

Class 11 Physical Education

Unit 1 (Changing Trends & Career in Physical Education).

Case Study 1: The Khelo India Initiative

Read the following passage and answer the questions below: The Ministry of Youth Affairs and Sports launched a massive national program to revive sports culture in India at the grass-root level. The goal was to build a strong framework for all sports played in the country and establish India as a formidable sporting nation. Under this scheme, talented players are identified in priority sports disciplines by high-powered committees and are provided long-term financial assistance. The program also focuses on upgrading sports infrastructure, promoting women in sports, and encouraging physical fitness among school children.

Questions:

1. What is the name of the national program mentioned in the passage?
2. What is the amount and duration of the financial assistance provided to talented athletes under this scheme?
3. Which of the following is **not** an objective of this program?
 - a) Upgrading sports infrastructure
 - b) Promoting sports among women
 - c) Privatizing national sports federations
 - d) Talent identification and development
4. The first edition of the Khelo India Youth Games (formerly Khelo India School Games) was held in which year?

Answers:

1. The Khelo India Program.
2. An annual financial assistance of **₹5 Lakh per annum for 8 years**.
3. **c) Privatizing national sports federations.**
4. **2018** (in New Delhi).

Case Study 2: Career Options in Physical Education

Read the following passage and answer the questions below: Arjun is an active Class 12 student who represents his school in state-level football. While he is a decent player, his true passion lies in analyzing the game, writing match reports for the school newsletter, and talking about sports stats. His parents want him to pursue a traditional career, but his Physical Education teacher suggests that the modern sports industry has evolved, offering various specialized careers that combine his love for writing, speaking, and sports.

Questions:

1. Given Arjun's interest in writing match reports and analyzing games, which career option in Physical Education is best suited for him?
2. Name two traditional career options in Physical Education.
3. If Arjun wanted to pursue a career speaking about live matches on television or radio, what specific profession would he be aiming for?
4. True or False: Careers in Physical Education are strictly limited to becoming a physical education teacher or a professional athlete.

Answers:

1. **Sports Journalism** (or Sports Media/Writing).
2. **Physical Education Teacher** (in schools/colleges) and **Sports Coach**.
3. **Sports Broadcasting / Commentary**.
4. **False**. (The field now includes sports management, sports biomechanics, sports psychology, sports journalism, etc.)

Case Study 3: Aims and Objectives of Physical Education

Read the following passage and answer the questions below: A reputed school noticed that after the pandemic, students had become increasingly lethargic, had poor posture, and were struggling to work together in group projects. The Principal decided to make Physical Education a mandatory daily period. The PE curriculum was redesigned—not just to teach sports skills, but to focus on neuromuscular coordination, emotional control during team games, and building leadership qualities. Over six months, teachers noticed a significant improvement in the students' academic focus, teamwork, and overall happiness.

Questions:

1. The ultimate aim of Physical Education is the _____ of an individual.
2. When the PE curriculum focuses on improving posture and building strength, which specific objective of Physical Education is being fulfilled?
3. Learning to control anger and handle both victory and defeat gracefully during team games refers to which objective?
4. The improvement in "teamwork and leadership qualities" falls under which objective of Physical Education?

Answers:

1. **Wholesome development** (or all-round development).
2. **Physical development**.
3. **Emotional development**.
4. **Social development**.

Unit 2 (Olympism Value Education)

Case Study 1: Core Values of Olympism

Read the following passage and answer the questions below:

During a 5000m race at the school's annual athletic meet, the leading runner, Rahul, twisted his ankle and fell to the ground just 200 meters away from the finish line. Instead of running past him to secure the gold medal, the runner in second place, Aman, stopped, helped Rahul to his feet, and supported him as they crossed the finish line together. The stadium erupted in applause, and the Principal later awarded Aman a special trophy for embodying the true spirit of sportsmanship and the core values of the Olympic movement.

Questions:

1. Which core Olympic value did Aman primarily demonstrate by stopping to help his injured competitor?
2. What are the three core values of Olympism?
3. The modern Olympic motto was recently updated in 2021. What is the current motto in Latin and its English translation?
4. Who is considered the father of the Modern Olympic Games?

Answers:

1. **Friendship** (and Respect/Fair Play).
2. **Excellence, Friendship, and Respect.**
3. **"Citius, Altius, Fortius – Communiter"**, which translates to "Faster, Higher, Stronger – Together".
4. **Baron Pierre de Coubertin.**

Case Study 2: The Olympic Symbol and Ideals

Read the following passage and answer the questions below:

Sneha, a Class 11 art student, was given the responsibility of painting a large Olympic flag for the school's sports week backdrop. She painted a white background and drew five interlocking rings. However, she was confused about the exact colors to use and what the rings actually symbolized. Her physical education teacher explained that every color was chosen specifically, and the interlocking nature of the rings holds a deep message about global unity.

Questions:

1. What do the five interlocking rings on the Olympic flag represent?
2. Name the five colors of the Olympic rings from left to right.

3. Why did Baron Pierre de Coubertin choose these specific colors, along with the white background?
4. In which year and at which Olympic Games was the Olympic flag officially flown for the first time?

Answers:

1. They represent the **union of the five continents** (Africa, Americas, Asia, Europe, and Oceania) and the meeting of athletes from throughout the world at the Olympic Games.
2. **Blue, Yellow, Black, Green, and Red.**
3. Because at least one of those colors appeared on the national flag of every country in the world at that time.
4. The **1920 Olympic Games** in Antwerp, Belgium.

Case Study 3: Governing Bodies (IOC and IOA)

Read the following passage and answer the questions below:

After a phenomenal performance at the National Games, a young archer from Haryana was selected to represent India at the upcoming Summer Olympics. Before her departure, she had to complete rigorous paperwork, attend anti-doping seminars, and receive her official kit. The entire process of her participation, funding, and representation was managed by India's national Olympic governing body, which coordinates directly with the supreme international authority responsible for organizing the Olympic Games.

Questions:

1. Which supreme international body is responsible for organizing the Olympic Games?
2. Where is the headquarters of this international body located?
3. Name the national body responsible for managing India's participation in the Olympic Games.
4. In which year was the Indian national body (mentioned in Q3) established, and who was its first President?

Answers:

1. The **International Olympic Committee (IOC)**.
2. **Lausanne, Switzerland.**
3. The **Indian Olympic Association (IOA)**.
4. It was established in **1927**, and **Sir Dorabji Tata** was its founding President.

Unit 3 (Yoga)

Case Study 1: Ashtanga Yoga (The Eight-Fold Path)

Read the following passage and answer the questions below:

Neha, a highly ambitious student, was experiencing severe anxiety and a lack of concentration during her exams. Her school counselor suggested she practice "Ashtanga Yoga." The counselor explained that yoga is not just about physical stretching, but a comprehensive eight-fold path. It begins with social discipline and personal observances, moves through physical postures, and eventually leads to advanced breath control and deep meditation.

Questions:

1. Who is the ancient sage credited with compiling the *Yoga Sutras*, which formally outlines the eight-fold path of Ashtanga Yoga?
2. What is the very first element of Ashtanga Yoga, which focuses on universal moral commandments or social discipline (like Ahimsa and Satya)?
3. Breath control is a crucial part of Neha's recommended practice. Which element of Ashtanga Yoga specifically refers to the regulation and extension of breath?
4. According to Patanjali, what is the eighth and final stage of Ashtanga Yoga, representing the state of ultimate bliss or super-consciousness?

Answers:

1. Maharishi Patanjali.
2. Yama.
3. Pranayama.
4. Samadhi.

Case Study 2: Asanas and Posture

Read the following passage and answer the questions below:

Ravi spends over 8 hours a day sitting hunched over his laptop and books. Recently, he started complaining of severe lower back pain, stiff shoulders, and shallow breathing. His physical education teacher advised him to incorporate certain 'Asanas' into his daily morning routine to improve his posture, enhance flexibility, and prevent further lifestyle-related physical issues.

Questions:

1. According to Maharishi Patanjali, how is 'Asana' defined? (Provide the Sanskrit phrase or its English translation).
2. Which foundational standing asana would be highly recommended for Ravi to help correct his posture and stretch his entire body upwards?

3. In the sequence of Ashtanga Yoga, which two elements come *before* Asana?
4. Apart from physical flexibility, name one physiological benefit of practicing asanas regularly.

Answers:

1. "**Sthiram Sukham Asanam**" (which translates to "that position which is comfortable and steady").
2. **Tadasana** (Palm Tree Pose).
3. **Yama** and **Niyama**.
4. **Enhances blood circulation** (or improves respiratory efficiency, strengthens internal organs, aids digestion, etc.).

Case Study 3: Yogic Kriyas (Shatkarmas)

Read the following passage and answer the questions below:

During a residential sports camp, a visiting yoga guru introduced the athletes to the concept of internal purification. He explained that just as athletes shower to clean their external bodies, their internal systems also require cleansing to function optimally. He demonstrated a practice that involved rhythmic, forceful exhalations to cleanse the respiratory system, and another practice that involved gazing steadily at a fixed point (like a candle flame) to improve focus and cleanse the eyes.

Questions:

1. What is the collective term used in Yoga for these six internal purification techniques?
2. Identify the technique mentioned in the passage that involves gazing steadily at a candle flame to improve concentration.
3. Which yogic kriya, mentioned in the passage, involves forceful exhalations and passive inhalations to cleanse the respiratory system and frontal lobe?
4. If an athlete wanted to specifically cleanse their nasal passages and sinus tract, which Shatkarma would the guru recommend?

Answers:

1. **Shatkarmas** (or Yogic Kriyas).
2. **Trataka**.
3. **Kapalbhati**.
4. **Neti** (Jal Neti or Sutra Neti).

Unit 4 (Physical Education & Sports for CWSN - Divyang)

Case Study 1: Organizations Promoting Adaptive Sports

Read the following passage and answer the questions below:

During an awareness week on inclusive sports, a school invited a guest speaker to discuss global sporting events for athletes with disabilities. The speaker explained that the sporting world has created distinct international platforms based on the type of disability. One major event is specifically designed for athletes with physical and visual disabilities, often held immediately after the mainstream Olympic Games. Another global movement focuses exclusively on children and adults with intellectual disabilities, operating year-round to build confidence and community through sports.

Questions:

1. Which international sporting event is specifically organized for athletes with physical, visual, and intellectual disabilities, and is closely associated with the International Olympic Committee (IOC)?
2. Name the global organization and event that focuses exclusively on athletes with intellectual disabilities.
3. Who is credited as the founder of the Paralympic Games?
4. What is the official motto of the Special Olympics?

Answers:

1. The **Paralympic Games**.
2. **Special Olympics**.
3. **Sir Ludwig Guttman**.
4. **"Let me win. But if I cannot win, let me be brave in the attempt."**

Case Study 2: Role of Professionals for CWSN

Read the following passage and answer the questions below:

Kabir is an 8-year-old student with Autism Spectrum Disorder (ASD). His school has an integrated support system to help him thrive. However, Kabir struggles with two main challenges: he has difficulty holding a pencil and buttoning his shirt, and he gets easily frustrated because he cannot clearly articulate his words to his classmates. To support him, the school has assigned a specialized team to work with him directly during school hours.

Questions:

1. Which professional should the school assign to help Kabir improve his fine motor skills (like holding a pencil or buttoning a shirt) and daily living activities?
2. Which professional is trained to help Kabir improve his articulation, communication skills, and ability to express his thoughts clearly?
3. If Kabir needed help recovering from a physical injury or required exercises to improve his gross motor skills and muscle strength, which professional would be responsible?
4. What is the primary role of a **Special Educator** in a school setting?

Answers:

1. An **Occupational Therapist**.
2. A **Speech Therapist**.
3. A **Physiotherapist**.
4. To **adapt the academic curriculum** and teaching methods to meet the specific learning needs of the child with disabilities.

Case Study 3: Adaptive Physical Education

Read the following passage and answer the questions below:

A newly appointed Physical Education teacher noticed that during the games period, students who used wheelchairs or had limited mobility were sitting on the sidelines watching the others play basketball. To change this, the teacher introduced a new framework. He lowered the height of the basketball hoops, provided lighter and softer balls, and changed the rules to allow players extra time to pass the ball. Within a week, all students, regardless of their physical abilities, were playing together on the same court.

Questions:

1. What is the specific term used for this modified program of physical education that caters to the capabilities and limitations of CWSN?
2. What does the acronym **CWSN** stand for?
3. Mention any two principles of the modified physical education program demonstrated by the teacher in the passage.
4. What is the primary aim of implementing this modified physical education in schools?

Answers:

1. **Adaptive Physical Education**.
2. **Children With Special Needs**.
3. **Modification of equipment** (lighter balls, lowered hoops) and **modification of rules** (extra time to pass).
4. To ensure the **active and safe participation** of students with disabilities in physical activities, promoting their overall development and inclusion.

Unit 5 (Physical Fitness, Health and Wellness)

Case Study 1: Components of Physical Fitness

Read the following passage and answer the questions below:

Rahul, Surya, and Maya are three athletes training at a local sports academy. Rahul competes in the 100-meter sprint and shot put. Surya is a long-distance marathon runner. Maya is a state-level gymnast. Their coach has designed completely different training regimens for each of them because their respective sports require highly distinct physical abilities. Rahul's training focuses on explosive power, Surya's routine is designed to build stamina for long durations, and Maya's practice relies heavily on achieving the maximum range of motion in her joints.

Questions:

1. Which component of physical fitness is primarily required by Surya to sustain running over a long distance without early fatigue?
2. Maya's gymnastics routine heavily relies on the maximum range of motion around her joints. Which component of fitness is this?
3. For the 100m sprint, Rahul needs the ability to perform movements at the fastest possible rate. What is this physical fitness component called?
4. Shot put requires Rahul to overcome resistance with maximum speed. What is this specific type of strength known as?

Answers:

1. **Endurance** (specifically, Cardiovascular or Aerobic Endurance).
2. **Flexibility**.
3. **Speed**.
4. **Explosive Strength**.

Case Study 2: Health-Related Fitness

Read the following passage and answer the questions below:

Mr. Sharma, a 45-year-old software engineer, leads a highly sedentary lifestyle. A recent medical check-up revealed a high body fat percentage and declining heart health. His doctor advised him that he doesn't need to train like a competitive athlete, but must focus on "Health-Related Physical Fitness" to improve his overall wellness. He was instructed to start brisk walking or cycling to strengthen his heart and lungs, perform light weight training to maintain muscle mass, and monitor his diet to reduce excess fat.

Questions:

1. Brisk walking and cycling are recommended to improve the efficiency with which Mr. Sharma's heart and lungs supply oxygen to his body. Which health-related fitness component is this?
2. What term is used in physical education to describe the ratio of fat mass to fat-free mass (muscle, bone, water) in Mr. Sharma's body?
3. The doctor advised light weight training to help Mr. Sharma's muscles exert force against resistance. Which health-related component does this target?
4. How is the term "Wellness" generally defined in the context of Mr. Sharma's lifestyle change?

Answers:

1. **Cardiovascular Endurance.**
2. **Body Composition.**
3. **Muscular Strength.**
4. **Wellness** is the state of being completely healthy physically, mentally, and socially, and living a balanced, proactive lifestyle (not just the absence of disease).

Case Study 3: Importance of Physical Fitness

Read the following passage and answer the questions below:

To combat rising stress levels and poor lifestyle habits among teenagers, Zenith High School introduced a comprehensive "Fitness and Wellness Month." The physical education teacher explained to the students that true fitness allows a person to carry out daily tasks with vigor and alertness, without undue fatigue, and with ample energy to enjoy leisure-time pursuits and respond to emergencies. The school incorporated daily aerobic activities, stretching sessions, and proper nutrition workshops. Over time, students reported better posture, fewer sick days, and improved focus in class.

Questions:

1. "The ability of an individual to perform daily routine work without fatigue and with extra reserve energy for emergencies" is the definition of _____.
2. Based on the passage, mention any two benefits of maintaining good physical fitness.
3. According to the World Health Organization (WHO), is "Health" simply defined as the absence of disease?
4. The school introduced stretching sessions to prevent injuries and improve posture. Stretching directly improves which component of physical fitness?

Answers:

1. **Physical Fitness.**
2. **Better posture, improved immune system (fewer sick days), and improved mental focus/reduced stress.** (Any two).
3. **No.** (Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity).
4. **Flexibility.**

Unit 6 (Test, Measurement and Evaluation)

Case Study 1: Body Mass Index (BMI) and Health Assessment

Read the following passage and answer the questions below:

During the annual health screening at Sunrise Public School, the Physical Education teacher recorded the height and weight of all Class 11 students to assess their general health. Amit, who weighs 75 kg and is 1.70 meters tall, was curious about his fitness status. The teacher also measured the circumference of Amit's waist and hips to check his risk profile for cardiovascular diseases.

Questions:

1. What is the mathematical formula used by the teacher to calculate Amit's Body Mass Index (BMI)?
2. If Amit's BMI is calculated to be approximately 25.9, which BMI category does he fall into according to WHO standards?
3. What does the Waist-Hip Ratio (WHR) primarily indicate about a person's health?
4. In the context of sports science, the act of recording Amit's weight exactly as "75 kg" using a weighing scale is an example of:
 - a) A Test
 - b) Measurement
 - c) Evaluation
 - d) Assessment

Answers:

1. **BMI = Weight (in kg) / [Height (in meters)]²**
2. **Overweight** (The normal weight range is 18.5 to 24.9; Overweight is 25.0 to 29.9).
3. It indicates the **distribution of body fat** (regional fat distribution) and helps assess the risk of lifestyle-related diseases, such as cardiovascular issues.
4. **b) Measurement.**

Case Study 2: Somatotypes (Body Types)

Read the following passage and answer the questions below:

Coach Raj is conducting trials for the school's various sports teams. He notices that students have distinctly different natural body builds, which makes them suited for different events. He selects Karan, who is naturally lean, tall, and has narrow shoulders, for long-distance running. He selects Vikram, who has a highly muscular, athletic build with a V-shaped torso, for gymnastics and sprinting. Finally, he observes Rahul, who has a softer, rounder body with a tendency to store fat easily, and encourages him to try shot put or powerlifting.

Questions:

1. According to W.H. Sheldon's classification of body types, what is Karan's body type?
2. Which specific body type does Vikram possess, making him naturally well-suited for strength and agility sports like gymnastics?
3. Rahul's rounder, softer body type is classified as _____.
4. Why is identifying a student's somatotype important in the field of physical education and sports?

Answers:

1. **Ectomorph.**
2. **Mesomorph.**
3. **Endomorph.**
4. It helps in **talent identification** and selecting the right sport for an athlete based on their natural physical structure, allowing for better performance and targeted training.

Case Study 3: The Process of Test, Measurement, and Evaluation

Read the following passage and answer the questions below:

To prepare for the upcoming district basketball tournament, the school coach needed to assess the current fitness levels of his probables. He conducted a 50-meter dash to check their speed and a standing broad jump to check leg power. He used a stopwatch to time the dash and a measuring tape to record the jump distance. After collecting all the numerical data, the coach compared the players' scores against the standard state-level norms. Based on this final comparison, he selected the best 12 players to form the school team.

Questions:

1. The specific tool or procedure (like the 50-meter dash or the standing broad jump) used to gather information about the players' fitness is called a _____.
2. Using a stopwatch to record a player's sprint time as '6.5 seconds' represents which step of the assessment process?
3. When the coach compares the recorded scores against standard norms to make a final judgment and select the team, which specific concept is he applying?
4. Mention any one reason why the process of Test, Measurement, and Evaluation is important in sports.

Answers:

1. **Test.**
2. **Measurement.**
3. **Evaluation.**
4. It is important for **selecting the right athletes for a team** (Other valid answers: setting goals, monitoring an athlete's progress, diagnosing weaknesses, or designing training programs).

Unit 7 (Fundamentals of Anatomy, Physiology in Sports)

Case Study 1: The Skeletal System and Joints

Read the following passage and answer the questions below:

Rohan, a school football captain, injured his knee during a rough tackle. At the clinic, the sports physiotherapist explained that his knee, which acts like a door hinge allowing movement in only one direction, had sustained a minor ligament sprain. To help Rohan understand his body better, the physio used a skeleton model to show different joints. She pointed out the immovable joints in his skull protecting his brain, and the slightly movable joints in his spine, emphasizing how the skeletal system provides the ultimate framework for sports movements.

Questions:

1. What is the scientific study of the structure, shape, size, and location of the various parts of the human body called?
2. The knee joint, which allows movement in only one plane, is an example of which specific type of freely movable (synovial) joint?
3. Which category of joint is found in the human skull, where the bones are fused together?
4. Based on the passage, what is one of the primary functions of the human skeletal system?

Answers:

1. **Anatomy.**
2. **Hinge joint.**
3. **Immovable joints** (also known as Fibrous joints or Synarthroses).
4. Providing a **structural framework** for the body (and protecting internal vital organs like the brain).

Case Study 2: The Muscular System

Read the following passage and answer the questions below:

During a cross-disciplinary class on sports biology, the PE teacher asked students to perform 30 fast squats. Afterward, she explained that the muscles they used in their legs to perform the squats are entirely under their conscious control. However, she noted that the muscles causing their hearts to beat rapidly, and the muscles in their digestive tracts processing their breakfast, operate automatically without any conscious effort. This practical example helped students classify the different types of muscular tissues.

Questions:

1. The study of how the various systems and organs of the human body function is known as _____.
2. The leg muscles used to perform the squats, which are attached to the skeleton and are under conscious control, are called what?
3. The muscles lining the digestive tract and blood vessels, which work automatically, are classified as which type of muscle?
4. What is the unique type of involuntary muscle that is found exclusively in the walls of the human heart?

Answers:

1. **Physiology.**
2. **Skeletal muscles** (or Voluntary / Striated muscles).
3. **Smooth muscles** (or Involuntary / Unstriated muscles).
4. **Cardiac muscle.**

Case Study 3: Cardiorespiratory Coordination in Sports

Read the following passage and answer the questions below:

Priya is a competitive long-distance runner. During her high-altitude training sessions, she notices two distinct physiological changes: her breathing rate increases significantly, and her pulse races. Her coach explains that to sustain running, her lungs must take in more oxygen and expel carbon dioxide rapidly. Simultaneously, her heart must pump this oxygen-rich blood through her blood vessels to her working leg muscles. The coach emphasizes that understanding this internal coordination is crucial for designing her endurance training program.

Questions:

1. What is the primary organ of the circulatory system responsible for pumping blood throughout the body?
2. In the respiratory system, what are the tiny air sacs in the lungs called where the actual exchange of oxygen and carbon dioxide takes place?
3. What is the technical term for the number of times Priya's heart beats per minute?
4. According to the coach's explanation, why is knowledge of anatomy and physiology important in physical education and sports? (Mention one specific reason).

Answers:

1. The **Heart**.
2. **Alveoli**.
3. **Heart Rate**.
4. It is essential for **designing effective and scientific training programs** (Other valid answers: preventing sports injuries, understanding human physical limitations, or monitoring an athlete's physiological adaptation).

Unit 8 (Fundamentals of Kinesiology and Biomechanics in Sports)

Case Study 1: Meaning and Importance of Biomechanics

Read the following passage and answer the questions below:

Coach Verma was training a high jumper who was struggling to clear the bar despite having excellent physical strength. Instead of focusing on weight training, the coach recorded the athlete's jumps on video. He analyzed the athlete's take-off angle, the center of gravity during the jump, and the exact forces being applied to the ground. By slightly adjusting the athlete's body position during the approach, the coach minimized air resistance and optimized the launch force, helping the athlete break their personal record without extra fatigue.

Questions:

1. The study of the mechanics of human movement, focusing on the forces acting on and generated within the body, is known as _____.
2. What does the term "Kinesiology" literally mean?
3. In the context of the passage, mention one primary importance of biomechanics in sports.
4. Biomechanics is broadly divided into two main branches: one that studies motion without considering the forces causing it, and another that studies the forces causing the motion. Name these two branches.

Answers:

1. **Biomechanics.**
2. **The study of human movement** (derived from the Greek words *kinesis* meaning movement, and *logia* meaning study).
3. **Improving sports performance/technique** (Other valid answers: preventing sports injuries, improving equipment, or reducing energy expenditure).
4. **Kinematics** (study of motion) and **Kinetics** (study of forces).

Case Study 2: Axes and Planes of Motion

Read the following passage and answer the questions below:

During a gymnastics floor routine, Meera performs a rapid sequence of acrobatic skills. First, she performs a perfectly straight forward roll, moving directly frontward. Immediately after, she performs a cartwheel sideways. Finally, she finishes her routine by standing on one leg and executing a fast 360-degree spin (pirouette). Her coach praises her ability to smoothly transition her body across different spatial dimensions.

Questions:

1. An imaginary flat surface along which a body movement takes place is called a _____.
2. Meera's forward roll involves movement where her body divides into left and right halves. Which plane does this front-to-back movement occur in?
3. The cartwheel is a sideways movement that divides the body into front and back halves. Which plane does this occur in?
4. When Meera performs a spin (pirouette), her body rotates around an imaginary line running vertically from her head to her feet. What is this axis called?

Answers:

1. **Plane.**
2. **Sagittal Plane** (or Antero-posterior plane).
3. **Frontal Plane** (or Coronal plane).
4. **Vertical Axis** (or Longitudinal axis).

Case Study 3: Types of Body Movements

Read the following passage and answer the questions below:

At the school gymnasium, Aryan is working on his upper body strength. He begins with bicep curls. He starts with his arm straight down, then bends his elbow to lift the dumbbell toward his shoulder, and slowly lowers it back down. Next, he picks up lighter weights, stands straight, and lifts both arms directly sideways away from his body to shoulder height. Finally, he lowers his arms back to rest against his sides.

Questions:

1. When Aryan bends his elbow to lift the dumbbell toward his shoulder, the angle between the bones of his arm decreases. What is this movement called?
2. When he slowly lowers the dumbbell back down, straightening his arm and increasing the joint angle, the movement is known as _____.
3. Lifting his arms sideways away from the midline of his body is technically termed as what?
4. Bringing his arms back downward toward the midline of his body is called _____.

Answers:

1. **Flexion.**
2. **Extension.**
3. **Abduction.**
4. **Adduction.**

Unit 9 (Psychology & Sports)

Case Study 1: Importance of Sports Psychology

Read the following passage and answer the questions below:

Ravi is a highly skilled state-level badminton player. During practice sessions, his physical fitness, technique, and stamina are flawless. However, during tournament finals, he routinely underperforms. He complains of sweaty palms, a racing heartbeat, and intense fear of losing. His coach refers him to a specialized professional who helps Ravi practice deep breathing, visualization, and positive self-talk. Within a few months, Ravi's tournament performance matches his practice performance, and he wins the state championship.

Questions:

1. The specialized branch of psychology that deals with the behavior, thoughts, and emotions of athletes to improve their performance is called _____.
2. What psychological barrier was primarily responsible for Ravi's poor performance during the finals?
3. Techniques like visualization, deep breathing, and positive self-talk are used in sports psychology to control which aspect of an athlete?
4. Based on the passage, state one primary importance of psychology in physical education and sports.

Answers:

1. **Sports Psychology.**
2. **Pre-competition anxiety** (or stress/fear of failure).
3. **Emotional regulation** (or arousal levels/mental state).
4. **Enhancing physiological capacities and sports performance** (by overcoming mental barriers and regulating anxiety).

Case Study 2: Growth vs. Development

Read the following passage and answer the questions below:

At the beginning of the academic year, the physical education teacher measured the height and weight of Class 6 students. She noted that Sameer had gained 3 kilograms and grew 2 inches taller since last year. Alongside these physical measurements, she also observed that Sameer, who used to cry easily when losing a game, now handles defeat gracefully, communicates better with his teammates, and understands complex game rules quickly.

Questions:

1. Sameer's increase in height and weight represents which specific biological process?

2. Is the process identified in Question 1 a lifelong process, or does it stop at a certain age?
3. Sameer's improved ability to handle defeat gracefully and communicate effectively represents which psychological and social process?
4. State one key difference between Growth and Development based on how they are measured.

Answers:

1. **Growth.**
2. **It stops at a certain age** (usually reaching its peak at maturity).
3. **Development.**
4. **Growth is quantitative** (can be measured accurately in inches, kg, etc.), whereas **Development is qualitative** (observed through changes in behavior, intelligence, and emotional maturity).

Case Study 3: Adolescent Problems and Management

Read the following passage and answer the questions below:

Vikram is a 15-year-old student going through a turbulent phase. His parents notice that he has become highly aggressive, argumentative, and frequently experiences severe mood swings. He is desperate to fit in with his peers and sometimes engages in risky behavior to look "cool." The school counselor suggests that Vikram is going through a completely normal developmental stage characterized by "storm and stress." She advises the PE teacher to make Vikram the captain of the house football team to channel his aggression into competitive sports and give him a sense of responsibility.

Questions:

1. Which stage of human development is Vikram currently in, often described as a period of "storm and stress"?
2. According to the World Health Organization (WHO), what is the typical age range for this developmental stage?
3. Mention any two common psychological or behavioral problems faced by individuals in this stage, as seen in Vikram's case.
4. Channeling Vikram's aggression into football and making him captain is a management strategy aimed at providing a _____ for his energy.

Answers:

1. **Adolescence.**
2. **10 to 19 years.**
3. **Aggressive behavior, mood swings, and peer pressure/identity crisis** (Any two).
4. **Constructive outlet** (or positive diversion / healthy channelization).

Unit 10 (Training and Doping in Sports)

Case Study 1: Principles of Sports Training

Read the following passage and answer the questions below: A school basketball coach is preparing his team for the upcoming inter-zone tournament. In the first week, he makes the team run 2 kilometers every day. In the second week, he increases this distance to 3 kilometers. However, one of the players goes on a month-long vacation, completely stops practicing, and finds he gets tired very quickly upon his return. Meanwhile, the coach focuses the rest of the team's training strictly on jumping drills and shooting practice, rather than swimming or gymnastics, to ensure they improve specifically in basketball.

Questions:

1. The systematic and scientific process of preparing an athlete for the highest level of performance is known as _____.
2. The coach systematically increasing the running distance from 2 km to 3 km demonstrates which principle of sports training?
3. The player who went on vacation lost his stamina and fitness levels. Which principle of sports training does this illustrate?
4. By focusing the training specifically on jumping and shooting instead of gymnastics, the coach is applying the Principle of _____.

Answers:

1. **Sports Training.**
2. **Principle of Progression** (or Principle of Overload).
3. **Principle of Reversibility.**
4. **Specificity.**

Case Study 2: Warming Up and Limbering Down

Read the following passage and answer the questions below: During the annual sports meet, a sprinter arrived late and immediately lined up for the 100m dash without doing any jogging or stretching. Midway through the race, he clutched his hamstring and collapsed with a severe muscle tear. In another event, a long-distance runner successfully completed a 5000m race but instantly sat down on the track instead of walking it off. She quickly felt dizzy and nauseous because blood had pooled in her legs.

Questions:

1. What crucial pre-activity routine did the sprinter skip, which directly led to his hamstring tear?
2. Mention any one physiological benefit the sprinter would have gained if he had performed the skipped routine.

3. What is the technical term in sports training for the process of gradually bringing the body back to a normal resting state after a vigorous workout (which the long-distance runner failed to do)?
4. If an athlete uses a hot shower, a sauna, or a massage to increase their body temperature before an event without doing actual physical exercise, what type of warm-up is this?

Answers:

1. **Warming up** (Active warm-up).
2. It **increases muscle temperature and elasticity**, thereby reducing the risk of injuries (Other valid answers: increases heart rate, improves reaction time, increases blood flow to muscles).
3. **Limbering down** (or Cooling down).
4. **Passive warm-up**.

Case Study 3: Doping in Sports

Read the following passage and answer the questions below: A promising state-level weightlifter was desperate to win a gold medal to secure a college scholarship. Secretly, his personal trainer provided him with synthetic hormones designed to rapidly increase his muscle mass and allow him to train far beyond his natural limits. However, a random urine test conducted at the state championship revealed the presence of these banned substances. The weightlifter was stripped of his medal, banned from sports for four years, and later suffered from severe liver damage.

Questions:

1. The use of prohibited substances or methods by an athlete to artificially enhance their physical performance is called _____.
2. Based on the passage, which specific category of prohibited substances is commonly used by weightlifters to artificially build muscle mass and strength?
3. Name the premier international agency responsible for coordinating the fight against doping in sports worldwide.
4. Name the national organization responsible for implementing anti-doping rules and conducting tests in India.

Answers:

1. **Doping**.
2. **Anabolic Steroids** (or Anabolic Androgenic Steroids).
3. **WADA** (World Anti-Doping Agency).
4. **NADA** (National Anti-Doping Agency).