

CUET-UG Physical Education Sample Paper - 16

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.

Passage I

Read the passage below carefully. The questions that follow (Questions 1 to 5) are based on the information provided in this text. Choose the one best answer for each question.

“Post-Independence India faced significant challenges in public health, leading to the launch of the National Rural Health Mission (NRHM) in 2005. The primary objective was to provide accessible, affordable, and quality health care to the rural population, especially the vulnerable groups. Simultaneously, the Mid-Day Meal Scheme was strengthened to tackle malnutrition and improve school attendance. In the context of Physical Education and Sports, these health initiatives are crucial as they form the foundation of 'Health Status'. A healthy nation is built on the prevention of Communicable diseases like Tuberculosis and Malaria, and the management of Non-Communicable diseases like Diabetes and Hypertension. Furthermore, the concept of 'Adaptive Physical Education' emerged to provide specialized strategies for Children with Special Needs (CWSN), ensuring inclusivity through assistive technology and modified equipment. Strategies for CWSN include 'Individualized Education Programs' (IEP) and creating barrier-free environments to promote physical literacy among all.”



- Q1.** Which of the following is the primary objective of the National Rural Health Mission (NRHM)?
- (A) Providing free sports equipment to rural youth
 - (B) Ensuring accessible and quality healthcare for rural populations
 - (C) Constructing international standard stadiums in villages
 - (D) Only focusing on the eradication of Malaria
- Q2.** The Mid-Day Meal Scheme primarily targets which two aspects of student development?
- (A) Sports talent and Olympic medals
 - (B) Nutrition and school attendance
 - (C) Vocational training and employment
 - (D) Digital literacy and coding
- Q3.** Identify the set that contains only Non-Communicable Diseases (NCDs):
- (A) Tuberculosis and Cholera
 - (B) Malaria and COVID-19
 - (C) Diabetes and Hypertension
 - (D) Typhoid and Influenza
- Q4.** What does IEP stand for in the context of strategies for CWSN?
- (A) International Education Program
 - (B) Integrated Exercise Plan
 - (C) Individualized Education Program
 - (D) Internal Evaluation Process
- Q5.** Which strategy is most effective for promoting inclusivity in Physical Education for CWSN?
- (A) Excluding them from competitive sports



- (B) Using modified equipment and barrier-free environments
- (C) Focusing only on theoretical knowledge
- (D) Mandatory participation in high-impact contact sports

Passage II

Read the passage below carefully. The questions that follow (Questions 6 to 10) are based on the information provided in this text. Choose the one best answer for each question.

“Sports Psychology and Sociology play a pivotal role in enhancing athletic performance and understanding social dynamics in sports. Personality theories, such as Jung’s classification into Introverts and Extroverts, and Sheldon’s Somatotypes (Endomorph, Mesomorph, Ectomorph), help coaches tailor training programs. The ‘Big Five’ theory further categorizes personality into five broad dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Motivation, both Intrinsic (internal satisfaction) and Extrinsic (rewards/fame), acts as a catalyst for performance. However, coaches must manage ‘Aggression’ in sports, distinguishing between Hostile Aggression (intent to harm) and Instrumental Aggression (behavior to achieve a goal without primary intent to harm). Sociologically, sports serve as a medium for socialization, breaking cultural barriers and fostering national integration through teamwork and adherence to rules. ”

- Q6.** According to Sheldon’s Somatotypes, a person with a muscular and athletic physique is classified as a/an:
- (A) Endomorph
 - (B) Mesomorph
 - (C) Ectomorph
 - (D) Myomorph

- Q7.** In the ‘Big Five’ personality theory, ‘Neuroticism’ refers to:



- (A) The level of emotional stability
- (B) The tendency to be organized and disciplined
- (C) The degree of curiosity and creativity
- (D) The willingness to cooperate with others

Q8. Winning a trophy or receiving a cash prize for a victory is an example of:

- (A) Intrinsic Motivation
- (B) Self-Actualization
- (C) Extrinsic Motivation
- (D) Social Inhibition

Q9. Aggression intended to achieve a goal (like tackling in football to get the ball) without the primary intent to cause injury is called:

- (A) Hostile Aggression
- (B) Instrumental Aggression
- (C) Reactive Aggression
- (D) Passive Aggression

Q10. Who classified personality into Introverts and Extroverts?

- (A) William Sheldon
- (B) Sigmund Freud
- (C) Carl Jung
- (D) Big Five Group

Q11. Which of the following is NOT a strategy to make physical activities accessible for CWSN?

- (A) Modification of rules
- (B) Creating specialized play areas
- (C) Strictly following standard Olympic rules



(D) Using bright-colored balls with sound for visually impaired

Q12. Communicable diseases are primarily spread through:

- (A) Genetic inheritance
- (B) Pathogens like bacteria and viruses
- (C) Lack of physical exercise
- (D) Sedentary lifestyle

Q13. The 'A' in the acronym 'ASHA' worker, a key component of NRHM, stands for:

- (A) Association
- (B) Accredited
- (C) Advanced
- (D) Auxiliary

Q14. Which postural deformity is often associated with the 'Flat Foot' condition?

- (A) Scoliosis
- (B) Kyphosis
- (C) Pes Planus
- (D) Lordosis

Q15. Strategies for CWSN aim at achieving:

- (A) Total isolation from mainstream students
- (B) Physical literacy and social integration
- (C) Exemption from all physical activities
- (D) Professional athletic contracts only

Q16. A person who is sociable, talkative, and assertive would score high on which Big Five trait?

- (A) Agreeableness



- (B) Conscientiousness
- (C) Extraversion
- (D) Openness

Q17. Sheldon's 'Endomorph' is characterized by:

- (A) A lean and fragile body
- (B) A round and soft body shape
- (C) Hard and rectangular body
- (D) Extreme height

Q18. Motivation derived from the sheer joy of playing the sport is:

- (A) External Motivation
- (B) Amotivation
- (C) Intrinsic Motivation
- (D) Negative Motivation

Q19. Hostile Aggression is characterized by the primary goal of:

- (A) Scoring a point
- (B) Defending a teammate
- (C) Inflicting injury or harm to an opponent
- (D) Winning the match trophy

Q20. The 'Big Five' personality trait 'Conscientiousness' involves:

- (A) Trust and altruism
- (B) Anxiety and moodiness
- (C) Being organized and reliable
- (D) Seeking new experiences

Q21. The dimensions of a standard Handball court are:



- (A) 28 m × 15 m
- (B) 40 m × 20 m
- (C) 18 m × 9 m
- (D) 100 m × 50 m

Q22. The term 'Toe Touch' and 'Ankle Hold' are fundamental skills associated with which game?

- (A) Hockey
- (B) Football
- (C) Kabaddi
- (D) Cricket
- (E)

Q23. The length of a standard Cricket pitch between the wickets is:

- (A) 20 yards
- (B) 22 yards
- (C) 24 yards
- (D) 18 yards

Q24. How many stages (asanas) are there in one complete round of Suryanamaskar?

- (A) 8
- (B) 10
- (C) 12
- (D) 14

Q25. Which Asana is highly beneficial for improving balance and concentration, resembling the shape of a tree?

- (A) Bhujangasana
- (B) Vrikshasana



- (C) Vajrasana
- (D) Chakrasana

Q26. The Shat-Kriya 'Neti' is used for the purification of:

- (A) The stomach
- (B) The nasal passage
- (C) The eyes
- (D) The lower intestine

Q27. Which type of Pranayama involves the 'Bee Breath' sound?

- (A) Sheetalī
- (B) Ujjayi
- (C) Bhramari
- (D) Bhastrika

Q28. 'Dhauti' is a Kriya specifically designed to clean the:

- (A) Lungs
- (B) Upper digestive tract (stomach)
- (C) Colon
- (D) Sinuses

Q29. Which of the following is considered a 'Macro-Nutrient'?

- (A) Vitamin C
- (B) Iron
- (C) Carbohydrate
- (D) Calcium

Q30. A 'Greenstick Fracture' is most commonly observed in:

- (A) Senior citizens



- (B) Professional athletes
- (C) Children
- (D) Adult women

Q31. The postural deformity where the knees touch each other in a normal standing position is called:

- (A) Bow Legs
- (B) Knock Knees
- (C) Flat Foot
- (D) Kyphosis

Q32. Which mineral is essential for the formation of hemoglobin in the blood?

- (A) Phosphorus
- (B) Iodine
- (C) Iron
- (D) Sodium

Q33. An 'Oblique Fracture' is characterized by a break that is:

- (A) Diagonal to the bone's long axis
- (B) Perpendicular to the bone's long axis
- (C) Shattered into many pieces
- (D) Does not break the skin

Q34. Vitamin D deficiency primarily leads to which condition?

- (A) Night Blindness
- (B) Scurvy
- (C) Rickets
- (D) Beri-Beri



- Q35.** The highest sporting honor in India, given for spectacular performance over four years, is:
- (A) Arjuna Award
 - (B) Dronacharya Award
 - (C) Major Dhyan Chand Khel Ratna Award
 - (D) Maulana Abul Kalam Azad Trophy
- Q36.** The Dronacharya Award is presented to:
- (A) Junior Athletes
 - (B) Outstanding Coaches
 - (C) Sports Administrators
 - (D) Retired Veterans
- Q37.** To pursue a career as a Physical Education teacher in secondary schools in India, which degree is generally required?
- (A) M.B.B.S.
 - (B) B.P.Ed.
 - (C) B.Com.
 - (D) B.Tech.
- Q38.** The Arjuna Award was instituted in which year?
- (A) 1951
 - (B) 1961
 - (C) 1991
 - (D) 2001
- Q39.** Exercise where the length of the muscle remains constant while tension is developed (e.g., pushing a wall) is called:
- (A) Isotonic



- (B) Isokinetic
- (C) Isometric
- (D) Ballistic

Q40. Fartlek Training is used primarily to develop:

- (A) Explosive Power
- (B) Speed
- (C) Endurance
- (D) Flexibility

Q41. 'Speed Play' is another name for:

- (A) Interval Training
- (B) Fartlek Training
- (C) Circuit Training
- (D) Continuous Training

Q42. Proprioceptive Neuromuscular Facilitation (PNF) is a technique used to improve:

- (A) Cardiovascular strength
- (B) Muscle mass
- (C) Flexibility
- (D) Bone density

Q43. The 'Flamingo Balance Test' is designed to measure:

- (A) Static Balance
- (B) Dynamic Speed
- (C) Leg Power
- (D) Agility

Q44. The Rikli and Jones Fitness Test battery is specifically designed for:



- (A) Toddlers
- (B) Adolescent Athletes
- (C) Senior Citizens
- (D) Pregnant Women

Q45. The 4×10 m Shuttle Run is a test for:

- (A) Aerobic Capacity
- (B) Agility
- (C) Strength
- (D) Reaction Time

Q46. In a First-Class Lever, what is located in the middle?

- (A) Load
- (B) Effort
- (C) Fulcrum
- (D) Resistance

Q47. Newton's Second Law of Motion is also known as:

- (A) Law of Inertia
- (B) Law of Acceleration
- (C) Law of Action and Reaction
- (D) Law of Gravity

Q48. Hypertrophy of muscles due to regular exercise refers to:

- (A) Decrease in muscle size
- (B) Increase in muscle size and strength
- (C) Weakening of tendons
- (D) Increase in body fat percentage



- Q49.** The 'Stroke Volume' of the heart during exercise generally:
- (A) Decreases
 - (B) Increases
 - (C) Remains the same
 - (D) Becomes zero
- Q50.** Which class of lever is most common in the human body, where the effort is between the fulcrum and the load (e.g., Biceps curl)?
- (A) First Class
 - (B) Second Class
 - (C) Third Class
 - (D) Fourth Class



Detailed Solutions**Q1.****Solution****Concept:**

The National Rural Health Mission (NRHM) was launched by the Government of India in April 2005. It was a landmark initiative designed to address the stark disparities in healthcare access between urban and rural India. The core philosophy of NRHM is rooted in the belief that quality healthcare is a fundamental right. In the context of Physical Education, health is viewed as the "functional efficiency" of a human being. Without a robust public health framework like NRHM, the physical literacy and athletic potential of a rural population cannot be realized. This mission focuses specifically on providing a "communitized" healthcare system that is owned and controlled by the community itself, ensuring that even the most remote villages have access to primary medical facilities.

Solution:

1. The NRHM was specifically designed to provide accessible, affordable, and quality health care to the rural population.
2. It aims to bridge the gap in healthcare services in rural areas, which were historically underserved compared to urban centers.
3. While sports and physical education are related to health, the mission's primary focus is on medical infrastructure, maternal health, and disease control.
4. Therefore, option (A) and (C) are incorrect as they focus on sports infrastructure rather than basic health.
5. Option (D) is too narrow; while Malaria control is a part of it, the mission encompasses a much broader range of healthcare services including child immunity and sanitation.
6. The mission utilizes Accredited Social Health Activists (ASHA) to ensure that the healthcare reaches the "doorstep" of the villagers.
7. By improving the basic health status of the rural youth, NRHM indirectly supports the physical education goals of the nation by ensuring children are healthy enough to participate in sports and physical activities.

Final Answer: The primary objective of NRHM is ensuring accessible and quality healthcare for rural populations.

Answer: (B)

Q2.

Solution**Concept:**

The Mid-Day Meal (MDM) Scheme is one of the world's largest school meal programs. From a Physical Education and Health perspective, it addresses the "Nutritional Status" of students, which is a prerequisite for any physical training. Malnutrition, particularly protein-energy malnutrition and micronutrient deficiencies, can lead to stunted growth and poor motor development. The scheme serves two master goals: educational and nutritional. By providing a hot, cooked meal, the government incentivizes parents to send their children to school, thereby improving enrollment and retention rates, while simultaneously ensuring that the children have the energy (calories) and nutrients required for cognitive and physical growth.

Solution:

1. The scheme is designed to address "classroom hunger," which prevents children from concentrating on their studies or participating in physical activities.
2. Nutrition is the primary health aspect; without proper caloric intake, a child's health status remains poor, making them susceptible to non-communicable and communicable diseases.
3. Attendance is the primary educational aspect; the meal acts as a social safety net for poor families, ensuring the child remains within the school ecosystem.
4. Options (A), (C), and (D) are incorrect because the scheme does not directly provide sports equipment, vocational training, or digital literacy; those are handled by other government departments or programs.
5. In Physical Education, we study MDM because it helps in achieving the "Health-Related Fitness" components of students by providing essential macro and micro-nutrients.
6. A well-nourished student is more likely to engage in the "Active Play" and "Structured Sports" mentioned in the PE curriculum.
7. The synergy between nutrition and education creates a foundation for a healthy, active lifestyle that persists into adulthood.

Final Answer: The Mid-Day Meal Scheme primarily targets Nutrition and school attendance.

Answer: (B)



Q3.

Solution**Concept:**

In the study of 'Health Status' within Physical Education, diseases are categorized based on their mode of transmission. Communicable diseases are those caused by pathogens (bacteria, viruses, fungi) and can be spread from one person to another. Non-Communicable Diseases (NCDs), often called 'Lifestyle Diseases,' are not infectious. They are typically the result of a combination of genetic, physiological, environmental, and behavioral factors. Common risk factors for NCDs include tobacco use, physical inactivity, unhealthy diet, and the harmful use of alcohol. Physical Education plays a critical role in the prevention and management of NCDs through regular exercise and stress management techniques.

Solution:

1. Diabetes is a chronic, metabolic disease characterized by elevated levels of blood glucose. It is non-infectious and usually linked to lifestyle and genetics.
2. Hypertension (high blood pressure) is a condition where the force of the blood against the artery walls is too high. It is a major risk factor for cardiovascular diseases and is classified as an NCD.
3. Tuberculosis and Cholera (Option A) are caused by bacteria and are highly communicable.
4. Malaria and COVID-19 (Option B) are communicable; Malaria is protozoal (vector-borne) and COVID-19 is viral.
5. Typhoid and Influenza (Option D) are also infectious/communicable diseases.
6. Understanding NCDs is vital for PE students because regular physical activity is the most effective non-pharmacological intervention to control blood sugar and blood pressure levels.
7. Thus, the pair of Diabetes and Hypertension fits the definition of diseases that cannot be transmitted through contact or air.

Final Answer: Diabetes and Hypertension are Non-Communicable Diseases (NCDs).

Answer: (C)



Q4.

Solution**Concept:**

The concept of 'Inclusive Education' in Physical Education focuses on integrating Children with Special Needs (CWSN) into the mainstream environment. To achieve this, the 'Individualized Education Program' (IEP) is utilized as a fundamental tool. An IEP is a legally binding document or a structured plan that is tailored to meet the unique educational and physical needs of a student with a disability. In PE, an IEP might involve modifying a game's rules, using specialized equipment (like a beeping ball for a visually impaired student), or setting specific physical fitness goals that are achievable for that particular student.

Solution:

1. 'Individualized' implies that the plan is specific to one student; no two students with special needs have the exact same requirements.
2. 'Education' refers to the broader learning process, which includes 'Adaptive Physical Education.'
3. 'Program' indicates a structured, step-by-step approach to achieving developmental milestones.
4. Option (A) is incorrect because IEP is a local/national school-based framework, not necessarily "International."
5. Option (B) 'Integrated Exercise Plan' is a related concept but is not the formal academic term used in special education legislation and pedagogy.
6. Option (D) 'Internal Evaluation' refers only to testing, whereas an IEP covers the entire teaching-learning process, including goals, services, and accommodations.
7. The IEP team usually includes the Physical Education teacher, parents, special educators, and sometimes medical professionals to ensure the child's safety and progress.

Final Answer: IEP stands for Individualized Education Program.

Answer: (C)



Q5.

Solution**Concept:**

Adaptive Physical Education (APE) is a sub-discipline of Physical Education that focuses on providing safe, personally satisfying, and successful instruction to individuals with disabilities. The goal is 'Inclusivity,' which means ensuring that CWSN are not just present in the class but are active participants. This is achieved through 'Modification' and 'Accommodation.' Modification involves changing the actual task (e.g., lowering the height of a basketball hoop), while accommodation involves changing the environment or the way the task is performed without changing the task itself (e.g., giving extra time).

Solution:

1. Exclusion (Option A) is the opposite of inclusivity and is detrimental to the social and psychological health of CWSN.
2. Focusing only on theory (Option C) denies the child the physical and motor benefits of the subject, which is the core of Physical Education.
3. Mandatory participation in high-impact contact sports (Option D) could be dangerous and insensitive to the specific physical limitations of various disabilities.
4. Using 'Modified Equipment' (like larger rackets or lighter balls) allows students with limited grip or strength to participate.
5. 'Barrier-free environments' (like ramps instead of stairs or tactile boundary lines) ensure that the student can navigate the sports facility independently.
6. These strategies foster a sense of belonging and improve the self-esteem of CWSN, which is a key psychological goal in the PE syllabus.
7. Therefore, the combination of modified equipment and accessible environments is the most effective strategy for inclusivity.

Final Answer: The most effective strategy is using modified equipment and barrier-free environments.

Answer: (B)



Q6.

Solution**Concept:**

The study of somatotypes is a cornerstone of sports kinanthropometry, a field that relates human body size, shape, and proportion to movement and performance. William Herbert Sheldon's somatotyping remains one of the most recognized methods for classifying human physiques. In Physical Education, understanding these types—Endomorph, Mesomorph, and Ectomorph—is not about pigeonholing students but about identifying their natural mechanical advantages. For example, a student with a high mesomorphic rating has a skeletal structure and muscular distribution that provides a higher power-to-weight ratio. This makes them naturally efficient at moving heavy loads or accelerating their own body mass rapidly. This physiological insight allows coaches to design "periodization" programs that maximize an athlete's genetic potential while minimizing the risk of injury.

Solution:

1. The 'Mesomorph' physique is defined by a rectangular shape, large bones, and high muscle mass. These individuals have a high basal metabolic rate and respond quickly to strength training.
2. Characteristics include broad shoulders, a well-defined chest, and a relatively narrow waist, often referred to as an "inverted triangle" or "V" shape.
3. In sports science, mesomorphs are the "natural athletes" of the world. They excel in high-intensity sports like wrestling, 100-meter sprints, and rugby because their muscles are capable of generating immense force.
4. 'Endomorphs' (Option A) are predisposed to weight gain and have a slower metabolism; they usually have high absolute strength but lower relative strength.
5. 'Ectomorphs' (Option C) have a linear physique with thin bones and long muscles; they are the masters of thermoregulation and endurance, making them ideal for long-distance events.
6. 'Myomorph' (Option D) is a fictitious term in this context, likely derived from the prefix 'myo-' meaning muscle, but it is not part of Sheldon's tripartite system.
7. Since the question specifies a "muscular and athletic" build, the correct scientific classification is Mesomorph.

Final Answer: A person with a muscular and athletic physique is classified as a Mesomorph.

Answer: (B)



Q7.

Solution**Concept:**

The Big Five Personality Trait model, often called the Five-Factor Model (FFM), provides a comprehensive framework for understanding human behavior in competitive environments. One of its most critical dimensions for sports performance is 'Neuroticism.' In psychological terms, Neuroticism is the degree to which a person perceives the world as threatening or distressing. For a physical educator or a sports coach, identifying an athlete's level of neuroticism is vital for mental skills training. High-neuroticism athletes may require more relaxation techniques, such as progressive muscle relaxation or visualization, to prevent their anxiety from negatively impacting their motor coordination and decision-making during high-pressure matches.

Solution:

1. Neuroticism measures emotional instability. It describes the tendency to experience negative affects, such as fear, sadness, embarrassment, anger, guilt, and disgust.
2. Individuals who score high in Neuroticism are more likely to interpret ordinary situations as threatening and minor frustrations as hopelessly difficult.
3. In a sporting context, a "Neurotic" athlete might struggle with "performance anxiety" or "choking," where the physiological symptoms of stress (increased heart rate, muscle tension) become uncontrollable.
4. Option (B), 'Conscientiousness,' refers to being diligent, organized, and achievement-oriented—traits essential for a disciplined training regimen.
5. Option (C), 'Openness,' refers to intellectual curiosity and a preference for variety, which helps athletes adapt to new techniques or strategies.
6. Option (D), 'Agreeableness,' describes the quality of interpersonal relationships and team cohesion.
7. Because Neuroticism is essentially the opposite of emotional resilience and stability, it is the correct answer.

Final Answer: In the Big Five personality theory, Neuroticism refers to the level of emotional stability.

Answer: (A)



Q8.

Solution**Concept:**

Motivation is the "engine" of athletic performance. In the realm of Physical Education, we analyze why people choose to participate in sports and why they persist through physical pain and failure. Self-Determination Theory (SDT) provides the framework for this, dividing motivation into Intrinsic (internal) and Extrinsic (external). Extrinsic motivation occurs when the activity is done as a "means to an end" rather than for the sake of the activity itself. While extrinsic motivators like trophies and fame can effectively initiate behavior (getting someone to start exercising), sports psychologists emphasize that long-term "adherence" to a physical lifestyle usually requires a transition toward intrinsic motivation.

Solution:

1. Extrinsic Motivation refers to behavior that is driven by external rewards. These rewards can be tangible (money, trophies, medals) or intangible (praise, social status).
2. In the question, the rewards mentioned (trophies and cash prizes) are external stimuli provided by the environment or organization.
3. Intrinsic Motivation (Option A) is the drive that comes from the internal satisfaction of the task itself, such as the feeling of mastery when learning a new skill in gymnastics.
4. Self-Actualization (Option B) is the highest level of Maslow's hierarchy; it is the desire to become everything one is capable of becoming. While it can drive sports performance, it is much broader than the specific act of winning a prize.
5. Social Inhibition (Option D) is a social psychology phenomenon where the presence of others hinders performance on complex tasks; it is not a type of motivation.
6. Since the focus of the question is on the external "payoff" for winning, it fits the definition of Extrinsic Motivation.

Final Answer: Winning a trophy or receiving a cash prize for a victory is an example of Extrinsic Motivation.

Answer: (C)



Q9.

Solution**Concept:**

Aggression in sports is often misunderstood as purely negative behavior. However, within the rules of the game, certain levels of physical force are not only allowed but required for success. Sports psychologists distinguish between 'Assertive Behavior' (playing hard within rules with no intent to harm), 'Hostile Aggression' (intent to harm driven by anger), and 'Instrumental Aggression' (intent to harm or use force as a tool to achieve a non-aggressive goal). Understanding these nuances is essential for physical educators to teach sportsmanship and for officials to maintain the "spirit of the game." It allows us to separate tactical physical play from malicious behavior that has no place in sports.

Solution:

1. Instrumental Aggression is behavior that is intended to harm or use force, but only as a means to achieve a different goal, such as winning a game or securing the ball.
2. The key distinction is that the "injury" or the "impact" is not the end goal; it is merely the instrument used to reach the desired outcome. For instance, a hard tackle in rugby to stop an opponent from scoring is instrumental.
3. Hostile Aggression (Option A) is also known as "impulsive" aggression. Its primary purpose is to inflict pain or injury on the victim, usually as a reaction to provocation.
4. Reactive Aggression (Option C) is another term for hostile aggression—it is a response to a perceived threat or insult.
5. Passive Aggression (Option D) involves a refusal to communicate or cooperate, which is rare in the high-speed physical contact of sports.
6. Because the scenario involves using force (tackling) specifically to "achieve a goal" (getting the ball), it is defined as Instrumental Aggression.

Final Answer: Aggression intended to achieve a goal without the primary intent to harm is called Instrumental Aggression.

Answer: (B)



Q10.

Solution**Concept:**

Carl Jung's theory of psychological types was a revolutionary attempt to understand how individuals differ in their cognitive processing. He proposed that people could be categorized by their "general attitude type": Introverted or Extraverted. This concept is fundamental to the "Sociology of Sports" because it explains how different individuals integrate into team environments. An introverted athlete might be more self-reflective and excel in sports that require high focus and solitude, whereas an extraverted athlete might act as a "social glue" for a team, thriving on the communication and energy of the group.

Solution:

1. Carl Jung defined 'Introverts' as those who draw energy from their internal world. They are often thoughtful, reserved, and prefer solitary activities.
2. He defined 'Extroverts' as those who are energized by external interaction. They are outgoing, assertive, and thrive in group settings.
3. William Sheldon (Option A) is the scientist behind the physical classification of bodies (somatotypes), not the psychological introversion/extraversion scale.
4. Sigmund Freud (Option B), though a contemporary and mentor to Jung, focused primarily on the unconscious mind and the id/ego/superego structure.
5. The 'Big Five Group' (Option D) adopted the trait of Extraversion into their model decades later, but the original binary classification of people into these two distinct "types" belongs to Jung.
6. Jung's work eventually led to the development of the Myers-Briggs Type Indicator (MBTI), which is still used today in organizational behavior and sports coaching.

Final Answer: Carl Jung classified personality into Introverts and Extroverts.

Answer: (C)



Q11.

Solution

Concept: The primary goal of Adaptive Physical Education (APE) is to provide a "least restrictive environment" for Children with Special Needs (CWSN). This means that the physical environment and the curriculum should be modified to accommodate the student's specific disability, rather than forcing the student to conform to a rigid, standard system. Strategies include modifying the equipment (using larger balls, shorter rackets), adjusting the rules (allowing more bounces in tennis), and ensuring the facility is accessible. The focus is on physical literacy and inclusion, ensuring that every child, regardless of their physical or cognitive challenges, can experience the joy and health benefits of movement.

Solution: 1. Modification of rules (Option A) is a standard strategy, such as allowing a wheelchair user to touch the ball twice in a game where others can only touch it once.

2. Creating specialized play areas (Option B) ensures safety and accessibility, such as using rubberized surfaces to prevent injury from falls.

3. Using bright-colored balls with sound (Option D) is an essential sensory accommodation for students with visual impairments, allowing them to track the ball using auditory and high-contrast visual cues.

4. Strictly following standard Olympic rules (Option C) is NOT a strategy for inclusion; in fact, it is a barrier. Olympic rules are designed for elite, able-bodied competition and are often too rigorous or physically demanding for a student with significant special needs.

5. Inclusion requires flexibility. If a teacher insists on standard professional rules, the CWSN student is likely to be excluded or experience failure, which defeats the purpose of adaptive physical education.

6. Effective strategies are always individualized based on the student's IEP (Individualized Education Program).

7. Therefore, sticking to rigid international standards is counter-productive to the goals of CWSN strategies.

Final Answer: Strictly following standard Olympic rules is NOT a strategy for CWSN.

Answer: (C)



Q12.

Solution

Concept: Communicable diseases, also known as infectious diseases, are a major focus of public health and the NRHM. These are illnesses that result from the infection, presence, and growth of pathogenic biologic agents in an individual human or other animal host. Understanding the mode of transmission is vital for Physical Education students, as sports environments (locker rooms, shared equipment, close contact) can often be breeding grounds for such pathogens if hygiene standards are not maintained. Prevention strategies in sports include personal hygiene, vaccinations, and the sanitization of equipment like wrestling mats or gym machinery.

Solution: 1. Pathogens are the primary cause of communicable diseases. These include bacteria (like the ones causing Typhoid), viruses (like Influenza or COVID-19), fungi (causing Athlete's foot), and parasites (like Malaria).

2. These pathogens can be spread through various methods: direct physical contact, air (droplets), contaminated food or water, or vectors like mosquitoes.

3. Genetic inheritance (Option A) leads to hereditary conditions like Hemophilia or Color Blindness, which are non-communicable.

4. Lack of physical exercise (Option C) and a sedentary lifestyle (Option D) are major risk factors for Non-Communicable Diseases (NCDs) like obesity and heart disease, but they do not "spread" an infection.

5. In the context of a sports school or hostel, the rapid spread of a cold or flu among teammates is a classic example of a communicable disease caused by viral pathogens.

6. Hygiene and sanitation are the primary defenses against these diseases.

7. Thus, the presence and transfer of pathogens is the defining characteristic of this category of illness.

Final Answer: Communicable diseases are primarily spread through pathogens like bacteria and viruses.

Answer: (B)



Q13.

Solution

Concept: The National Rural Health Mission (NRHM) introduced a key community-level health professional known as the ASHA worker. ASHA stands for Accredited Social Health Activist. These workers are usually women from the local village who are trained to work as an interface between the community and the public health system. In the PE syllabus, this falls under the "Health Status" and "Community Health" section. ASHA workers play a critical role in maternal and child health, promoting immunization, and supporting the Mid-Day Meal Scheme by monitoring the nutritional status of local children.

Solution: 1. The term 'Accredited' means that these workers are officially recognized and authorized by the government after meeting specific training and qualification criteria.

2. They are 'Social' because their work is rooted in community welfare and social mobilization.

3. They are 'Health Activists' because they actively promote healthy behaviors and ensure that the rural population utilizes the available healthcare facilities.

4. Option (A) Association, (C) Advanced, and (D) Auxiliary are incorrect. While 'Auxiliary' is a term used for Nurse Midwives (ANM), it is not part of the ASHA acronym.

5. The ASHA worker is a volunteer who receives performance-based incentives, making the healthcare system more sustainable at the grassroots level.

6. Their role in identifying malnutrition in children is directly linked to the Mid-Day Meal program's success.

7. Understanding this acronym is essential for students to grasp the organizational structure of India's rural health framework.

Final Answer: The 'A' in ASHA stands for Accredited.

Answer: (B)



Q14.

Solution

Concept: Postural deformities are abnormalities in the alignment of the skeletal system. One of the most common deformities found in the lower limbs is 'Flat Foot' (Pes Planus). In this condition, the longitudinal arch of the foot that runs along the sole is absent or collapsed, causing the entire sole of the foot to touch the ground when standing. Postural deformities are often interlinked; a deformity in the feet can alter the kinetic chain, leading to issues in the knees, hips, and spine. Corrective exercises and the use of orthotics are the primary treatments studied in Physical Education.

Solution: 1. 'Pes Planus' is the clinical and anatomical term for Flat Foot. It occurs when the muscles and tendons supporting the arch of the foot become weak.

2. Scoliosis (Option A) is a lateral or "S" shaped curvature of the spine.

3. Kyphosis (Option B) is an excessive outward curvature of the upper back, leading to a "hunchback" appearance.

4. Lordosis (Option D) is an inward curvature of the lumbar (lower) spine, often called "swayback."

5. Flat foot can be diagnosed using the "Wet Foot Test," where a person with wet feet walks on a dry floor to see the shape of the footprint.

6. If the arch is missing, the footprint will be full and wide. This condition can cause pain and fatigue during physical activities like running or jumping.

7. Therefore, Pes Planus is the specific condition synonymous with Flat Foot.

Final Answer: Flat Foot condition is also known as Pes Planus.

Answer: (C)



Q15.

Solution

Concept: Strategies for Children with Special Needs (CWSN) are designed to promote holistic development. In the past, children with disabilities were often excused from Physical Education, which led to a sedentary lifestyle and social isolation. Modern Physical Education emphasizes 'Physical Literacy'—the motivation, confidence, physical competence, knowledge, and understanding to value and take responsibility for engagement in physical activities for life. For CWSN, this means finding ways for them to be active that are appropriate for their abilities, ensuring they gain the same physiological and social benefits as their peers.

Solution: 1. Physical literacy for CWSN involves developing motor skills through modified exercises.

2. Social integration (Option B) is a primary goal; through inclusive sports, CWSN learn to interact with their peers, work in teams, and build self-confidence.

3. Isolation (Option A) is the exact outcome that inclusive strategies aim to prevent. Segregating CWSN can lead to psychological issues and poor social development.

4. Exemption (Option C) is an outdated approach. The goal is to "adapt" the activity, not "omit" the student from the activity.

5. Professional contracts (Option D) may be a goal for a very small percentage of Paralympic-level athletes, but the educational goal for the general population of CWSN is much broader.

6. By focusing on integration, schools foster a culture of empathy among all students and provide CWSN with the physical benefits of exercise.

7. Thus, the ultimate aim is to ensure they are physically literate and socially connected.

Final Answer: Strategies for CWSN aim at achieving physical literacy and social integration.

Answer: (B)



Q16.

Solution**Concept:**

The 'Big Five' personality model (OCEAN) is the standard for psychological assessment in modern sports. One of its most recognizable dimensions is 'Extraversion.' This trait reflects how much an individual is oriented toward the external world versus their internal world. In a sports environment, extraversion is often a desirable trait for team captains or players in roles that require high communication, such as a goalkeeper in football or a setter in volleyball. However, it is a spectrum; being highly extraverted does not automatically make one a better athlete, but it does influence how an athlete interacts with their coach, the media, and their teammates.

Solution:

1. 'Extraversion' is characterized by excitability, sociability, talkativeness, assertiveness, and high amounts of emotional expressiveness.
2. People who score high in this area tend to get their energy from social interaction. They are often the "vocal" leaders on a sports team.
3. 'Agreeableness' (Option A) involves attributes such as trust, altruism, kindness, and affection. While a sociable person might be agreeable, the specific traits of being "talkative and assertive" are the hallmarks of extraversion.
4. 'Conscientiousness' (Option B) involves high levels of thoughtfulness, good impulse control, and goal-directed behaviors. It is about discipline, not sociability.
5. 'Openness' (Option D) features characteristics such as imagination and insight. These individuals tend to have a broad range of interests.
6. In a competitive setting, a high extraversion score suggests the athlete will thrive in the spotlight and enjoy the social dynamics of a large squad.
7. Therefore, the description of being sociable and assertive perfectly matches the Extraversion dimension.

Final Answer: A person who is sociable and assertive would score high on Extraversion.

Answer: (C)



Q17.

Solution**Concept:**

William Sheldon's 'Endomorph' somatotype is one of the three body types used to describe human physique. This classification is vital in sports medicine and talent identification. Endomorphs have a distinct physiological makeup that predisposes them to certain types of physical activities. While they are often stereotyped as being "unfit" in popular culture, in the world of professional sports, many elite athletes (such as heavy-weight wrestlers, shot-putters, and linemen in American football) have significant endomorphic characteristics that provide the mass and low center of gravity required for their specific roles.

Solution:

1. An 'Endomorph' is characterized by a high percentage of body fat, a round physique, and a large internal organ surface area. They typically have "pear-shaped" bodies with wide hips and narrower shoulders.
2. Physically, they often have shorter limbs, which can be an advantage in activities requiring stability and heavy lifting but may be a disadvantage in sports requiring high speed or aerobic endurance.
3. Option (A) describes 'Ectomorphs,' who are lean, fragile, and have a high surface-area-to-mass ratio.
4. Option (C) describes 'Mesomorphs,' who are muscular, rectangular, and have high bone density.
5. Endomorphs often find it easier to gain weight (both fat and muscle) but difficult to lose it. In a PE context, training for an endomorph focuses on cardiovascular health and metabolic conditioning.
6. The description of a "round and soft body shape" is the defining characteristic of this somatotype according to Sheldon's 7-point scale.
7. Understanding this body type helps physical educators set realistic and healthy fitness goals for students who are naturally built this way.

Final Answer: Sheldon's Endomorph is characterized by a round and soft body shape.

Answer: (B)



Q18.

Solution**Concept:**

Intrinsic Motivation is arguably the most powerful long-term driver of athletic success. According to the Self-Determination Theory, people have three basic psychological needs: autonomy, competence, and relatedness. Intrinsic motivation satisfies these needs because the athlete is playing for themselves, not for someone else. In the CUET syllabus, this is contrasted with extrinsic motivation to show that while rewards (money, fame) can get a person to start a sport, it is the internal joy and the "love for the game" that keeps them training during the difficult off-season or when they are injured.

Solution:

1. 'Intrinsic Motivation' occurs when the drive to perform an activity comes from within the individual because it is naturally satisfying or enjoyable.
2. For many athletes, the "flow state"—where they are completely immersed in the game and lose track of time—is the ultimate expression of intrinsic motivation.
3. 'External Motivation' (Option A) is driven by outside factors like pressure from parents, coaches, or the desire for medals.
4. 'Amotivation' (Option B) is the total lack of motivation or the absence of the intent to act.
5. 'Negative Motivation' (Option D) is a drive based on the fear of unpleasant consequences, such as a coach's punishment for losing.
6. If an athlete plays because of the "sheer joy," they are motivated by the activity itself, which is the textbook definition of intrinsic motivation.
7. Promoting intrinsic motivation in Physical Education leads to lifelong adherence to exercise and physical activity.

Final Answer: Motivation derived from the sheer joy of playing is Intrinsic Motivation.

Answer: (C)



Q19.

Solution**Concept:**

Hostile Aggression, also known as 'Reactive' or 'Impulsive' aggression, is a significant concern in sports ethics and management. Unlike instrumental aggression, which is a tool used to reach a goal, hostile aggression is an end in itself. It is usually a spontaneous reaction to a perceived provocation, frustration, or pain. In the sociology of sports, hostile aggression is linked to the "catharsis theory," which suggests that sports provide an outlet for pent-up anger, although modern research often shows that aggressive sports can actually increase hostile tendencies if not managed by strict officiating and sportsmanship.

Solution:

1. The primary goal of 'Hostile Aggression' is to inflict injury or physical/psychological harm on an opponent.
2. It is often accompanied by anger. A classic example would be a player punching an opponent in retaliation for a hard (but legal) tackle.
3. In this case, the player is not trying to win the ball or score a point; they are simply trying to hurt the other person.
4. Scoring a point (Option A) and winning a trophy (Option D) are goals associated with 'Instrumental Aggression' or general competitive play.
5. Defending a teammate (Option B) can sometimes lead to hostile aggression, but the act of defending itself is a tactical play.
6. Hostile aggression is almost always a violation of the rules and results in severe penalties, such as red cards or suspensions, as it goes against the "Fair Play" principle of physical education.
7. Therefore, the intent to harm is the distinguishing factor for Hostile Aggression.

Final Answer: Hostile Aggression is characterized by the primary goal of inflicting injury or harm.

Answer: (C)



Q20.

Solution**Concept:**

'Conscientiousness' is one of the five dimensions of the Big Five personality model and is often the best predictor of success in structured environments like school or professional sports training. It reflects how much an individual is organized, persistent, and motivated in goal-directed behavior. In Physical Education, a "conscientious" student is one who shows up for practice on time, follows the training plan to the letter, maintains their equipment properly, and takes their recovery and nutrition seriously. This trait is highly valued by coaches as it implies the athlete is reliable and requires less supervision.

Solution:

1. 'Conscientiousness' includes high levels of thoughtfulness, good impulse control, and goal-directed behaviors. Individuals high in this trait tend to be organized and mindful of details.
2. They plan ahead, think about how their behavior affects others, and are mindful of deadlines. In sports, this translates to a disciplined approach to training.
3. Trust and altruism (Option A) are facets of 'Agreeableness.'
4. Anxiety and moodiness (Option B) are facets of 'Neuroticism.'
5. Seeking new experiences (Option D) is the core of 'Openness to Experience.'
6. An athlete with high conscientiousness is likely to have a longer career because they are more likely to adhere to injury-prevention protocols and maintain a professional lifestyle.
7. Thus, being "organized and reliable" is the key behavioral indicator for this personality trait.

Final Answer: The Big Five trait 'Conscientiousness' involves being organized and reliable.

Answer: (C)



Q21.

Solution**Concept:**

Standardization of sports facilities is a key topic in the 'Basics of Games' section of the syllabus. For handball, the International Handball Federation (IHF) sets strict guidelines for court dimensions to ensure uniformity across global competitions. A handball court is a rectangular surface, and knowing these dimensions is crucial for physical educators when marking fields or officiating matches. The court is divided into two halves by a center line and includes a "D-zone" or goal area where only the goalkeeper is allowed. Understanding these measurements is also part of the "Spatial Awareness" and "Tactical Knowledge" required by students in Physical Education.

Solution:

1. The standard dimensions for an international handball court are 40 m in length and 20 m in width.
2. Option (A) 28 m × 15 m is the standard size for a Basketball court.
3. Option (C) 18 m × 9 m represents the dimensions of a Volleyball court.
4. Option (D) 100 m × 50 m is a generic large field measurement, often closer to the minimum requirements for a Football (Soccer) pitch.
5. In handball, the 40 × 20 area provides enough space for the 7 × 7 player format (6 outfield players and 1 goalkeeper per team).
6. Along with the outer dimensions, students must also be aware of the 6-meter goal area line and the 9-meter free-throw line, which are measured from the goal.
7. Accurate knowledge of these measurements is essential for passing the technical knowledge section of the CUET-UG exam.

Final Answer: The dimensions of a standard Handball court are 40 m × 20 m.

Answer: (B)



Q22.

Solution**Concept:**

Fundamental skills are the building blocks of any sport. In indigenous Indian games like Kabaddi, these skills are deeply rooted in agility, strength, and tactical presence of mind. 'Toe Touch' and 'Ankle Hold' are terms that describe specific offensive and defensive maneuvers. Mastery of these skills is what differentiates a novice player from an elite athlete. In Physical Education, we categorize these as 'Open Skills' because they are performed in a dynamic, unpredictable environment where the player must react to the movements of the opponent.

Solution:

1. 'Toe Touch' is an offensive skill used by the "Raider." The raider attempts to touch a defender with their foot while maintaining the "cant" (continuous chanting of 'Kabaddi'). It requires great flexibility and reach.
2. 'Ankle Hold' is a defensive skill used by the "Antis" (defenders). It involves grabbing the raider's ankle firmly when they attempt a toe touch or try to escape, effectively pinning them to the ground.
3. Hockey (Option A) involves skills like 'dribbling,' 'flicking,' and 'hitting.'
4. Football (Option B) uses 'passing,' 'heading,' and 'trapping.'
5. Cricket (Option D) focuses on 'batting,' 'bowling,' and 'fielding' techniques.
6. Kabaddi is unique because it requires high-intensity physical contact without any external equipment, relying entirely on body control and specific technical maneuvers like the ones mentioned.
7. Thus, these specific terms are the core technical vocabulary of Kabaddi.

Final Answer: 'Toe Touch' and 'Ankle Hold' are fundamental skills associated with Kabaddi.

Answer: (C)



Q23.

Solution**Concept:**

The 'Pitch' is the central strip of a cricket field where most of the action takes place. In international cricket, as governed by the ICC (International Cricket Council) and the Marylebone Cricket Club (MCC) Laws of Cricket, the length of the pitch is standardized. This measurement is taken between the two sets of wickets (stumps). Precise pitch length is critical because it dictates the "good length" for a bowler and the "crease" management for a batsman. Even a slight variation in pitch length can drastically change the dynamics of the game, affecting the bounce and the timing of the shots.

Solution:

1. The standard length of a cricket pitch is exactly 22 yards, which is approximately 20.12 meters.
2. This distance is measured from one bowling crease to the other, which corresponds to the placement of the stumps.
3. Option (A) 20 yards is often used for junior or modified versions of the game but is not the senior standard.
4. Options (C) and (D) are incorrect measurements that do not align with any official cricketing standards.
5. The width of the pitch is also standardized at 10 feet (3.05 meters).
6. Understanding these specific measurements is a high-frequency area in the CUET-UG 'Basics of Games' topic.
7. For the exam, it is important to remember the value in yards, as it is the traditional unit used in the official Laws of Cricket.

Final Answer: The length of a standard Cricket pitch between the wickets is 22 yards.

Answer: (B)



Q24.

Solution**Concept:**

Suryanamaskar, or 'Sun Salutation,' is a comprehensive yogic practice that combines 12 different physical postures (asanas) with controlled breathing (pranayama) and often mantras. It is considered a complete workout for the body, as it stretches, tones, and stimulates all the major muscle groups and internal organs. In the Yoga section of the PE syllabus, Suryanamaskar is studied for its sequence, physiological benefits, and its role in improving flexibility and cardiovascular endurance. One complete "round" consists of two sets: one starting with the right leg and one with the left, but the question asks for the number of stages (asanas) in one sequence.

Solution:

1. One full sequence of Suryanamaskar consists of 12 distinct steps or asanas.
2. These steps are: 1. Pranamasana, 2. Hastauttanasana, 3. Hastapadasana, 4. Ashwa Sanchalanasana, 5. Parvatasana, 6. Ashtanga Namaskara, 7. Bhujangasana, 8. Parvatasana, 9. Ashwa Sanchalanasana, 10. Hastapadasana, 11. Hastauttanasana, and 12. Pranamasana.
3. Notice that some postures (like Parvatasana and Ashwa Sanchalanasana) are repeated to transition the body back to the starting position.
4. Options (A), (B), and (D) are incorrect as they do not represent the traditional Hatha Yoga sequence of the Sun Salutation.
5. Practicing these 12 stages systematically helps in synchronizing the mind with the body through rhythmic movement.
6. Each stage is associated with a specific breathing pattern (inhalation or exhalation), which is a key technical detail in Yoga studies.
7. Therefore, 12 is the standard number of stages taught in both academic and traditional yoga settings.

Final Answer: There are 12 stages (asanas) in one complete round of Suryanamaskar.

Answer: (C)



Q25.

Solution**Concept:**

Asanas in Yoga are classified based on their primary physical objective: balancing, stretching, strengthening, or relaxing. Vrikshasana, commonly known as the 'Tree Pose,' is a premier balancing asana. In the context of Physical Education, balancing exercises like Vrikshasana are essential for developing 'Proprioception'—the body's ability to sense its position in space. This asana requires the practitioner to stand on one leg while the other is folded and placed on the inner thigh, with arms raised above the head. It is frequently tested in exams because it serves as a bridge between physical fitness (balance) and mental fitness (focus).

Solution:

1. 'Vrikshasana' is derived from the Sanskrit words 'Vriksha' meaning tree and 'Asana' meaning posture. The body in this pose mimics the steady, rooted nature of a tree.
2. The primary benefit of this pose is the improvement of physical balance and stability.
3. Mentally, it requires intense concentration to maintain the posture, which helps in calming the mind and improving focus.
4. Bhujangasana (Option A) is the 'Cobra Pose,' primarily focused on spine flexibility and respiratory health.
5. Vajrasana (Option C) is the 'Thunderbolt Pose,' a sitting posture excellent for digestion.
6. Chakrasana (Option D) is the 'Wheel Pose,' an advanced backward bend for extreme spine and chest flexibility.
7. Because the question specifically asks for balance, concentration, and the "shape of a tree," Vrikshasana is the correct answer.

Final Answer: Vrikshasana is highly beneficial for improving balance and concentration.

Answer: (B)



Q26.

Solution**Concept:**

In Hatha Yoga, the 'Shat-Kriyas' or 'Shat-Karmas' are six purification techniques designed to cleanse the internal organs and balance the three 'Doshas' (Vata, Pitta, Kapha). 'Neti' is one of these six essential practices. It is primarily concerned with the upper respiratory tract. In a Physical Education context, these techniques are studied because they help in improving the 'Vital Capacity' of the lungs and ensuring that the respiratory system is free from obstructions, which is vital for any athlete's performance. Neti is usually performed using a 'Neti Lota' (a small pot) with lukewarm saline water to irrigate the nasal passages.

Solution:

1. 'Neti' is the process of cleansing the nasal path. There are two main types: 'Jala Neti' (using water) and 'Sutra Neti' (using a cotton thread).
2. The primary objective is to remove mucus, pollutants, and allergens from the nasal cavity, which facilitates better breathing and oxygen intake.
3. Option (A) the stomach, is cleansed using 'Dhauti.'
4. Option (C) the eyes, are cleansed and strengthened using 'Trataka' (steady gazing).
5. Option (D) the lower intestine, is cleansed through 'Basti.'
6. By keeping the nasal passage clear, Neti helps in the effective practice of 'Pranayama' (breathing exercises), as it ensures that both nostrils are clear for airflow.
7. Therefore, Neti is strictly related to the purification of the nasal passage.

Final Answer: The Shat-Kriya 'Neti' is used for the purification of the nasal passage.

Answer: (B)



Q27.

Solution**Concept:**

Pranayama is the fourth limb of Ashtanga Yoga, focusing on the regulation of breath ('Prana'). Each type of Pranayama has a specific physiological effect on the nervous system. 'Bhramari Pranayama' is unique because it incorporates sound vibration. The word 'Bhramari' is derived from the Sanskrit word for the 'Black Indian Bee.' In sports psychology and physical education, Bhramari is often taught as a stress-reduction technique because the humming sound has a soothing effect on the brain, helping athletes manage pre-competition anxiety and improve mental focus.

Solution:

1. Bhramari Pranayama is performed by closing the ears with the thumbs and placing the fingers on the eyes, then exhaling while making a deep, steady humming sound like a bee.
2. This humming vibration resonates through the skull and has been scientifically shown to calm the 'Autonomic Nervous System.'
3. Option (A) 'Sheetali' is a cooling breath where the tongue is rolled into a tube.
4. Option (B) 'Ujjayi' is known as the 'Victorious Breath' or 'Ocean Breath,' characterized by a slight constriction in the throat.
5. Option (D) 'Bhastrika' is the 'Bellows Breath,' a powerful and rapid inhalation/exhalation used to generate internal heat.
6. Because the question specifically mentions the "Bee Breath" sound, it directly points to Bhramari.
7. This practice is highly effective for improving concentration, which is essential for precision sports like shooting or archery.

Final Answer: Bhramari Pranayama involves the 'Bee Breath' sound.

Answer: (C)



Q28.

Solution**Concept:**

'Dhauti' is another of the 'Shat-Kriyas' (six purification methods) in Yoga. While Neti focuses on the nasal path, Dhauti is more extensive and is designed to cleanse the digestive tract, particularly the esophagus and the stomach. There are various forms of Dhauti, such as 'Vaman Dhauti' (drinking saline water and vomiting it out) and 'Vastra Dhauti' (swallowing a long strip of cloth and pulling it out). These practices are intended to remove excess mucus (Kapha) and bile (Pitta) from the stomach, which is believed to improve digestion and prevent various systemic illnesses.

Solution:

1. The primary target organ for Dhauti is the stomach or the upper digestive tract.
2. By removing impurities from the stomach, it indirectly helps in the detoxification of the entire body and improves the efficiency of nutrient absorption.
3. Option (A) 'Lungs' are technically involved in breathing during these processes, but they are not the target of the cleansing.
4. Option (C) 'Colon' is the target of 'Basti.'
5. Option (D) 'Sinuses' are the target of 'Neti.'
6. In a modern physical education curriculum, these are studied under 'Yogic Hygiene,' emphasizing the importance of internal cleanliness for overall health status.
7. Thus, Dhauti is specifically designed to clean the upper digestive tract (stomach).

Final Answer: 'Dhauti' is a Kriya specifically designed to clean the upper digestive tract (stomach).

Answer: (B)



Q29.

Solution**Concept:**

Nutrients are essential chemical substances found in food that provide energy, structural materials, and regulating agents for the body. In the Physical Education syllabus, nutrients are divided into two main categories: Macro-nutrients and Micro-nutrients. 'Macro' means large, implying these are required by the body in large quantities (grams). They are the primary sources of energy and the building blocks of tissue. 'Micro' means small, implying these are required in trace amounts (milligrams or micrograms) but are still critical for metabolic processes and preventing deficiency diseases.

Solution:

1. Macro-nutrients include Carbohydrates, Proteins, Fats, and Water.
2. Carbohydrates are the body's preferred source of energy, especially during high-intensity athletic activities. They are broken down into glucose to fuel muscle contractions.
3. Option (A) 'Vitamin C' and Option (B) 'Iron' are Micro-nutrients. Vitamins are organic compounds, and Iron is a mineral; both are needed in very small amounts.
4. Option (D) 'Calcium' is a mineral (a Micro-nutrient), specifically a 'Macro-mineral,' but it is still categorized under Micro-nutrients when compared to the three main energy-providing macronutrients.
5. Understanding the difference between Macro and Micro nutrients is fundamental for "Nutrition and Care," as it helps students calculate caloric needs and design balanced diets for athletes.
6. Since Carbohydrate is one of the three primary energy-yielding nutrients required in large quantities, it is the correct answer.

Final Answer: Carbohydrate is considered a 'Macro-Nutrient.'

Answer: (C)



Q30.

Solution**Concept:**

Fractures are classified based on the nature of the break and the force involved. A 'Greenstick Fracture' is a unique type of injury that occurs primarily in pediatric populations. The name is an analogy to a "green" or "living" branch of a tree; when you try to break a green branch, it bends and cracks on one side but does not snap completely in half. This is because children's bones are more flexible and have a thicker 'periosteum' (the outer covering of the bone) compared to the more brittle, highly mineralized bones of adults.

Solution:

1. In a Greenstick Fracture, the bone undergoes an incomplete break. One side of the bone is broken, and the other side is merely bent.
2. This occurs because children have a higher ratio of collagen to mineral content in their bones, making them more resilient to complete snapping.
3. Option (A) Senior citizens typically suffer from 'Comminuted' or 'Stress' fractures due to osteoporosis, where the bone is brittle and breaks into multiple pieces.
4. Option (B) Professional athletes are more prone to 'Stress' or 'Transverse' fractures due to high-impact force.
5. Option (D) Adult women might be prone to fractures due to lower bone density post-menopause, but their bones will snap rather than bend like a greenstick.
6. Because the question specifies the "Greenstick" type, it is a high-frequency fact in PE exams that this is a child-specific injury.
7. Recognizing this injury is vital for first aid management in school sports.

Final Answer: A 'Greenstick Fracture' is most commonly observed in children.

Answer: (C)



Q31.

Solution**Concept:**

Postural deformities of the lower limbs significantly affect an individual's gait and athletic performance. 'Knock Knees,' medically known as 'Genu Valgum,' is a condition where the legs curve inward so that the knees touch each other while the feet stay apart. This condition can be caused by various factors, including malnutrition (specifically Vitamin D and Calcium deficiency), obesity, or injuries to the knee ligaments. In Physical Education, we study these deformities to understand how they impact movement efficiency and to prescribe corrective exercises, such as horse riding or using a pillow between the knees while sleeping.

Solution:

1. 'Knock Knees' (Genu Valgum) is characterized by the knees touching while the person is standing with their legs straight.
2. 'Bow Legs' (Option A), or Genu Varum, is the opposite condition where the knees stay wide apart even when the ankles are touching, creating an "O" shape.
3. 'Flat Foot' (Option C) involves the collapse of the longitudinal arch of the foot and does not directly describe the position of the knees.
4. 'Kyphosis' (Option D) is a spinal deformity (hunchback) and is unrelated to the legs.
5. Knock knees can put excessive strain on the outer side of the knee joint and can lead to difficulties in running and jumping.
6. Identifying this deformity early is crucial for corrective intervention in school-going children.
7. Since the question describes the knees touching in a standing position, Genu Valgum (Knock Knees) is the correct anatomical term.

Final Answer: The postural deformity where the knees touch each other is called Knock Knees.

Answer: (B)



Q32.

Solution**Concept:**

Minerals are inorganic elements required by the body to perform various functions necessary for life. Iron is one of the most critical micro-minerals (trace elements) because of its role in oxygen transport. In the context of "Nutrition and Care," understanding iron's role is vital for athletes, especially endurance runners and female athletes, who are at a higher risk of iron-deficiency anemia. A lack of iron directly impacts an athlete's aerobic capacity (VO₂ Max) because the blood cannot carry enough oxygen to the working muscles.

Solution:

1. Iron is a key component of 'Hemoglobin,' a protein in red blood cells that carries oxygen from the lungs to the rest of the body.
2. It is also a part of 'Myoglobin,' which provides oxygen to the muscles.
3. Phosphorus (Option A) is primarily involved in the formation of bones and teeth and the production of ATP (energy).
4. Iodine (Option B) is essential for the proper functioning of the thyroid gland.
5. Sodium (Option D) is an electrolyte crucial for fluid balance and nerve transmission.
6. Deficiency in iron leads to anemia, characterized by fatigue, weakness, and decreased physical performance.
7. Therefore, for the specific function of hemoglobin formation, Iron is the essential mineral.

Final Answer: Iron is the mineral essential for the formation of hemoglobin.

Answer: (C)



Q33.

Solution**Concept:**

Bone injuries or fractures are classified according to the direction and complexity of the break. An 'Oblique Fracture' is a common sports injury resulting from a combination of compression and twisting forces (torsion). Understanding the geometry of a fracture helps in determining the stability of the bone and the type of immobilization (cast or surgery) required. In Physical Education, students must distinguish between different types like Transverse, Oblique, Spiral, and Comminuted to understand the severity of sports-related trauma.

Solution:

1. An 'Oblique Fracture' occurs when the break is at an angle relative to the long axis of the bone. This "slanted" break is typically the result of an injury where the force is applied at an angle.
2. Perpendicular to the bone's long axis (Option B) describes a 'Transverse Fracture.'
3. Shattered into many pieces (Option C) describes a 'Comminuted Fracture,' which is common in high-velocity impacts.
4. Does not break the skin (Option D) describes a 'Simple' or 'Closed' fracture, regardless of the angle of the break.
5. Oblique fractures are often unstable and can easily become "displaced," where the bone ends move out of alignment.
6. For the CUET-UG exam, knowing the geometric orientation (slanted/diagonal) is the key to identifying this specific fracture.
7. Thus, the diagonal nature of the break defines it as oblique.

Final Answer: An Oblique Fracture is characterized by a break that is diagonal to the bone's long axis.

Answer: (A)



Q34.

Solution**Concept:**

Vitamins are organic compounds required for various biochemical functions. Vitamin D is unique because the body can synthesize it through exposure to sunlight. It is essential for the absorption of calcium and phosphorus from the intestines, which are the building blocks of bone tissue. In Physical Education, Vitamin D is emphasized due to its role in bone density and muscle function. Deficiency during childhood leads to skeletal deformities because the bones remain soft and cannot support the body's weight.

Solution:

1. 'Rickets' is a skeletal disorder caused by a lack of Vitamin D, calcium, or phosphate. It leads to softening and weakening of the bones in children.
2. Night Blindness (Option A) is caused by a deficiency of Vitamin A.
3. Scurvy (Option B) is caused by a deficiency of Vitamin C, affecting connective tissues and gums.
4. Beri-Beri (Option D) is caused by a deficiency of Vitamin B1 (Thiamine).
5. In adults, Vitamin D deficiency leads to 'Osteomalacia,' which is also a softening of the bones, though not as physically deforming as Rickets in growing children.
6. Postural deformities like Bow Legs and Knock Knees are often the visible results of childhood rickets.
7. Consequently, Vitamin D is the primary nutrient associated with the prevention of Rickets.

Final Answer: Vitamin D deficiency primarily leads to Rickets.

Answer: (C)



Q35.

Solution**Concept:**

India has a well-defined hierarchy of national sports awards to recognize excellence at various levels. The highest honor was renamed in 2021 from the Rajiv Gandhi Khel Ratna to the Major Dhyan Chand Khel Ratna Award. This award is given for the "most spectacular and outstanding performance in the field of sports over a period of four years." It is a high-frequency topic in the 'Awards and Career' section of the PE syllabus, and students must be aware of the criteria, the prize money (25 lakh), and the significance of the award in an athlete's career.

Solution:

1. The Major Dhyan Chand Khel Ratna is the pinnacle of sporting recognition in India. It considers performance over a sustained four-year period.
2. The Arjuna Award (Option A) is the second-highest award, given for consistent good performance over four years along with qualities of leadership and sportsmanship.
3. The Dronacharya Award (Option B) is given to outstanding coaches, not athletes.
4. The Maulana Abul Kalam Azad (MAKA) Trophy (Option D) is a rolling trophy given to the university that shows the best all-around performance in sports.
5. Named after the legendary hockey player Major Dhyan Chand, the Khel Ratna represents the highest level of athletic achievement.
6. Winners of this award are considered national icons and often receive significant support for further training.
7. Therefore, for "spectacular performance over four years," the Khel Ratna is the correct choice.

Final Answer: The highest sporting honor in India is the Major Dhyan Chand Khel Ratna Award.

Answer: (C)



Q36.

Solution**Concept:**

Behind every successful athlete is a coach who provides technical guidance, psychological support, and tactical strategies. Recognizing this vital role, the Government of India instituted the 'Dronacharya Award' in 1985. Named after Drona, the legendary teacher and master of archery from the Indian epic Mahabharata, this award is given to those who have produced medal winners at prestigious international sports events. In the Physical Education curriculum, this award highlights the importance of 'Sports Pedagogy'—the method and practice of teaching and coaching sports. It also signifies that coaching is a recognized professional career path with high-level national honors.

Solution:

1. The Dronacharya Award is specifically meant for 'Outstanding Coaches' in sports and games.
2. It is awarded for producing athletes who excel in international competitions like the Olympics, Asian Games, and Commonwealth Games.
3. Junior Athletes (Option A) are eligible for different categories of awards, but the Dronacharya is strictly for their mentors.
4. Sports Administrators (Option C) and Retired Veterans (Option D) are generally recognized through other honors like the 'Rashtriya Khel Protsahan Puruskar' or the 'Dhyan Chand Award for Life-time Achievement.'
5. The award consists of a bronze statue of Dronacharya, a certificate, ceremonial dress, and a cash prize (currently 15 lakh for the Lifetime category and 10 lakh for the Regular category).
6. This award emphasizes that a coach's contribution is fundamental to the 'Long Term Athlete Development' (LTAD) model.
7. Therefore, the award is the premier recognition for coaching excellence in India.

Final Answer: The Dronacharya Award is presented to Outstanding Coaches.

Answer: (B)



Q37.

Solution**Concept:**

Physical Education is a professional academic discipline that requires specific pedagogy and practical training. To maintain high standards of teaching in schools, various professional degrees have been established. In India, these courses are regulated by the National Council for Teacher Education (NCTE). For a career in school teaching, a student must progress from foundational physical literacy to advanced pedagogical methods. Understanding the hierarchy of these degrees (B.P.E., B.P.Ed., M.P.Ed.) is essential for any CUET-UG aspirant looking to enter this career field.

Solution:

1. 'B.P.Ed.' stands for Bachelor of Physical Education. This is the standard professional degree required to become a Physical Education Teacher (PET) in middle and secondary schools.
2. It is typically a two-year teacher training program that focuses on both the theoretical aspects of sports science and the practical application of coaching and teaching methods.
3. M.B.B.S. (Option A) is a medical degree, B.Com. (Option C) is for commerce, and B.Tech. (Option D) is for engineering; none of these qualify an individual for specialized physical education teaching.
4. While a 'B.P.E.' (3-year degree) is a foundational course, the 'B.P.Ed.' is the recognized teacher-training qualification for employment in the secondary education sector.
5. For senior secondary schools (Classes XI and XII), an 'M.P.Ed.' (Master of Physical Education) is often the minimum requirement.
6. The curriculum for B.P.Ed. includes anatomy, physiology, biomechanics, sports psychology, and health education.
7. Thus, for a teaching career in secondary schools, B.P.Ed. is the mandatory professional degree.

Final Answer: The degree generally required is B.P.Ed. (Bachelor of Physical Education).

Answer: (B)



Q38.

Solution**Concept:**

The Arjuna Award, officially known as the 'Arjuna Award for Outstanding Performance in Sports and Games,' is the oldest national sports award in India. It predates the Khel Ratna and the Dronacharya awards. Instituted to recognize consistent high performance, the award is given to sportspersons who have not only achieved great results but have also displayed "good spirit and a sense of discipline" over a period of four years. Historical timelines of sports awards are a high-yield area in competitive exams as they reflect the growth of sports administration in post-independence India.

Solution:

1. The Arjuna Award was instituted in 1961. This was the first major step by the Indian government to institutionalize sports honors at the national level.
2. 1951 (Option A) was the year of the first Asian Games in Delhi, but the national awards were not yet established.
3. 1991 (Option C) was the year the Khel Ratna award was instituted (specifically 1991-92).
4. 2001 (Option D) is irrelevant to the inception of the Arjuna award.
5. The award is named after Arjuna, the protagonist of the Mahabharata, known for his peerless focus and skill in archery.
6. Recipients receive a statuette of Arjuna, a scroll, and a cash prize of 15 lakh.
7. Remembering 1961 as the "Birth Year" of India's formal sports recognition is a key fact for the CUET exam.

Final Answer: The Arjuna Award was instituted in 1961.

Answer: (B)



Q39.

Solution**Concept:**

Muscle contractions are classified into three types based on the change in muscle length and the presence of movement: Isometric, Isotonic, and Isokinetic. 'Isometric' contraction (from the Greek 'isos' meaning equal and 'metron' meaning measure) is a type of strength training where the joint angle and muscle length do not change during contraction. These exercises are particularly useful in rehabilitation settings or for developing "static strength" needed in sports like gymnastics (holding a handstand) or judo (clinching an opponent).

Solution:

1. In an 'Isometric' exercise, the muscle develops tension, but there is no visible movement at the joint.
2. Pushing against a stationary wall is the classic textbook example of an isometric exercise; the muscles are working hard, but neither the wall nor the person moves.
3. Isotonic (Option A) involves contractions where the muscle changes length (shortening in concentric or lengthening in eccentric) while moving a constant weight.
4. Isokinetic (Option B) requires specialized machines to keep the speed of movement constant throughout the entire range of motion.
5. Ballistic (Option D) involves explosive, swinging movements, often used in stretching.
6. Isometric exercises are highly effective for building strength at a specific joint angle, though they do not improve speed or cardiovascular endurance as effectively as dynamic exercises.
7. Because the question specifies that the length remains "constant," the answer is Isometric.

Final Answer: Exercise where the muscle length remains constant is called Isometric.

Answer: (C)



Q40.

Solution**Concept:**

Fartlek Training is a method developed by Swedish coach Gösta Holmér in the 1930s. The word 'Fartlek' literally translates to 'Speed Play' in Swedish. This method is distinct from other endurance training because it is unstructured and blends continuous training with interval training. It involves varying the pace throughout the run, alternating between high-intensity sprints and low-intensity recovery jogs based on how the athlete feels or the terrain of the trail. In Physical Education, it is studied for its ability to develop both the aerobic and anaerobic energy systems.

Solution:

1. The primary component of fitness developed by Fartlek training is 'Cardiovascular Endurance.'
2. Because it involves continuous running for a long duration (usually 45 minutes or more), it significantly improves the heart and lungs' ability to supply oxygen to the muscles.
3. Explosive Power (Option A) is developed through plyometrics or heavy weightlifting.
4. Speed (Option B) is developed through short-distance sprints with full recovery.
5. Flexibility (Option D) is improved through various stretching techniques (Static, Dynamic, PNF).
6. Fartlek is versatile because it can be done anywhere (hills, woods, or tracks) and prevents the psychological boredom associated with steady-state continuous running.
7. It is particularly beneficial for team sports like football or hockey, where the pace of the game is constantly changing.

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

Answer: (C)



Q41.

Solution**Concept:**

Fartlek training is one of the most versatile methods used by endurance athletes worldwide. The term is derived from the Swedish words 'fart' (speed) and 'lek' (play). Unlike interval training, which is characterized by rigid, timed work and rest periods, Fartlek is spontaneous. The athlete chooses when to speed up and when to slow down, often using environmental markers like "I will sprint to that red tree and then jog to the next lamp post." This method is excellent for psychological variety and simulates the unpredictable nature of field sports like football, where players must transition between sprinting and jogging constantly.

Solution:

1. 'Speed Play' is the direct literal translation of the Swedish word 'Fartlek.'
2. It represents a system of training where the runner varies their pace according to their own feelings and the terrain.
3. Interval Training (Option A) is a structured method with set rest/work ratios (e.g., 400 m sprint followed by 90 seconds rest).
4. Circuit Training (Option C) involves performing a series of different exercises in a sequence at different "stations."
5. Continuous Training (Option D) involves maintaining a steady, moderate pace for a long duration without any rest or variation in speed.
6. Because Fartlek specifically involves playing with speed without stopping, it is the only method correctly identified as "Speed Play."
7. This training is highly effective for improving both aerobic capacity and anaerobic threshold, making the athlete "match fit."

Final Answer: 'Speed Play' is another name for Fartlek Training.

Answer: (B)



Q42.

Solution**Concept:**

Flexibility is the range of motion (ROM) available at a joint. One of the most advanced and effective methods for increasing this range is Proprioceptive Neuromuscular Facilitation (PNF). Originally developed for rehabilitation of patients with paralysis, it has since become a staple in elite sports training. PNF involves both the stretching and the contraction of the muscle group being targeted. This technique utilizes the 'Autogenic Inhibition' reflex, where the muscle is forced to relax after a strong isometric contraction, allowing for a deeper stretch.

Solution:

1. PNF stretching is a specialized technique used to improve 'Flexibility.'
2. It usually involves a partner and follows a "Contract-Relax" pattern. The athlete is stretched to their limit, then performs an isometric contraction against the partner, and is then stretched even further.
3. Cardiovascular strength (Option A) is improved through aerobic training like running or swimming.
4. Muscle mass (Option B) is primarily developed through hypertrophy-focused resistance training (weightlifting).
5. Bone density (Option D) is improved through weight-bearing exercises and proper nutrition (Calcium/Vitamin D).
6. While PNF involves muscle contraction, its primary physiological outcome is the elongation of connective tissue and increased ROM.
7. Therefore, it is categorized as a high-level flexibility training method in Physical Education.

Final Answer: PNF is a technique used to improve Flexibility.

Answer: (C)



Q43.

Solution**Concept:**

Balance is a "motor-related" fitness component that is essential for both daily life and high-performance athletics. There are two types: 'Static Balance' (maintaining equilibrium while stationary) and 'Dynamic Balance' (maintaining equilibrium during movement). The Flamingo Balance Test is a gold-standard assessment tool used in many international fitness batteries, such as Eurofit. It is frequently mentioned in the CUET-UG syllabus under 'Measurement and Evaluation' because it provides a reliable metric for an individual's neuromuscular control and core stability.

Solution:

1. The Flamingo Balance Test measures 'Static Balance.'
2. In this test, the participant stands on one leg (on a metal beam or flat ground) and bends the other leg at the knee, holding the foot with the hand on the same side, looking like a flamingo.
3. The score is based on how many times the person loses their balance or touches the ground in a one-minute period.
4. Leg Power (Option C) is usually measured using tests like the 'Standing Broad Jump' or 'Vertical Jump.'
5. Agility (Option D) is measured using shuttle runs or the 'Illinois Agility Test.'
6. Speed (Option B) is measured via timed sprints (e.g., 50 m dash).
7. Since the test requires the subject to remain perfectly still on a narrow base of support, it is a definitive test of static balance.

Final Answer: The 'Flamingo Balance Test' is designed to measure Static Balance.

Answer: (A)



Q44.

Solution**Concept:**

As individuals age, their physiological needs change, and standard fitness tests (designed for youth or athletes) become inappropriate or dangerous. Roberta Rikli and Jessie Jones developed the 'Senior Fitness Test' (SFT) battery to specifically assess the functional fitness of older adults. Functional fitness refers to having the physical capacity to perform normal everyday activities (like carrying groceries or climbing stairs) safely and independently without undue fatigue. This topic is a high-frequency area in the CUET syllabus because it addresses the "inclusive" nature of physical education across the lifespan.

Solution:

1. The Rikli and Jones Fitness Test battery is specifically designed for 'Senior Citizens' (usually age 60+).
2. The test battery includes simple but effective items like: the 'Chair Stand Test' (lower body strength), 'Arm Curl Test' (upper body strength), 'Chair Sit and Reach' (lower body flexibility), and the '6-Minute Walk Test' (aerobic endurance).
3. These tests are preferred for the elderly because they use minimal equipment and simulate daily functional tasks.
4. Toddlers (Option A) and adolescent athletes (Option B) have different developmental needs and utilize tests like the 'Gros-Motor Development Test' or 'AAHPERD' batteries.
5. Pregnant women (Option D) require medical clearance and specialized low-impact activity guidelines rather than a standardized fitness battery like SFT.
6. Understanding SFT is crucial for students pursuing careers in geriatric fitness or health administration.

Final Answer: The Rikli and Jones Fitness Test battery is designed for Senior Citizens.

Answer: (C)

Answer: (C)



Q45.

Solution**Concept:**

Agility is defined as the ability to change the direction of the body rapidly and accurately while moving. In many sports, such as basketball, kabaddi, or hockey, agility is more important than raw linear speed. The 4×10 m Shuttle Run is a classic assessment used to measure this component. It requires the participant to sprint back and forth between two lines, picking up or placing wooden blocks (or simply touching the line). This test evaluates the athlete's ability to accelerate, decelerate, turn, and re-accelerate—the four pillars of agility.

Solution:

1. The 4×10 m Shuttle Run is a specialized test for 'Agility.'
2. The distance is short (10 meters), which means the athlete cannot reach their maximum top speed; instead, the time is determined by how efficiently they can turn at the lines.
3. Aerobic Capacity (Option A) is measured by long-duration tests like the 'Cooper 12-Minute Run' or 'Beep Test.'
4. Strength (Option C) is measured by the amount of force a muscle can exert, typically via a '1-Rep Max' or dynamometers.
5. Reaction Time (Option D) is measured by how quickly a person responds to a stimulus (like a starting gun), whereas the shuttle run measures the physical movement after the start.
6. In Physical Education, the shuttle run is used to identify athletes who have superior "footwork" and body control.
7. Therefore, it is the primary tool for assessing agility in a school or athletic setting.

Final Answer: The 4×10 m Shuttle Run is a test for Agility.

Answer: (B)



Q46.

Solution**Concept:**

A lever is a rigid bar that rotates around a fixed point called a 'Fulcrum.' In biomechanics, the human body uses bones as levers, joints as fulcrums, and muscles to provide the 'Effort' or 'Force.' Levers are classified into three classes based on the relative positions of the Fulcrum (F), the Load (L) or Resistance, and the Effort (E). Understanding levers is essential for athletes to optimize their technique; for example, changing the position of the hands on a bat or racket changes the lever's mechanical advantage. The mnemonic 'FLE 123' is often used to remember which component is in the middle for each class.

Solution:

1. In a 'First-Class Lever,' the Fulcrum (F) is located between the Effort (E) and the Load (L).
2. A classic non-body example is a see-saw or a pair of scissors.
3. In the human body, an example of a first-class lever is the neck, where the skull (Load) is balanced on the atlas vertebra (Fulcrum), and the neck muscles provide the Effort.
4. Load (Option A) is in the middle for a 'Second-Class Lever' (like a wheelbarrow or standing on tiptoes).
5. Effort (Option B) is in the middle for a 'Third-Class Lever' (like a biceps curl).
6. Resistance (Option D) is simply another name for the 'Load.'
7. Since the question specifically asks about the First-Class Lever, the Fulcrum is the central component.

Final Answer: In a First-Class Lever, the Fulcrum is located in the middle.

Answer: (C)



Q47.

Solution**Concept:**

Sir Isaac Newton's Laws of Motion form the basis of Biomechanics in sports. These laws describe the relationship between a body and the forces acting upon it, and its motion in response to those forces. Newton's Second Law is quantitative; it provides the mathematical formula $F = m \times a$ (Force equals mass times acceleration). This law explains why a shot-putter needs more force to throw a heavy metal ball at the same speed as a lighter cricket ball. In Physical Education, we use this law to explain how increasing muscular force or decreasing equipment mass can lead to higher performance.

Solution:

1. Newton's Second Law is formally known as the 'Law of Acceleration.'
2. It states that the acceleration of an object is directly proportional to the force applied and inversely proportional to its mass.
3. Law of Inertia (Option A) is Newton's First Law, which states that an object will remain at rest or in uniform motion unless acted upon by an external force.
4. Law of Action and Reaction (Option C) is Newton's Third Law, which explains why we push back against the starting blocks to move forward in a race.
5. Law of Gravity (Option D) is a separate universal law described by Newton but is not one of the three "Laws of Motion."
6. The Law of Acceleration is vital for understanding "Impulse" and "Momentum" in sports like sprinting and throwing.
7. Therefore, the Second Law and the Law of Acceleration are synonymous in the PE curriculum.

Final Answer: Newton's Second Law of Motion is also known as the Law of Acceleration.

Answer: (B)



Q48.

Solution**Concept:**

When an individual engages in regular resistance or strength training, their muscles undergo physiological adaptations. The most visible adaptation is 'Hypertrophy.' This process involves an increase in the size of the skeletal muscle fibers (specifically the myofibrils). It is important to note that regular training typically does not increase the *number* of muscle fibers (hyperplasia) in humans, but rather increases the thickness of existing fibers. In Physical Education, we study hypertrophy to understand how different rep/set schemes (e.g., bodybuilding vs. powerlifting) lead to different structural changes in the muscle.

Solution:

1. 'Muscle Hypertrophy' refers to the increase in the cross-sectional area of muscle fibers.
2. This leads to an overall increase in the size and volume of the muscle, which is usually accompanied by an increase in contractile force (strength).
3. Decrease in muscle size (Option A) is called 'Atrophy,' which occurs due to inactivity, injury, or aging.
4. Weakening of tendons (Option C) is a negative outcome; correct training actually strengthens tendons to handle the increased pull from larger muscles.
5. Increase in fat percentage (Option D) is the opposite of the goal of most athletic training; hypertrophy usually leads to an increase in lean body mass.
6. Hypertrophy is driven by mechanical tension, metabolic stress, and muscle damage during exercise.
7. Thus, the term signifies the growth and strengthening of muscle tissue.

Final Answer: Hypertrophy refers to the increase in muscle size and strength.

Answer: (B)



Q49.

Solution**Concept:**

Cardiovascular physiology is a major topic in 'Physiology and Biomechanics.' To meet the increased demand for oxygen during exercise, the heart must pump more blood. The amount of blood pumped by the heart in a single beat is called 'Stroke Volume' (SV). The total amount of blood pumped per minute is 'Cardiac Output' (Q), which is the product of Stroke Volume and Heart Rate ($Q = SV \times HR$). Understanding how stroke volume changes is essential for identifying the "Athlete's Heart," which is a healthy, enlarged heart capable of pumping significantly more blood than a sedentary heart.

Solution:

1. During exercise, the 'Stroke Volume' increases. This happens because the heart contracts more forcefully (increased contractility) and more blood returns to the heart (increased venous return).
2. In a sedentary person, SV might increase from 70 ml at rest to 110 ml during exercise. In an elite athlete, it can increase even more significantly.
3. Option (A) Decreases is incorrect; if SV decreased while the body needed more oxygen, the person would likely collapse.
4. Option (C) Remains the same is incorrect because the heart must adapt to the higher metabolic load.
5. Option (D) Becomes zero is physiologically impossible for a living subject.
6. Regular aerobic training increases the resting stroke volume, which is why athletes often have a very low resting heart rate (bradycardia).
7. Therefore, the physiological response to exercise is a marked increase in the volume of blood ejected per beat.

Final Answer: The 'Stroke Volume' of the heart during exercise generally increases.

Answer: (B)



Q50.

Solution**Concept:**

The human body is essentially a system of levers designed for movement. As discussed in Question 46, levers are classified by the position of the effort, fulcrum, and load. In a 'Third-Class Lever,' the Effort (E) is applied between the Fulcrum (F) and the Load (L). While this class of lever provides a mechanical disadvantage (you have to apply more force than the weight of the load), it provides a significant advantage in terms of 'Speed and Range of Motion.' This is why it is the most common lever in the human musculoskeletal system, allowing our limbs to move through large distances at high speeds.

Solution:

1. In a 'Third-Class Lever,' the force (muscle contraction) is applied between the joint (fulcrum) and the weight being moved (load).
2. A classic example is the 'Biceps Curl.' The elbow joint is the Fulcrum, the biceps muscle attaches to the bone just below the elbow (Effort), and the weight in the hand is the Load.
3. First-Class Levers (Option A) are rare in the body, found mainly in the neck.
4. Second-Class Levers (Option B) are found in the calf/ankle during a heel raise (plantar flexion).
5. There is no 'Fourth-Class Lever' (Option D) in standard biomechanical classification.
6. The third-class lever allows the human body to be built for agility and speed rather than raw mechanical leverage.
7. Because the effort (biceps insertion) is between the fulcrum (elbow) and the load (hand), it is a third-class lever.

Final Answer: The Biceps curl is an example of a Third-Class Lever.

Answer: (C)



Answer Key

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

