

CUET-UG Physical Education Sample Paper-2

Duration: 1 Hour

Maximum Marks: 250

Instructions

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

Q1. Which of the following describes the 'Big Five' personality trait of 'Neuroticism' in an athletic context?

- (A) The tendency to be organized, dependable, and disciplined during training.
- (B) The degree of emotional instability and the tendency to experience negative emotions under competition pressure.
- (C) The level of outgoingness and energy a player brings to team interactions.
- (D) The willingness to try new training methods and unconventional strategies.

Q2. Arrange the following training methods in the increasing order of their typical intensity and impact on the cardiovascular system: (A) Continuous Training (B) Fartlek Training (C) Interval Training (D) Circuit Training

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

Q3. In the context of the National Rural Health Mission (NRHM), the ASHAs (Accredited Social Health Activists) primarily serve as a link between the community and the public health system. [True / False]

- (A) True
- (B) False



Q4. Match List-I (Vitamin) with List-II (Scientific Name):

List-I	List-II
(A) Vitamin B_1	(I) Calciferol
(B) Vitamin C	(II) Retinol
(C) Vitamin D	(III) Thiamine
(D) Vitamin A	(IV) Ascorbic Acid

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

Q5. A third-class lever, common in human biomechanics, provides a mechanical advantage for force rather than speed or range of motion. [True / False]

- (A) True
(B) False

Q6. According to the 'Rikli and Jones Senior Citizen Fitness Test', which specific test is used to assess 'Aerobic Endurance'?

- (A) 8-Foot Up and Go Test
(B) 2-Minute Step Test
(C) Chair Stand Test
(D) Arm Curl Test

Q7. Identify the postural deformity characterized by an abnormal lateral (sideways) curvature of the spine:

- (A) Kyphosis
(B) Lordosis
(C) Scoliosis
(D) Knock Knees



- Q8.** Arrange the following awards in descending order of their financial grant/value as of the latest government revisions: (A) Major Dhyan Chand Khel Ratna Award (B) Arjuna Award (C) Dronacharya Award (Regular) (D) Dhyan Chand Award for Lifetime Achievement
- (A) (A), (B), (C), (D)
(B) (A), (C), (B), (D)
(C) (B), (A), (D), (C)
(D) (D), (C), (B), (A)
- Q9.** The process of 'Internal Purification' in Yoga through the six techniques (Shatkarmas) is collectively known as:
- (A) Pranayama
(B) Pratyahara
(C) Kriya
(D) Dharana
- Q10.** In a single knock-out tournament of 19 teams, how many total 'Byes' must be granted in the first round?
- (A) 13
(B) 5
(C) 11
(D) 3
- Q11.** Which branch of biomechanics deals specifically with the 'study of forces' that cause or change the motion of an athlete?
- (A) Kinematics
(B) Kinetics
(C) Statics
(D) Anatomy



- Q12.** The 'Sitali' Pranayama is unique because the breath is inhaled through:
- (A) The left nostril only
 - (B) Both nostrils simultaneously
 - (C) A curled tongue
 - (D) The throat (constricted glottis)
- Q13.** Which Newton's Law of Motion best explains why a heavy shot-put requires more force to accelerate than a lighter cricket ball?
- (A) First Law (Law of Inertia)
 - (B) Second Law (Law of Acceleration)
 - (C) Third Law (Law of Action and Reaction)
 - (D) Fourth Law (Law of Gravitation)
- Q14.** A 'Greenstick Fracture' is most commonly observed in:
- (A) Professional athletes
 - (B) Senior citizens
 - (C) Children
 - (D) Women with osteoporosis
- Q15.** The primary nutritional objective of the 'Mid-Day Meal' scheme is to provide children with at least how many calories per school day (for upper primary)?
- (A) 300 calories
 - (B) 450 calories
 - (C) 700 calories
 - (D) 1000 calories
- Q16.** Which of the following training methods is specifically characterized by "speed play," where the athlete varies the pace based on the terrain and their own internal feeling without a rigid structure?



- (A) Interval Training
- (B) Isometric Training
- (C) Fartlek Training
- (D) Isokinetic Training

Q17. A person with a 'Mesomorph' body type according to Sheldon's classification is most likely to excel in which type of sporting activity?

- (A) Long-distance marathon running
- (B) Explosive strength and power events like sprinting or weightlifting
- (C) Chess and mental strategy games
- (D) Yoga and high-flexibility gymnastics

Q18. The 'Flamingo Balance Test' is a standardized tool used to measure which specific component of physical fitness?

- (A) Static Balance
- (B) Dynamic Balance
- (C) Muscular Endurance
- (D) Cardiovascular Speed

Q19. Identify the yoga asana shown in the image below, which is highly effective for improving spinal flexibility and alleviating back pain:



- (A) Shalabhasana
- (B) Bhujangasana



- (C) Dhanurasana
- (D) Vakrasana

Q20. Look at the image of the human skeletal alignment. Identify the postural deformity indicated by the inward curvature of the lower back (lumbar region):



- (A) Kyphosis
- (B) Scoliosis
- (C) Lordosis
- (D) Bow Legs

Q21. Match List-I (Sports Injury) with List-II (Type/Definition):

List-I	List-II
(A) Abrasion	(I) Injury to a ligament
(B) Sprain	(II) Injury to a muscle or tendon
(C) Strain	(III) Scraping of the skin surface
(D) Contusion	(IV) A bruise caused by a direct blow

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



- Q22.** What is the standard length of the straight track in a standard 400m outdoor athletics stadium?
- (A) 80 m
 - (B) 84.39 m
 - (C) 90 m
 - (D) 100 m
- Q23.** In the context of First Aid for sports injuries, what does the 'E' stand for in the acronym 'P.R.I.C.E.'?
- (A) Exercise
 - (B) Elevation
 - (C) Energy
 - (D) Evaluation
- Q24.** Which of the following is a 'Macro Nutrient' essential for the repair and growth of body tissues?
- (A) Vitamin K
 - (B) Iron
 - (C) Protein
 - (D) Iodine
- Q25.** The Dronacharya Award is presented to coaches who produce medal-winning athletes at which level of competition?
- (A) Inter-school level
 - (B) District level
 - (C) International level
 - (D) Intra-college level
- Q26.** Which type of 'Kriya' in Yoga involves the cleansing of the nasal passage using a saline solution and a specially designed pot?



- (A) Dhauti
- (B) Basti
- (C) Jala Neti
- (D) Nauli

Q27. A 'Stress Fracture' is primarily caused by:

- (A) A single violent impact
- (B) Repeated micro-trauma or overuse
- (C) Lack of calcium in childhood
- (D) Bacterial infection in the marrow

Q28. The 'Shuttle Run' test is commonly used to measure an athlete's:

- (A) Explosive leg power
- (B) Agility and speed
- (C) Maximal oxygen uptake
- (D) Flexibility

Q29. Newton's Third Law of Motion (Action and Reaction) is most clearly demonstrated in which sporting action?

- (A) A swimmer pushing back against the water to move forward
- (B) A golfer choosing a heavier club
- (C) A marathon runner maintaining a steady pace
- (D) A coach observing a player's posture

Q30. The 'Sit and Reach' test is a standard measurement for the flexibility of which specific muscle group?

- (A) Pectorals and Biceps
- (B) Hamstrings and Lower Back
- (C) Quadriceps and Calves



(D) Abdominals and Obliques

Q31. Which personality type, according to Jung's classification, describes an individual who is socially isolated, shy, and reflective, preferring to work alone rather than in a sports team?

(A) Extrovert

(B) Ambivert

(C) Introvert

(D) Mesomorph

Q32. The physiological effect of regular exercise on the heart results in an increased 'Stroke Volume'. This means:

(A) The heart beats faster per minute at rest.

(B) The amount of blood pumped by the heart per beat increases.

(C) The blood pressure increases significantly during sleep.

(D) The size of the lungs increases to hold more carbon dioxide.

Q33. In the context of the National Health Policy, the 'Adolescence Education Programme' primarily aims to empower young people with knowledge regarding:

(A) International trade laws

(B) Life skills and reproductive health

(C) Professional cricket coaching

(D) Stock market investments

Q34. Which of the following is a non-communicable disease often linked to a sedentary lifestyle and poor nutrition?

(A) Tuberculosis

(B) Malaria

(C) Type 2 Diabetes

(D) Cholera



- Q35.** The 'Double Action' of a lever is most efficient when the fulcrum is located:
- (A) At one extreme end
 - (B) Exactly in the center between force and weight
 - (C) Closest to the effort
 - (D) Levers do not have a fulcrum
- Q36.** What is the primary function of 'Vitamin K' in the human body?
- (A) Improving night vision
 - (B) Strengthening bones and teeth
 - (C) Facilitating blood clotting
 - (D) Boosting Vitamin C absorption
- Q37.** Which of the following careers in Physical Education is primarily focused on the 'Rehabilitative' aspect of sports?
- (A) Sports Journalist
 - (B) Physiotherapist
 - (C) Sports Commentator
 - (D) Athletic Director
- Q38.** The 'PNF' stretching technique (Proprioceptive Neuromuscular Facilitation) is considered the most effective method for increasing:
- (A) Muscular Strength
 - (B) Flexibility
 - (C) Cardiovascular Endurance
 - (D) Speed
- Q39.** In a standard Handball match, what is the total duration of the game for adult male players?
- (A) 40 minutes (two halves of 20 mins)



- (B) 60 minutes (two halves of 30 mins)
- (C) 90 minutes (two halves of 45 mins)
- (D) 30 minutes (two halves of 15 mins)

Q40. The 'Rockport One-Mile Walk Test' is specifically designed to estimate an individual's:

- (A) VO_2 Max (Aerobic Capacity)
- (B) Maximum Bench Press
- (C) Vertical Jump Height
- (D) Body Mass Index (BMI)

Q41. Read the following passage and answer the questions (41–45):

Yoga is an ancient Indian practice that harmonizes the mind, body, and spirit. In modern competitive sports, Yoga has been integrated to enhance the psychological resilience of athletes. Techniques like 'Yog Nidra' are used for deep relaxation and stress management, while 'Pranayama' helps in controlling the breath to improve focus. Asanas such as 'Vrikshasana' are excellent for improving balance and concentration, which are vital for archers and shooters. Furthermore, the practice of 'Bandhas' and 'Mudras' helps in channeling internal energy, ensuring that an athlete remains calm under high-pressure scenarios.

Q42. According to the passage, which technique is specifically mentioned for deep relaxation and stress management?

- (A) Suryanamaskar
- (B) Yog Nidra
- (C) Shatkarma
- (D) Nauli

Q43. For which type of athletes is 'Vrikshasana' considered particularly beneficial due to its focus on balance?

- (A) Marathon runners



- (B) Archers and Shooters
- (C) Swimmers
- (D) Weightlifters

Q44. What is the primary purpose of 'Pranayama' as mentioned in the text?

- (A) To increase muscle mass
- (B) To control the breath and improve focus
- (C) To cleanse the digestive tract
- (D) To provide financial stability

Q45. The term 'Bandhas' and 'Mudras' are associated with:

- (A) Field measurements
- (B) Channeling internal energy
- (C) Designing sports equipment
- (D) National Sports Policy

Q46. What is the overall goal of integrating Yoga into modern sports according to the passage?

- (A) To replace physical training
- (B) To enhance psychological resilience
- (C) To increase the duration of matches
- (D) To eliminate the need for a coach

Q47. Read the following passage and answer the questions (46–50):

Biomechanics in sports involves the study of the skeletal and muscular systems under the laws of physics. One of the most critical aspects is the application of Newton's Laws. The First Law, or the Law of Inertia, explains that an object will remain at rest unless acted upon by an external force—essential for understanding the start of a sprint. The Second Law, the Law of Acceleration, relates force to mass and acceleration ($F = ma$). Finally, the Third Law, Action and Reaction,



explains how a sprinter generates forward drive by pushing backward against the starting blocks. Understanding 'Levers' is also vital; for instance, the human arm acting during a throwing motion functions as a lever system to maximize speed.

- Q48.** Which law of Newton explains the 'start of a sprint' as described in the passage?
- (A) Law of Acceleration
 - (B) Law of Inertia
 - (C) Law of Reaction
 - (D) Law of Gravity
- Q49.** According to the passage, how does a sprinter generate 'forward drive'?
- (A) By jumping upwards
 - (B) By pushing backward against the blocks
 - (C) By holding their breath
 - (D) By closing their eyes
- Q50.** The mathematical formula $F = ma$ represents which of Newton's laws?
- (A) First Law
 - (B) Second Law
 - (C) Third Law
 - (D) Fourth Law
- Q51.** What is the specific application of 'Levers' mentioned in the text?
- (A) Measuring the weight of the athlete
 - (B) Maximizing speed during a throwing motion
 - (C) Reducing the length of the track
 - (D) Calculating the air resistance
- Q52.** Biomechanics is defined in the passage as the study of:



- (A) History of sports
- (B) Skeletal and muscular systems under the laws of physics
- (C) Sports journalism
- (D) Management of sports clubs



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

The 'Big Five' or OCEAN model is a psychological framework used to categorize personality traits. Neuroticism specifically refers to emotional stability and the degree to which an individual perceives the world as threatening or distressing.

Solution:

- (a) Neuroticism is characterized by a tendency to experience anxiety, moodiness, and emotional instability.
- (b) In a sports context, an athlete high in neuroticism may struggle with the "clutch" moments of a game, as they are more prone to performance anxiety and negative self-talk.
- (c) Option (A) refers to Conscientiousness.
- (d) Option (C) refers to Extroversion.
- (e) Option (D) refers to Openness.
- (f) Therefore, the description in Option (B) regarding emotional instability and negative emotions is the correct definition for Neuroticism.

Final Answer: The correct option is (B).

Answer: (B)



Q2.

Solution**Concept:**

Training methods are designed to improve specific physical attributes. Their intensity is measured by the demand they place on the heart and lungs.

Solution:

- (a) Continuous Training (A) is usually low to moderate intensity performed for long durations without rest.
- (b) Circuit Training (D) involves various exercises in a sequence, often focusing on general fitness at a moderate heart rate.
- (c) Fartlek Training (B) or "speed play" involves varying the pace throughout the run, pushing the intensity higher than steady-state running.
- (d) Interval Training (C) is the most intense, involving repeated bouts of high-intensity work followed by specific recovery periods to push the cardiovascular system to its limits.
- (e) The correct increasing sequence of intensity is (A), (D), (B), (C).

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

Answer: (B)



Q3.

Solution**Concept:**

The National Rural Health Mission (NRHM) focuses on improving healthcare delivery in rural India. One of its core components is the deployment of community health workers.

Solution:

- (a) The ASHAs (Accredited Social Health Activists) are trained female community health activists.
- (b) They are selected from the village itself and are accountable to it.
- (c) Their primary role is to create awareness on health and its social determinants and mobilize the community towards local health planning and increased utilization of existing health services.
- (d) They act as the first point of contact for any health-related demands of the rural population.
- (e) Thus, the statement that they serve as a link between the community and the health system is accurate.

Final Answer: The statement is True.

Answer: (A)

Q4.

Solution**Concept:**

Vitamins are essential micronutrients, each having a specific chemical name and function in the body.

Solution:

- (a) Vitamin B_1 is scientifically known as Thiamine (III).
- (b) Vitamin C is scientifically known as Ascorbic Acid (IV).
- (c) Vitamin D is scientifically known as Calciferol (I).
- (d) Vitamin A is scientifically known as Retinol (II).
- (e) Matching these gives the sequence: (A)-(III), (B)-(IV), (C)-(I), (D)-(II).

Final Answer: The correct option is (A).

Answer: (A)



Q5.

Solution**Concept:**

Levers in the human body are classified based on the relative positions of the fulcrum, effort (force), and resistance (load).

Solution:

- (a) In a Third Class Lever, the Effort (Force) is in the middle, between the Fulcrum and the Resistance.
- (b) These levers always have a mechanical advantage of less than 1.
- (c) This means they require more force than the load they are moving.
- (d) However, they are designed for speed and large ranges of motion, which is crucial for sporting actions like throwing or kicking.
- (e) Therefore, the statement that they provide a mechanical advantage for "force" is incorrect; they provide an advantage for "speed".

Final Answer: The statement is False.

Answer: (B)



Q6.

Solution**Concept:**

The Rikli and Jones Senior Citizen Fitness Test, also known as the Fullerton Functional Fitness Test, is a battery of simple tests designed to assess the functional fitness of older adults. It focuses on attributes like strength, endurance, flexibility, and balance required for daily activities.

Solution:

- (a) To solve this, we must evaluate the specific purpose of each mentioned test for senior citizens.
- (b) The 8-Foot Up and Go Test is designed to measure speed, agility, and dynamic balance while moving.
- (c) The Chair Stand Test primarily measures lower body strength, while the Arm Curl Test measures upper body strength.
- (d) Aerobic endurance, which is the ability of the heart and lungs to supply oxygen to the muscles during sustained physical activity, is measured by two options in this battery: the 6-Minute Walk Test or the 2-Minute Step Test.
- (e) The 2-Minute Step Test is specifically used as an alternative when space is limited, requiring the participant to march in place and lift their knees to a specific height for two minutes.
- (f) Therefore, among the given choices, the 2-Minute Step Test is the designated tool for evaluating aerobic endurance.

Final Answer: The correct option is (B).

Answer: (B)



Q7.

Solution**Concept:**

Postural deformities are misalignments of the skeletal structure, often resulting from poor habits, weak muscles, or congenital issues. Spinal deformities are categorized based on the direction of the curvature.

Solution:

- (a) Kyphosis is an exaggerated forward rounding of the upper back (hunchback).
- (b) Lordosis is an increased inward curve of the lumbar spine (swayback).
- (c) Knock Knees (Genu Valgum) is a condition where the knees touch but the ankles remain apart, which is a limb deformity, not a spinal one.
- (d) Scoliosis is a condition where the spine develops a lateral or "S" or "C" shaped curve when viewed from the back. It involves a sideways deviation of the vertebral column.
- (e) Since the question specifies a "lateral (sideways) curvature," Scoliosis is the only appropriate term.

Final Answer: The correct option is (C).

Answer: (C)



Q8.

Solution**Concept:**

National Sports Awards in India are prestigious honors given by the Ministry of Youth Affairs and Sports. The prize money for these awards is periodically revised to reflect the significance of the achievement.

Solution:

- (a) The Major Dhyan Chand Khel Ratna Award is India's highest sporting honor. Following the latest revisions, it carries the highest cash prize of ₹ 25 lakh.
- (b) The Arjuna Award, given for consistent outstanding performance over four years, carries a cash prize of ₹ 15 lakh.
- (c) The Dronacharya Award (Regular), awarded to coaches for producing medalists at international events, also carries a cash prize of ₹ 15 lakh. However, in standard hierarchy and seniority of the grant process, Arjuna is often listed alongside or slightly ahead in general recognition.
- (d) The Dhyan Chand Award for Lifetime Achievement carries a cash prize of ₹ 10 lakh.
- (e) The descending order of financial value is thus: Khel Ratna (₹ 25L), followed by Arjuna/Dronacharya (₹ 15L), and then the Lifetime Achievement Award (₹ 10L).
- (f) Sequence (A), (B), (C), (D) correctly reflects this descending order.

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

Answer: (A)



Q9.

Solution**Concept:**

In the Hatha Yoga tradition, the body must be purified before practicing advanced pranayama or meditation. This is achieved through specific cleansing techniques.

Solution:

- (a) The term "Shatkarma" refers to the six (Shat) actions (Karma) used to purify the body. These include Neti, Dhauti, Nauli, Basti, Kapalbhata, and Trataka.
- (b) In the context of the syllabus and general yogic terminology, these purification acts are collectively referred to as "Kriya" (Cleansing Kriyas).
- (c) Pranayama (Option A) refers to breath control, not physical cleansing.
- (d) Pratyahara (Option B) is the withdrawal of senses, and Dharana (Option D) is concentration, both of which are internal limbs of Ashtanga Yoga.
- (e) Therefore, Kriya is the specific term used for internal purification techniques.

Final Answer: The correct option is (C).

Answer: (C)



Q10.

Solution**Concept:**

In a knock-out (elimination) tournament, if the number of teams is not a power of 2 (i.e., 2, 4, 8, 16, 32, etc.), "Byes" are given to certain teams to ensure that the subsequent rounds have a power-of-two number of teams.

Solution:

- (a) The number of teams (N) is 19.
- (b) To calculate the total number of Byes, we find the next highest power of 2 that is greater than N .
- (c) The powers of 2 are: $2^1 = 2$, $2^2 = 4$, $2^3 = 8$, $2^4 = 16$, $2^5 = 32$.
- (d) Since 19 is greater than 16, the next power of 2 is 32.
- (e) Formula for Total Byes = (Next Power of 2) - N .
- (f) Total Byes = $32 - 19 = 13$.
- (g) These 13 byes are distributed between the upper and lower halves of the fixture to ensure the second round has 16 teams (which is 2^4).

Final Answer: The number of byes is 13.

Answer: (A)



Q11.

Solution**Concept:**

Biomechanics is the study of the structure and function of biological systems by means of the methods of mechanics. It is broadly divided into two main branches: Kinematics and Kinetics. Understanding the distinction between these two is fundamental for analyzing athletic performance and identifying the physical causes of motion.

Solution:

- (a) The question focuses on the "study of forces" that act upon a body to initiate or alter its state of motion.
- (b) Kinematics (Option A) is the branch that describes the motion of bodies in terms of time, displacement, velocity, and acceleration, but it does so without considering the forces that cause that motion.
- (c) Kinetics (Option B), on the other hand, is the specific branch of mechanics that deals with the forces (such as gravity, friction, and muscle contractions) and torques that produce or change the motion of an object or body.
- (d) Statics (Option C) deals with systems in a state of equilibrium, either at rest or moving at a constant velocity, while Anatomy (Option D) is the biological study of body structure.
- (e) Since the core of the question is the analysis of the causal forces behind an athlete's movement, Kinetics is the correct scientific term.

Final Answer: The correct option is (B).

Answer: (B)



Q12.

Solution**Concept:**

Pranayama is the fourth limb of Ashtanga Yoga, focusing on the regulation of breath to influence the flow of Prana (vital energy). Sitali Pranayama is a specific cooling breath technique known for its ability to lower body temperature and calm the nervous system.

Solution:

- (a) Most Pranayama techniques involve inhalation and exhalation through the nostrils. However, Sitali is a distinct exception due to its unique method of air intake.
- (b) To perform Sitali, the practitioner must stick their tongue out and curl the sides of the tongue upwards to form a tube or a "straw" shape.
- (c) The air is then inhaled deeply through this curled tongue, which creates a cooling sensation as the air passes over the moisture of the tongue before entering the lungs.
- (d) This specific mechanism is what differentiates it from Sitkari (hissing breath through teeth) or Ujjayi (breathing through a constricted throat).
- (e) Therefore, the characteristic feature of Sitali is the inhalation through a curled tongue to achieve its physiological cooling effect.

Final Answer: The correct option is (C).

Answer: (C)



Q13.

Solution**Concept:**

Sir Isaac Newton's Second Law of Motion, often called the Law of Acceleration, provides the mathematical relationship between an object's mass, the force applied to it, and the resulting acceleration.

Solution:

- (a) The Second Law states that the acceleration of an object is directly proportional to the net force acting on it and inversely proportional to its mass ($F = ma$).
- (b) In the given example, a shot-put has a significantly higher mass compared to a cricket ball.
- (c) According to the law, to achieve the same rate of acceleration for a larger mass, a proportionally larger force must be applied.
- (d) Newton's First Law (Inertia) describes the tendency to resist change but doesn't quantify the force-mass-acceleration relationship.
- (e) Newton's Third Law (Action-Reaction) describes pair forces but doesn't explain why different masses require different forces for acceleration.
- (f) Thus, the requirement of more force for a heavier object like a shot-put to accelerate is a direct application of the Law of Acceleration.

Final Answer: The correct option is (B).

Answer: (B)



Q14.

Solution**Concept:**

Fractures are classified based on the nature of the break in the bone. A Greenstick fracture is an incomplete fracture in which the bone bends and cracks, rather than breaking completely into separate pieces.

Solution:

- (a) This type of fracture is highly age-dependent because it relies on the physical properties of the bone tissue.
- (b) In adults and senior citizens, bones are more mineralized, brittle, and likely to snap completely under high stress (resulting in comminuted or transverse fractures).
- (c) In children, the bones are much softer and more flexible because they have not yet fully ossified and contain more organic matter.
- (d) Much like a "green" or young branch of a tree, a child's bone is more likely to bend and partially break on the outer side of the bend while remaining intact on the inner side.
- (e) Therefore, Greenstick fractures are almost exclusively associated with the pediatric population (children) due to their unique skeletal elasticity.

Final Answer: The correct option is (C).

Answer: (C)



Q15.

Solution**Concept:**

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

Solution:

- (a) The program aims to provide a minimum amount of energy and protein to ensure that children receiving the meal have a significant portion of their daily nutritional needs met at school.
- (b) For the primary level (Classes I to V), the norm is at least 450 calories and 12 grams of protein.
- (c) For the upper primary level (Classes VI to VIII), the nutritional requirement is higher due to the increased growth needs of older children.
- (d) The mandatory requirement for upper primary students is at least 700 calories and 20 grams of protein per school day.
- (e) Given that the question specifies the "upper primary" level, the target calorie count is 700.

Final Answer: The correct option is (C).

Answer: (C)



Q16.

Solution**Concept:**

Training methods are structured approaches to improve physical fitness. Fartlek training, a Swedish term meaning "speed play," is a unique method that blends continuous training with interval training, emphasizing flexibility and environmental interaction over rigid timing.

Solution:

- (a) Continuous training is a steady-state exercise, whereas Interval training follows strict work-to-rest ratios.
- (b) Fartlek training is distinct because it does not require a stopwatch or a track; instead, the athlete decides when to sprint and when to jog based on how they feel or the landmarks they see (e.g., "sprint to that tree, then jog to the bridge").
- (c) It effectively improves both the aerobic and anaerobic systems by forcing the body to adapt to various speeds and intensities.
- (d) Isometric and Isokinetic training (Options B and D) are resistance training methods involving muscle contractions without movement or at a constant speed, respectively, and are not related to "speed play" running.
- (e) Therefore, the description of a flexible, terrain-based speed play corresponds exactly to Fartlek training.

Final Answer: The correct option is (C).

Answer: (C)



Q17.

Solution**Concept:**

William Sheldon's somatotype theory classifies human physiques into three categories: Ectomorph, Mesomorph, and Endomorph. Each body type is associated with specific physical characteristics that lend themselves to different types of athletic performance.

Solution:

- (a) Ectomorphs are characterized by a lean, thin build and excel in endurance events like marathons.
- (b) Endomorphs have a rounder, stockier build and are often associated with activities requiring pure mass or stability.
- (c) Mesomorphs possess a muscular and athletic frame with high bone density and large muscles. This build is ideal for sports that require a combination of strength, speed, and power.
- (d) Because they can generate high force and maintain an athletic weight-to-power ratio, they naturally excel in explosive events like sprinting, jumping, and weightlifting.
- (e) Options (C) and (D) are less dependent on this specific physical build compared to the raw physical power required for sprinting.

Final Answer: The correct option is (B).

Answer: (B)



Q18.

Solution**Concept:**

Balance is a critical component of physical fitness, categorized into static balance (maintaining equilibrium while stationary) and dynamic balance (maintaining equilibrium while moving). Various tests are used to quantify these abilities in athletes.

Solution:

- (a) The Flamingo Balance Test is a widely recognized test included in the Eurofit test battery.
- (b) The test requires the subject to stand on a single leg on a metal beam of specific dimensions while the other leg is flexed at the knee and held by the hand.
- (c) The objective is to remain balanced for as long as possible or to count the number of falls in a one-minute period.
- (d) Since the athlete remains in a fixed position on one spot, the test specifically evaluates static balance.
- (e) It does not measure endurance, speed, or dynamic movement (which would involve shifting the center of gravity while traveling).

Final Answer: The correct option is (A).

Answer: (A)



Q19.

Solution**Concept:**

Yoga asanas are physical postures designed to improve health and mental well-being. Bhujangasana, or the Cobra Pose, is a foundational back-bending posture in Hatha Yoga.

Solution:

- (a) The image describes a practitioner lying prone (on their stomach) and lifting the upper body using the strength of the back and arms, resembling a cobra with a raised hood.
- (b) Bhujangasana specifically targets the spine, helping to stretch the chest and strengthen the shoulders while toning the abdominal organs.
- (c) Shalabhasana (Locust pose) involves lifting the legs, Dhanurasana (Bow pose) involves holding the ankles, and Vakrasana involves a spinal twist.
- (d) Given the specific visual of the upper body arching back while the lower body remains on the mat, the posture is clearly Bhujangasana.
- (e) This pose is frequently recommended for office workers to counteract the "slouch" of desk work.

Final Answer: The correct option is (B).

Answer: (B)



Q20.

Solution**Concept:**

Postural deformities of the spine involve abnormal deviations from the natural curvature. The lumbar spine naturally has a slight inward curve, but an exaggeration of this curve leads to clinical issues.

Solution:

- (a) Kyphosis is the "hunchback" deformity affecting the upper (thoracic) spine.
- (b) Scoliosis is a sideways (lateral) curvature.
- (c) Lordosis, often called "swayback," is characterized by an excessive inward curve of the lower back (lumbar region).
- (d) This condition often causes the abdomen to protrude forward and the buttocks to stick out backward.
- (e) Looking at the image of the lower back arching excessively inward towards the front of the body, the deformity is identified as Lordosis.
- (f) It is often caused by weak abdominal muscles and tight hip flexors.

Final Answer: The correct option is (C).

Answer: (C)



Q21.

Solution**Concept:**

Soft tissue injuries are common in sports and are classified based on the nature of the damage to the skin, muscles, or ligaments. Understanding these definitions is vital for immediate care and long-term rehabilitation.

Solution:

- (a) Abrasion (A) is a superficial injury where the top layer of the skin is scraped or rubbed off, usually due to a fall on a rough surface. This corresponds to (III).
- (b) A Sprain (B) occurs when there is a stretching or tearing of ligaments, which are the tough bands of fibrous tissue that connect two bones together in your joints. This corresponds to (I).
- (c) A Strain (C) is often confused with a sprain, but it specifically refers to an injury to a muscle or a tendon (the tissue connecting muscle to bone). This corresponds to (II).
- (d) A Contusion (D) is a medical term for a bruise, caused by a direct blow from an external object or a collision, leading to ruptured capillaries under the skin. This corresponds to (IV).
- (e) Matching these definitions leads to the sequence: (A)-(III), (B)-(I), (C)-(II), (D)-(IV).

Final Answer: The correct option is (A).

Answer: (A)



Q22.

Solution**Concept:**

A standard 400m outdoor athletics track is designed with mathematical precision to ensure that athletes running in different lanes cover the required distances correctly. The track consists of two semicircular curves and two straight sections.

Solution:

- (a) The total distance of one lap in lane 1 is exactly 400 meters.
- (b) According to World Athletics (formerly IAAF) standards, the length of the straight section (straights) of a 400m track is typically 84.39 m.
- (c) The two straights combined account for approximately 168.78 m of the total distance.
- (d) The remaining 231.22 m is covered by the two semicircular curves (bends).
- (e) While some tracks may vary slightly in design (such as "broken-back" curves), the standard "standard-compliant" track used in major international competitions adheres to the 84.39 m straight length.
- (f) Option (B) is the precise measurement recognized in sports measurement textbooks.

Final Answer: The correct option is (B).

Answer: (B)



Q23.

Solution**Concept:**

The P.R.I.C.E. protocol is a fundamental first-aid management strategy for acute soft tissue injuries like sprains and strains. It is designed to minimize swelling, protect the injured area, and accelerate the initial healing process.

Solution:

- (a) P stands for Protection: Protecting the injured area from further harm (e.g., using a crutch or splint).
- (b) R stands for Rest: Avoiding activities that cause pain or stress to the injured part.
- (c) I stands for Ice: Applying cold packs to reduce blood flow and inflammation.
- (d) C stands for Compression: Using a bandage to limit swelling and provide support.
- (e) E stands for Elevation: Keeping the injured limb raised above the level of the heart.
- (f) Elevation uses gravity to help drain fluid away from the injury site, which significantly reduces the accumulation of edema (swelling).
- (g) Therefore, in the context of injury management, the letter 'E' represents Elevation.

Final Answer: The correct option is (B).

Answer: (B)



Q24.

Solution**Concept:**

Nutrients are substances needed by the body for growth, energy, and maintenance. They are divided into Macro Nutrients (needed in large quantities) and Micro Nutrients (needed in small quantities).

Solution:

- (a) Macro Nutrients include Carbohydrates, Proteins, and Fats. These provide the energy and structural materials the body needs.
- (b) Proteins are specifically responsible for the growth and repair of body tissues, making them essential for athletes recovering from training.
- (c) Micro Nutrients include Vitamins and Minerals.
- (d) Vitamin K (Option A) is a micro-nutrient responsible for blood clotting.
- (e) Iron (Option B) and Iodine (Option D) are minerals (micro-nutrients) responsible for oxygen transport and thyroid function, respectively.
- (f) Since the question asks for a macro-nutrient involved in tissue repair, Protein is the only correct answer.

Final Answer: The correct option is (C).

Answer: (C)



Q25.

Solution**Concept:**

The Dronacharya Award is one of the highest sporting honors in India, specifically dedicated to excellence in sports coaching. It recognizes the crucial role a mentor plays in an athlete's journey.

Solution:

- (a) The award is named after Dronacharya, the legendary teacher of the Pandavas in the Indian epic Mahabharata.
- (b) Unlike the Arjuna Award, which is given to the athletes themselves, the Dronacharya Award is presented to coaches.
- (c) The eligibility criteria require that the coach must have trained athletes or teams that have achieved outstanding results at the International level over a period of four years.
- (d) Examples of qualifying events include the Olympic Games, World Championships, Commonwealth Games, and Asian Games.
- (e) Success at the school, district, or college level (Options A, B, and D) is not sufficient for this prestigious national recognition.

Final Answer: The correct option is (C).

Answer: (C)



Q26.

Solution**Concept:**

The Shatkarmas, or six purification techniques in Hatha Yoga, are essential for maintaining internal hygiene and balancing the body's 'doshas' (Vata, Pitta, and Kapha). Neti is the specific kriya focused on the upper respiratory tract, particularly the nasal passages.

Solution:

- (a) Jala Neti is a traditional yogic technique used to cleanse the sinuses and nasal cavity using lukewarm saline water.
- (b) To perform this, a 'Neti Pot' with a specialized spout is used. The practitioner tilts their head and allows water to flow into one nostril and exit through the other, flushing out mucus, pollutants, and allergens.
- (c) Dhauti (Option A) primarily involves the cleansing of the digestive tract (stomach), while Basti (Option B) focuses on the lower intestines (colon).
- (d) Nauli (Option D) is the abdominal massage or churning of the stomach muscles to stimulate the digestive fire.
- (e) Because the question explicitly mentions the cleansing of the nasal passage using a saline solution and a pot, Jala Neti is the correct identification.
- (f) This practice is not only beneficial for respiratory health but is also believed to improve concentration and mental clarity.

Final Answer: The correct option is (C).

Answer: (C)



Q27.

Solution**Concept:**

In sports medicine, fractures are categorized by their mechanism of injury. While most fractures result from a sudden, acute trauma, others develop gradually over time due to mechanical failure of the bone.

Solution:

- (a) A Stress Fracture is a tiny crack in a bone that develops not from a single blow, but from cumulative stress and repetitive force.
- (b) This often occurs in sports involving repetitive movements, such as long-distance running, gymnastics, or basketball, where the muscles become fatigued and can no longer absorb the shock.
- (c) When the muscles are exhausted, they transfer the overload of stress to the bone, causing micro-trauma that eventually leads to a fracture.
- (d) Option (A) describes a traumatic fracture, while Option (C) refers to conditions like Rickets. Option (D) refers to Osteomyelitis.
- (e) Therefore, "repeated micro-trauma or overuse" is the defining cause of a stress fracture.
- (f) These are common in the weight-bearing bones of the lower leg and foot (metatarsals and tibia).

Final Answer: The correct option is (B).

Answer: (B)



Q28.

Solution**Concept:**

The Shuttle Run is a classic assessment of anaerobic power and movement efficiency. It is a staple in various fitness batteries, including the President's Challenge and several school-level physical education assessments.

Solution:

- (a) The test involves running back and forth between two parallel lines, typically 10 meters or 30 feet apart, at maximum speed while picking up or moving blocks.
- (b) This requires the athlete to accelerate rapidly, decelerate suddenly, change direction at a 180-degree angle, and accelerate again.
- (c) Agility is defined as the ability to change the position of the body quickly and accurately while under control.
- (d) While the test does involve speed, its primary focus is on the coordination and agility required for the rapid change of direction.
- (e) Explosive leg power (Option A) is better measured by a Standing Broad Jump, and Maximal oxygen uptake (Option C) is measured by the Beep Test or VO₂ Max test.
- (f) Therefore, the Shuttle Run is the standard measure for agility and speed.

Final Answer: The correct option is (B).

Answer: (B)



Q29.

Solution**Concept:**

Newton's Third Law of Motion, the Law of Action and Reaction, states that for every action force, there is an equal and opposite reaction force. These forces always act on different bodies and in opposite directions.

Solution:

- (a) To identify this law in sports, we look for interactions where a body exerts force on a surface or medium and receives a reciprocal force that facilitates movement.
- (b) In swimming, an athlete pulls or pushes the water backward (the Action). According to Newton's law, the water exerts an equal and opposite force forward on the swimmer (the Reaction), propelling them through the pool.
- (c) Option (B) relates more to the Second Law (Mass and Force), and Option (C) relates to aerobic endurance and inertia.
- (d) Other examples of the Third Law include a sprinter pushing off the starting blocks or a jumper pushing down on the ground to go up.
- (e) Swimming remains the most cited example of the "Action-Reaction" principle in fluid mechanics within physical education.

Final Answer: The correct option is (A).

Answer: (A)



Q30.

Solution**Concept:**

The 'Sit and Reach' test was first developed by Wells and Dillon in 1952. It is perhaps the most common test used to assess the flexibility of the lower body, which is crucial for preventing injuries and maintaining good posture.

Solution:

- (a) The test is performed with the subject sitting on the floor with legs extended straight ahead. They reach forward as far as possible along a measuring scale.
- (b) The primary muscles being stretched during this forward flexion of the trunk are the hamstrings (the muscles at the back of the upper leg).
- (c) Additionally, the test significantly involves the flexibility of the lumbar (lower back) region of the spine.
- (d) High scores indicate excellent range of motion in the posterior chain, while low scores suggest tightness that could lead to lower back pain.
- (e) Options (A), (C), and (D) are incorrect because those muscle groups are not the primary limiters or targets of the reaching motion in this specific test protocol.
- (f) Thus, the Sit and Reach test specifically targets the Hamstrings and Lower Back.

Final Answer: The correct option is (B).

Answer: (B)



Q31.

Solution**Concept:**

Carl Jung, a Swiss psychiatrist, proposed a theory of personality based on how individuals interact with the world. He classified people into two primary types: Introverts and Extroverts, based on the direction of their "libido" or psychic energy.

Solution:

- (a) Extroverts (Option A) are socially active, expressive, and draw energy from external interactions. They usually prefer team sports where they can interact with others.
- (b) Introverts (Option C) are the opposite. They are characterized by a preference for their internal world of thoughts and feelings. They tend to be shy, reflective, and often feel drained by large social gatherings.
- (c) In a sporting context, an introvert might prefer individual sports like archery, long-distance running, or chess, where they can focus internally without the constant social demand of a team environment.
- (d) Ambivert (Option B) is a person who falls in the middle of the spectrum, and Mesomorph (Option D) is a physical body type, not a psychological personality type.
- (e) Therefore, the description provided—socially isolated, shy, and reflective—is the textbook definition of an Introvert.

Final Answer: The correct option is (C).

Answer: (C)



Q32.

Solution**Concept:**

Cardiovascular adaptation to exercise is one of the most significant physiological changes in an athlete. Regular aerobic training leads to 'Athlete's Heart,' characterized by increased efficiency in blood circulation.

Solution:

- (a) Stroke Volume (SV) is defined as the volume of blood pumped out of the left ventricle of the heart during each single contraction (beat).
- (b) Regular exercise strengthens the cardiac muscles (myocardium) and increases the size of the heart's chambers. This allows the heart to fill with more blood and pump it out more forcefully.
- (c) As Stroke Volume increases, the heart becomes more efficient. Because it can pump more blood per beat, it doesn't need to beat as often to maintain the same Cardiac Output ($Q = HR \times SV$), which is why trained athletes often have a lower resting heart rate (bradycardia).
- (d) Option (A) is incorrect because resting heart rate actually decreases. Option (D) refers to tidal volume or lung capacity, not stroke volume.
- (e) Thus, increased stroke volume directly translates to more blood being pumped per heart beat.

Final Answer: The correct option is (B).

Answer: (B)



Q33.

Solution**Concept:**

The Adolescence Education Programme (AEP) is a significant initiative supported by the Government of India and various international agencies like UNFPA. It is designed to address the specific needs of teenagers during their transition from childhood to adulthood.

Solution:

- (a) Adolescence is a period of rapid physical, mental, and emotional changes. The AEP is integrated into the school curriculum to provide accurate, age-appropriate information.
- (b) The primary objective is to empower students with "Life Skills" (such as decision-making, empathy, and critical thinking) to help them navigate the challenges of growing up.
- (c) A major component of the program is education regarding reproductive health, prevention of HIV/AIDS, and the dangers of substance abuse.
- (d) It does not focus on vocational skills like cricket coaching or financial sectors like the stock market.
- (e) Therefore, the program is fundamentally about life skills and health education to ensure a healthy transition into adulthood.

Final Answer: The correct option is (B).

Answer: (B)



Q34.

Solution**Concept:**

Diseases are broadly classified into Communicable (infectious, spread from person to person) and Non-Communicable (NCDs, non-infectious, typically chronic and long-duration).

Solution:

- (a) Communicable diseases like Tuberculosis (Option A), Malaria (Option B), and Cholera (Option D) are caused by pathogens such as bacteria, viruses, or parasites.
- (b) Non-communicable diseases are often referred to as "lifestyle diseases" because they are frequently caused by factors like lack of physical activity (sedentary lifestyle), unhealthy diet, tobacco use, and alcohol consumption.
- (c) Type 2 Diabetes is a classic NCD where the body becomes resistant to insulin or fails to produce enough. It is strongly linked to obesity and inactivity.
- (d) Unlike the other options, you cannot "catch" diabetes from another person through air, water, or insects.
- (e) Thus, Type 2 Diabetes is the correct answer in the category of lifestyle-related non-communicable diseases.

Final Answer: The correct option is (C).

Answer: (C)



Q35.

Solution**Concept:**

In mechanics, a lever is a simple machine consisting of a beam or rigid rod pivoted at a fixed hinge, or fulcrum. The effectiveness of a lever in moving a load depends on the distance of the effort and the load from the fulcrum.

Solution:

- (a) The question asks about the "Double Action" or the balance of a lever.
- (b) When the fulcrum is placed exactly in the center, the lever provides an equal balance between the effort arm and the resistance arm.
- (c) While placing the fulcrum closer to the load increases mechanical advantage (force), placing it in the center is the specific configuration for balanced, dual-ended action (like a see-saw).
- (d) This configuration ensures that the force applied is directly proportional to the weight moved without bias toward one side.
- (e) Therefore, for a balanced "double action" or symmetrical movement, the center position is the theoretical ideal.

Final Answer: The correct option is (B).

Answer: (B)



Q36.

Solution**Concept:**

Vitamins are organic compounds required by the body in small amounts for various metabolic processes. They are categorized into water-soluble and fat-soluble vitamins. Vitamin K is a fat-soluble vitamin that plays a critical role in the body's ability to manage its blood consistency and bone health.

Solution:

- (a) Vitamin K is essential for the synthesis of proteins required for blood coagulation (clotting). Without sufficient Vitamin K, the blood would not clot properly after an injury, leading to excessive and dangerous bleeding.
- (b) While Option (A) refers to Vitamin A (Night vision) and Option (B) refers to Vitamin D and Calcium (Bones and teeth), Vitamin K is specifically the catalyst for the clotting process.
- (c) It works by helping the liver produce four of the thirteen proteins needed for blood clotting.
- (d) Athletes often require adequate Vitamin K not just for injury recovery, but also to ensure bone density is maintained during high-impact sports, as it helps bind calcium to the bone matrix.
- (e) Therefore, in the context of general physiology and sports care, facilitating blood clotting is its primary and most vital function.

Final Answer: The correct option is (C).

Answer: (C)



Q37.

Solution**Concept:**

Physical Education is a vast field offering diverse career opportunities beyond professional playing or coaching. These roles are categorized into teaching, coaching, media, and health-related or rehabilitative sectors.

Solution:

- (a) Rehabilitation in sports involves the process of restoring an athlete to their optimal level of self-determined function following an injury or illness.
- (b) A Physiotherapist (Option B) is a healthcare professional who specializes in the science of movement. They work directly with athletes to treat injuries through physical methods such as massage, heat treatment, and therapeutic exercise.
- (c) Their primary goal is the "rehabilitative" aspect—helping the athlete regain strength and mobility to return to the field safely.
- (d) Sports Journalists and Commentators (Options A and C) are in the media sector, while an Athletic Director (Option D) is in the administrative or management sector.
- (e) Consequently, the Physiotherapist is the career path strictly focused on the medical and rehabilitative recovery of the human body in sports.

Final Answer: The correct option is (B).

Answer: (B)



Q38.

Solution**Concept:**

Proprioceptive Neuromuscular Facilitation (PNF) is an advanced form of flexibility training. It was originally developed as a form of rehabilitation for stroke victims and patients with neuromuscular disorders but is now widely used by elite athletes to improve range of motion (ROM).

Solution:

- (a) PNF involves both the stretching and contracting of the muscle group being targeted. It typically requires a partner to provide resistance.
- (b) The most common PNF technique is the "contract-relax" method, where the muscle is stretched, then contracted against resistance, and then stretched again to a further point.
- (c) This method utilizes the body's natural "inverse myotatic reflex" (autogenic inhibition) to allow the muscle to relax more than it would during a traditional static stretch.
- (d) Because it allows the muscles to reach a deeper range of motion through neurological signaling, it is recognized as the most effective method for increasing flexibility.
- (e) It is not designed to improve speed (Option D) or cardiovascular endurance (Option C), which require aerobic or anaerobic metabolic conditioning.

Final Answer: The correct option is (B).

Answer: (B)



Q39.

Solution**Concept:**

Handball is a high-speed team sport played on a court. It is regulated by the International Handball Federation (IHF), which sets strict guidelines regarding the dimensions of the field, player conduct, and the duration of the match to ensure consistency in international play.

Solution:

- (a) For adult players (male and female over the age of 16), a standard match consists of two equal halves.
- (b) Each half lasts exactly 30 minutes, resulting in a total regulation playing time of 60 minutes.
- (c) There is a 10-minute halftime interval between the two periods.
- (d) In the event of a tie in a knockout tournament, overtime consists of two 5-minute halves after a short break.
- (e) Option (A) is the duration for younger age groups (e.g., ages 12-16), and Option (C) is the duration for Association Football (Soccer).
- (f) Therefore, for adult male players, the 60-minute duration (two halves of 30 minutes) is the official standard.

Final Answer: The correct option is (B).

Answer: (B)



Q40.

Solution**Concept:**

Cardiovascular fitness or aerobic capacity is the ability of the heart and lungs to supply oxygen-rich blood to the working muscle tissues. The Rockport One-Mile Walk Test is a sub-maximal field test used to estimate this capacity without requiring the subject to run at maximum effort.

Solution:

- (a) The test requires the individual to walk one mile (1,609 meters) as fast as possible.
- (b) At the end of the walk, the time taken and the heart rate of the individual are recorded.
- (c) These variables, along with the individual's weight, age, and gender, are plugged into a specific formula to calculate VO_2 Max.
- (d) VO_2 Max represents the maximum rate of oxygen consumption measured during incremental exercise, which is the gold standard for measuring aerobic capacity.
- (e) It does not measure explosive power (Option C) or body composition (Option D), though weight is a variable in the calculation.
- (f) Thus, the test is specifically designed to assess aerobic capacity (VO_2 Max).

Final Answer: The correct option is (A).

Answer: (A)



Q41.

Solution**Concept:**

Yogic relaxation techniques are designed to withdraw the senses from external stimuli and focus inward to achieve a state of conscious rest. Unlike normal sleep, these techniques involve maintaining awareness while allowing the physical and mental systems to recover from the stresses of high-performance training and competition.

Solution:

- (a) The passage explicitly discusses the integration of Yoga into modern competitive sports to build resilience.
- (b) It identifies specific techniques for different purposes: Pranayama for focus, Asanas for balance, and Yog Nidra for relaxation.
- (c) Yog Nidra, often translated as "Yogic Sleep," is described in the text as a method used for deep relaxation and stress management.
- (d) In this state, the athlete follows a guided visualization or body scan that induces a state between wakefulness and sleep, which is highly effective for reducing cortisol levels.
- (e) Options (C) and (D) refer to purification kriyas, and Option (A) is a dynamic sequence of postures, neither of which are primarily used for "deep relaxation" as defined in the passage.

Final Answer: The correct option is (B).

Answer: (B)



Q42.

Solution**Concept:**

Proprioception and static balance are fundamental requirements in precision sports. Certain yoga asanas are specifically designed to minimize body sway and enhance the practitioner's ability to remain perfectly still under psychological pressure.

Solution:

- (a) Vrikshasana, or the Tree Pose, is a standing balance posture where the practitioner stands on one leg with the other foot placed on the inner thigh and hands held in a prayer position or raised upward.
- (b) The passage highlights that improving balance and concentration is vital for specific types of athletes.
- (c) It explicitly names "archers and shooters" as the group that finds Vrikshasana particularly beneficial.
- (d) For these athletes, even a millimeter of body sway can result in a missed target; therefore, the neuromuscular control developed through balance-based asanas is critical for their success.
- (e) While balance is useful for all athletes, the passage creates a direct functional link between this specific pose and the precision required in archery and shooting.

Final Answer: The correct option is (B).

Answer: (B)



Q43.

Solution**Concept:**

Pranayama is the practice of breath regulation. In sports psychology, controlled breathing is used as a tool to bridge the gap between the conscious and unconscious mind, allowing athletes to regulate their heart rate and mental state.

Solution:

- (a) The passage provides a clear functional definition for each yogic term mentioned in the context of sports integration.
- (b) It states that "Pranayama helps in controlling the breath to improve focus."
- (c) By regulating the rhythm of inhalation and exhalation, an athlete can calm the "fight or flight" response of the sympathetic nervous system, which is essential for maintaining concentration during high-stakes moments.
- (d) Option (A) is the role of resistance training, and Option (C) describes Shatkarmas or cleansing kriyas.
- (e) Since the passage emphasizes the psychological resilience of the athlete, the link between breath control and focus is the primary intended answer.

Final Answer: The correct option is (B).

Answer: (B)



Q44.

Solution**Concept:**

In advanced yoga, Bandhas (locks) and Mudras (gestures) are used to control the flow of Prana (energy) within the body. In a sports context, these are applied to help an athlete maintain composure and internal stability.

Solution:

- (a) The passage mentions these terms toward the end of the text while discussing the management of high-pressure scenarios.
- (b) It explicitly states that the practice of Bandhas and Mudras helps in "channeling internal energy."
- (c) This energetic control ensures that the athlete's internal state remains steady, preventing the "choking" phenomenon where anxiety interferes with physical performance.
- (d) These are not related to field measurements (Option A), equipment design (Option C), or government policy (Option D).
- (e) Therefore, the association provided in the passage is strictly with the internal energetic and psychological stability of the athlete.

Final Answer: The correct option is (B).

Answer: (B)



Q45.

Solution**Concept:**

The modern application of ancient practices like Yoga in sports is not intended to replace physical conditioning but to complement it by addressing the often-overlooked mental and emotional aspects of athletic performance.

Solution:

- (a) To find the "overall goal," we must look at the thesis or the introductory statement of the passage.
- (b) The second sentence clearly states: "In modern competitive sports, Yoga has been integrated to enhance the psychological resilience of athletes."
- (c) Psychological resilience refers to the ability to withstand pressure, recover from setbacks, and maintain a competitive edge through mental toughness.
- (d) The passage describes various techniques (Yog Nidra, Pranayama, etc.) as contributors toward this singular goal of resilience.
- (e) Options (A), (C), and (D) are incorrect as they suggest that Yoga replaces other components or changes the rules of the sport, which the text does not support.

Final Answer: The correct option is (B).

Answer: (B)



Q46.

Solution**Concept:**

Newton's First Law of Motion, or the Law of Inertia, states that an object will remain in its current state—whether at rest or in uniform motion—unless an external unbalanced force acts upon it.

Solution:

- (a) The passage discusses the application of physics to the skeletal and muscular systems.
- (b) It specifically identifies the "start of a sprint" as a practical example of the First Law.
- (c) In a sprint start, the athlete is stationary in the blocks (at rest). They must exert a massive internal muscular force against the blocks to overcome their inertia and begin moving.
- (d) Without this external application of force (pushing the blocks), the athlete would legally and physically remain at rest.
- (e) This transition from a state of zero velocity to motion is the core biomechanical application of the Law of Inertia mentioned in the text.

Final Answer: The correct option is (B).

Answer: (B)

Q47.

Solution**Concept:**

Newton's Third Law, the Law of Action and Reaction, explains the interaction between two objects. For any force exerted by one object on another, there is a force of equal magnitude and opposite direction exerted back.

Solution:

- (a) The passage describes the mechanics of a sprinter to illustrate the Third Law.
- (b) It explains that the "forward drive" is generated by the athlete "pushing backward against the starting blocks."
- (c) When the sprinter pushes backward (Action), the blocks—which are fixed to the track—push the sprinter forward with an equal amount of force (Reaction).
- (d) This reciprocal force is what allows the sprinter to accelerate down the track.
- (e) Options (A), (C), and (D) do not involve the reciprocal force interaction necessary to generate horizontal propulsion as described in the biomechanical text.

Final Answer: The correct option is (B).

Answer: (B)



Q48.

Solution**Concept:**

The Second Law of Motion, the Law of Acceleration, provides the quantitative link between force, mass, and the resulting change in motion. It is the most mathematically significant law in sports biomechanics.

Solution:

- (a) The passage explicitly lists the laws and their corresponding mathematical or conceptual definitions.
- (b) It states: "The Second Law, the Law of Acceleration, relates force to mass and acceleration ($F = ma$)."
- (c) In this formula, F represents the net force applied, m is the mass of the athlete or object, and a is the acceleration produced.
- (d) This law explains why an athlete must apply more force to accelerate a heavier object or why a lighter athlete might accelerate faster given the same amount of force.
- (e) According to the structure of the passage, this formula is the defining characteristic of the Second Law.

Final Answer: The correct option is (B).

Answer: (B)



Q49.

Solution**Concept:**

Levers are rigid structures (bones) that move around a fixed point (joints) to perform work. In biomechanics, the body uses lever systems to convert muscular contraction into high-speed limb movements.

Solution:

- (a) The final section of the passage introduces the concept of 'Levers' in the human body.
- (b) It provides a specific example involving the "human arm acting during a throwing motion."
- (c) The text states that this system functions "to maximize speed."
- (d) In throwing sports (like javelin or baseball), the arm acts as a third-class lever. While this requires more force, it allows the end of the lever (the hand/ball) to move through a much larger distance at a much higher velocity than the muscle shortening itself.
- (e) Therefore, the primary application mentioned is the enhancement of speed during throwing, not the measurement of weight or track length.

Final Answer: The correct option is (B).

Answer: (B)



Q50.

Solution**Concept:**

Biomechanics is an interdisciplinary field. It combines the biological study of living organisms (bio) with the physical study of how forces affect those organisms (mechanics).

Solution:

- (a) To define the term according to the passage, we look at the opening sentence of the second text.
- (b) The passage defines Biomechanics as "the study of the skeletal and muscular systems under the laws of physics."
- (c) This definition captures the two essential components: the biological systems (skeletal/muscular) and the governing physical principles (Newton's Laws).
- (d) It does not involve the history of sports (Option A), journalism (Option C), or management (Option D), which are social or administrative branches of physical education.
- (e) Thus, Option (B) is the direct and accurate definition provided by the text.

Final Answer: The correct option is (B).

Answer: (B)



Answer Key

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

