a complex psychological state categorized by the intent behind the action. 'Hostile Aggression' is a reactive form of aggression where the primary goal is to cause physical or psychological harm to another person. It is usually triggered by frustration, anger, or a perceived threat. Unlike instrumental aggression, which is a means to an end (like winning a ball), hostile aggression is an end in itself—the satisfaction comes from the harm inflicted on the opponent. In Rohan's case, displaying this type of aggression when losing indicates a lack of emotional regulation, where his frustration is being channeled into a desire to hurt others rather than focusing on the technical aspects of his sprint.

Solution:

(a) The question asks for the characteristic of 'Hostile Aggression' as seen in Rohan.

(b) Option (A) describes 'Instrumental Aggression', where the intent is goal-oriented.

(c) Option (C) and (D) describe 'Assertive Behavior' or sportsmanship, which is the opposite of aggression.

(d) Option (B) correctly identifies that hostile aggression is "fueled by anger" with an "intent to harm."

(e) This type of behavior is often penalized heavily in athletics as it violates the spirit of fair play.

Final Answer: It is characterized by an intent to harm the opponent fueled by anger.

Answer: (B)

Q43.

Solution

Concept:

Ankle injuries in sports often occur due to "inversion" or "eversion" movements. An 'Inversion Sprain' occurs when the foot rolls inward, causing the weight to move to the outer edge of the foot. This is the most common type of ankle injury because the lateral (outer) ligaments are generally weaker and more susceptible to stretching than the medial (inner) ligaments. In the case study, Rohan's injury happened during landing, a high-impact moment where any instability in the foot (like flat feet) can cause the ankle joint to collapse in an unnatural direction. Understanding the direction of the turn is vital for a physiotherapist to determine which specific ligaments (like the Anterior Talofibular Ligament) have been compromised.

Solution:

(a) The question seeks to confirm the direction in which Rohan's ankle turned.

(b) The case study text explicitly provides this detail: "...suffered a sudden injury where his ankle turned inward while landing."

(c) An "inward" turn (Option B) is the definition of an inversion injury.

(d) Options (A), (C), and (D) contradict the specific observation recorded by the physiotherapist in the text.

(e) Therefore, the answer is directly found in the third sentence of the case study.

Final Answer: The ankle turned Inward.

Answer: (B)

Q44.

Solution

Concept:

Cardiovascular endurance, also known as aerobic capacity, is the ability of the heart, lungs, and blood vessels to deliver oxygen to working muscles during sustained physical activity. For a sprinter like Rohan, while their main event is anaerobic, a base level of cardiovascular endurance is necessary for training volume and recovery. The 'Harvard Step Test' is a classic sub-maximal exercise test used to measure this endurance and the recovery rate of the heart. The participant steps up and down on a 20-inch (for men) or 16-inch (for women) gym bench for 5 minutes at a set pace. After the exercise, the heart rate is measured at specific intervals to calculate a 'Fitness Index' score. Higher scores indicate a more efficient cardiovascular system.

Solution:

(a) The question asks for a test to measure cardiovascular endurance.

(b) `Sit and Reach Test` (Option B) measures lower back and hamstring flexibility.

(c) `Plate Tapping Test` (Option C) measures limb speed and coordination.

(d) `Push-ups Test` (Option D) measures muscular endurance of the upper body.

(e) `Harvard Step Test` (Option A) is the only option designed to challenge the aerobic system and measure heart rate recovery.

Final Answer: The best suited test is the Harvard Step Test.

Answer: (A)

Q45.

Solution

Concept:

In sports training terminology, designing a workout requires specific parameters to control the 'load'. In 'Circuit Training', which consists of multiple exercise stations, two main factors define the workload: the 'Intensity' (how hard) and the 'Dosage' (how much). The term 'Dosage' specifically refers to the amount of work done at each station, which can be measured either by the duration of time spent performing the exercise (e.g., 30 seconds of push-ups) or the number of repetitions completed. Properly managing the dosage is essential to ensure that the athlete reaches the desired training effect—whether it be strength, endurance, or power—without reaching a point of total exhaustion too early in the circuit.

Solution:

(a) The question asks for the term describing the time spent at each exercise station in a circuit.

(b) `Recovery period` (Option A) is the rest time between stations or circuits.

(c) `Interval` (Option C) usually refers to the total gap between sets of work.

(d) `Frequency` (Option D) refers to how many times a week the athlete trains.

(e) `Dosage` (Option B) is the technical term for the specific "dose" of exercise or time allocated to a single station.

Final Answer: The time spent is known as Dosage.

Answer: (B)

Q46.

Solution

Concept:

Newton's Second Law of Motion, often referred to as the Law of Acceleration, provides the mathematical relationship between force, mass, and acceleration ($F = ma$). This law states that the acceleration of an object depends on two variables: the net force acting upon the object and the mass of the object. In a sporting context, if two athletes are required to reach the same speed (acceleration) in the same amount of time, the athlete with the greater body mass will require a significantly higher application of muscular force. Conversely, if the same amount of force is applied to both a light and a heavy athlete, the lighter athlete will accelerate much faster. This principle is fundamental in sports like sprinting, rugby, and shot put, where managing the relationship between power output and body weight is key to performance.

Solution:

(a) The question asks which law explains why a heavier athlete needs more force for the same acceleration.

(b) `First Law` (Option A) deals with Inertia and the resistance to starting motion.

(c) `Third Law` (Option C) deals with Action and Reaction forces.

(d) `Second Law` (Option B) explicitly defines the relationship where Force is equal to Mass times Acceleration.

(e) Therefore, as mass increases, the force required to maintain the same acceleration must also increase proportionally.

Final Answer: The Law is Newton's Second Law.

Answer: (B)

Q47.

Solution

Concept:

'Talent Identification' (TID) is the professional process of recognizing current participants who have the potential to excel in a particular sport at an elite level. This process involves a comprehensive evaluation of various factors, including physical attributes (height, limb length), physiological capacities (aerobic power, speed), and psychological traits (motivation, resilience). The primary goal of TID is to direct young individuals into sports where they have the highest probability of success. For example, a child with exceptional height and wing span might be identified for basketball or rowing. Effective talent identification systems, such as the Khelo India program, ensure that resources are invested in athletes who possess the inherent qualities required to stand on an international podium after years of structured training.

Solution:

(a) The question defines the process of "identifying high-potential athletes at a young age."

(b) `Socialization` (Option B) refers to the social process of learning values through sports.

(c) `Specificity` (Option C) is a training principle related to sport-specific exercises.

(d) `Periodization` (Option D) is the systematic planning of athletic training cycles.

(e) `Talent Identification` (Option A) is the specific term for scouting and selecting individuals based on future potential.

Final Answer: The process is Talent Identification.

Answer: (A)

Q48.

Solution

Concept:

Nutrients are substances provided by food that the body uses to survive and grow. They are categorized into 'Macro Nutrients' (required in large amounts) and 'Micro Nutrients' (required in trace amounts). Macro nutrients include Carbohydrates, Proteins, and Fats. Carbohydrates are the body's primary and most efficient source of energy. They are stored in the muscles and liver as glycogen. While simple carbohydrates provide immediate energy, complex carbohydrates (like whole grains and pasta) are essential for "long-term energy" during endurance activities because they break down slowly, providing a sustained release of glucose into the bloodstream. This prevents the "hitting the wall" phenomenon in marathon runners and long-distance cyclists, ensuring that the body has a steady fuel supply for prolonged physical exertion.

Solution:

(a) The question asks for a 'Macro Nutrient' that provides long-term energy.

(b) `Vitamin C` and `Iodine` (Options A and D) are micro nutrients (vitamins and minerals).

(c) `Iron` (Option B) is a micro mineral responsible for oxygen transport.

(d) `Carbohydrates` (Option C) are a macro nutrient and the primary fuel source for sustained muscular activity.

(e) Therefore, carbohydrates are the correct choice for long-term energy provision in sports.

Final Answer: The macro nutrient is Carbohydrates.

Answer: (C)

Q49.

Solution

Concept:

Fractures are medical conditions where there is a break in the continuity of the bone. They are broadly classified into 'Closed' (Simple) and 'Open' (Compound) fractures. A 'Compound Fracture' is a severe injury where the broken bone ends actually tear through the surrounding soft tissues and the skin, creating an external wound. This type of fracture is particularly dangerous because the open wound exposes the bone and deep tissues to the external environment, significantly increasing the risk of osteomyelitis (bone infection) and heavy bleeding. Immediate medical attention is required to stabilize the bone and surgically clean the wound. In high-impact sports like motor-racing or football, compound fractures can occur due to high-velocity collisions or falls from significant heights.

Solution:

(a) The question asks for the defining characteristic of a 'Compound Fracture'.

(b) Option (A) describes a simple or stress fracture.

(c) Option (C) describes a Greenstick fracture (common in children).

(d) Option (D) describes a Comminuted fracture (bone shattered into pieces).

(e) Option (B) correctly identifies that in a compound fracture, the bone "pierces the skin," creating an open wound.

Final Answer: The characteristic is the bone breaking and piercing the skin.

Answer: (B)

Q50.

Solution

Concept:

The National Sports Awards in India recognize excellence in various facets of the sporting ecosystem. While the Khel Ratna and Arjuna Awards are designated for athletes, the 'Dronacharya Award' is exclusively reserved for coaches. Established in 1985, it is named after Guru Dronacharya, the legendary teacher from the Mahabharata. The award is presented to those coaches who have shown outstanding merit and provided "spectacular and most outstanding" results in training athletes for international competitions over a period of four years. This recognition highlights the critical role that coaches play in the technical, physical, and mental development of sportspersons. It is divided into two categories: the Regular Category and the Lifetime Category (for coaches who have contributed over 20 years).

Solution:

(a) The question asks to whom the Dronacharya Award is presented.

(b) `Outstanding Players` (Option A) receive the Arjuna or Khel Ratna awards.

(c) `Sports Journalists` and `Officials` (Options C and D) have different categories of recognition, but not the Dronacharya.

(d) `Outstanding Coaches` (Option B) is the specific group for which this award was instituted to honor the "Guru" or mentor.

(e) Therefore, coaches are the sole recipients of this prestigious national honor.

Final Answer: The award is presented to Outstanding Coaches.

Answer: (B)

Answer Key

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