Question Paper 1

SECOND SEMESTER MULTI DISCIPLINARY COURSE FYIMP EXAMINATION MARCH 2025 (INTERNAL ASSESSMENT) KU01MDCPES101: FOUNDATION OF PHYSICAL EDUCATION, EXERCISE SCIENCE AND SPORT

Time: 3 Hours Maximum Marks: 60

PART A (Answer any five questions. Each question carries 3 marks) (5 x 3 = 15 Marks)

1. Define Physical Education (PE).
2. List any three dimensions of Wellness.
3. What is Motor Control?
4. State the Principle of Specificity (SAID Principle) in exercise physiology.
5. What is the main aim of the Fit India Movement?
6. Define Summative Assessment.
7. Name the three main domains of learning.

PART B (Answer any three questions. Each question carries 5 marks) (3 x 5 = 15 Marks)

8. Explain the relationship between Physical Education, Exercise Science, and Sports.
9. Describe the key differences between Health and Wellness using the provided table format or points.
10. Discuss the importance of the Affective Domain in the learning process.
11. Explain the primary roles of Carbohydrates and Proteins in relation to fitness and exercise.
12. Briefly describe the Khelo India Youth Games (KIYG) component of the Khelo India program.

PART C (Answer any three questions. Each question carries 10 marks) (3 x 10 = 30 Marks)

13. Discuss Bloom's Taxonomy (Revised Cognitive Domain) and explain how it can be applied in assessing learning outcomes in Physical Education.
14. Analyze the impact of Idealism and Pragmatism as philosophical foundations on the practices and goals of Physical Education.
15. Describe Newton's three Laws of Motion and provide specific examples of how each law applies to movements in sports.
16. Discuss the various career opportunities available for professionals in the fields of Physical Education, Exercise Science, and Sport, giving examples of roles and work settings.
17. Explain the key principles of exercise physiology (Overload, Progression, Specificity, Reversibility, Individuality, Recovery) and discuss their importance in designing effective training programs.

Answers for Question Paper 1 (Based on provided PDF notes)

PART A

1. **Define Physical Education (PE):** Physical education (PE) is a field of study and practice focused on teaching individuals, typically in schools, about physical activity, fitness, and healthy living. It aims to develop motor skills, promote physical fitness, and instill lifelong habits of regular physical activity. (Ref: PDF Unit 1, Pg 1)
2. **List any three dimensions of Wellness:** (Any three from the list) Physical Wellness, Emotional Wellness, Intellectual Wellness, Social Wellness, Spiritual Wellness, Occupational Wellness, Environmental Wellness. (Ref: PDF Unit 1, Pg 11-12)
3. **What is Motor Control?** Motor Control is a component of Motor Behavior that studies how the nervous system organizes movement, including the sensory feedback and neural pathways involved in executing actions. (Ref: PDF Mod 3, Pg 1)
4. **State the Principle of Specificity (SAID Principle):** The body adapts specifically to the type of training performed. SAID stands for Specific Adaptations to Imposed Demands. This means training effects are specific to the muscles used, energy systems stressed, and movement patterns practiced. (Ref: PDF Mod 3, Pg 17)
5. **What is the main aim of the Fit India Movement?** The aim of the Fit India Movement is to encourage citizens to incorporate physical activities and sports into their daily lives, promoting a healthier and more active lifestyle, ultimately contributing to improved national well-being and productivity. (Ref: PDF Mod 4, Pg 6)
6. **Define Summative Assessment:** Summative Assessment is used to evaluate and measure learning outcomes at the *end* of an instructional period (e.g., end of a unit, course, or year). It determines mastery of objectives or standards. Examples include final exams and end-of-term projects. (Ref: PDF Unit 1, Pg 8)
7. **Name the three main domains of learning:** The three main domains of learning are:
    - Cognitive Domain (Knowledge)
    - Affective Domain (Attitudes and Emotions)
    - Psychomotor Domain (Skills) (Ref: PDF Unit 1, Pg 4)

PART B

8. **Explain the relationship between Physical Education, Exercise Science, and Sports:**
    - **Physical Education (PE):** Primarily focuses on *teaching* physical activity, fitness, and health concepts, usually in educational settings. It aims to develop motor skills and promote lifelong activity habits.
    - **Exercise Science:** Is the *academic discipline* studying human movement, exercise, and the body's responses/adaptations to physical activity. It provides the scientific foundation (physiology, biomechanics, psychology) for PE and Sports.
    - **Sports:** Involve *organized, competitive* (or recreational) physical activities requiring skill, strategy, and effort, often with established rules.
    - **Relationship:** Exercise Science provides the knowledge base for effective PE instruction and optimal Sports performance/training. PE often uses Sports as a medium for teaching skills and fitness. Both PE and Sports are applications or areas of focus within the broader study of human movement encompassed by Exercise Science. (Ref: PDF Unit 1, Pg 1 & general understanding)
9. **Describe the key differences between Health and Wellness:**

Aspect	Health	Wellness
Definition	A state of complete physical, mental, and social well-being (a state of being).	An active process/lifestyle choice toward optimal health and balance.
Focus	Absence of illness or injury.	Striving for balance and holistic well-being across multiple dimensions.
Nature	Often seen as a static condition.	Dynamic and ongoing process.

Aspect	Health	Wellness
Goal	Being healthy (free from disease).	Thriving in all dimensions of life.
(Ref: PDF Unit 1, Pg 12 - Table & text)		

10. **Discuss the importance of the Affective Domain in the learning process:** The Affective Domain deals with attitudes, emotions, values, and feelings. Its importance in learning, particularly in PE, lies in:
    - **Motivation:** Fostering enjoyment, interest, and positive values towards physical activity encourages lifelong participation.
    - **Social Skills:** PE activities develop empathy, teamwork, cooperation, respect for rules/opponents, and conflict resolution (part of Krathwohl's Taxonomy levels like Responding, Valuing, Organizing).
    - **Character Development:** It helps in forming values like fair play, discipline, perseverance, and respect.
    - **Emotional Well-being:** Affective learning contributes to self-esteem, confidence, stress management, and emotional resilience.
    - **Holistic Development:** Addressing the affective domain ensures education nurtures the whole person, not just cognitive or physical skills. (Ref: PDF Unit 1, Pg 4-6)

11. **Explain the primary roles of Carbohydrates and Proteins in relation to fitness and exercise:**
    - **Carbohydrates (CHO):**
        - **Primary Energy Source:** They are the body's main fuel for exercise, especially during high-intensity activities.
        - **Glycogen Stores:** Stored in muscles and liver as glycogen, providing readily available energy during workouts. Endurance and strength athletes need adequate intake (4-10 g/kg/day depending on type).
    - **Proteins:**
        - **Muscle Repair, Growth, and Recovery:** Essential for repairing muscle tissue damaged during exercise and building new muscle (hypertrophy).
        - **Supports Immune Function & Hormone Production:** Plays a role in overall physiological function important for athletes. Intake recommendations are higher for active individuals (1.2-2.2 g/kg/day). (Ref: PDF Mod 3, Pg 19-20)

12. **Briefly describe the Khelo India Youth Games (KIYG) component:** The Khelo India Youth Games (KIYG) are an extension of the Khelo India School Games. They are a major national-level, multi-disciplinary grassroots sports competition in India for underage athletes (typically under-17 and under-21 categories). KIYG aims to identify young sporting talent from across the country, provide them with a platform to showcase their abilities, and nurture them for future international success. Winners often receive scholarships for further training. (Ref: PDF Mod 4, Pg 6)

PART C

13. **Discuss Bloom's Taxonomy (Revised Cognitive Domain) and explain how it can be applied in assessing learning outcomes in Physical Education:**
    - **Bloom's Taxonomy (Revised Cognitive Domain):** Organizes thinking skills into a hierarchy, from basic recall to complex creation. The levels are:
        1. **Remembering:** Recalling basic facts (e.g., rules of a game).
        2. **Understanding:** Explaining ideas or concepts (e.g., explaining why warm-up is important).
        3. **Applying:** Using knowledge in new situations (e.g., demonstrating a specific sports skill correctly).
        4. **Analyzing:** Breaking down information and exploring relationships (e.g., analyzing an opponent's strategy).
        5. **Evaluating:** Making judgments and justifying decisions (e.g., critiquing one's own performance or choosing the best strategy).
        6. **Creating:** Generating new ideas or products (e.g., designing a new drill or fitness plan).
    - **Application in PE Assessment:** Bloom's Taxonomy provides a framework for assessing cognitive learning *beyond* just physical skill (Psychomotor domain). Examples:
        - **Remembering:** Multiple-choice questions on rules or terminology.
        - **Understanding:** Short answer questions asking students to explain the benefits of flexibility.
        - **Applying:** Practical assessment where students have to apply learned techniques in a game situation or design a basic workout based on principles learned.
        - **Analyzing:** Asking students to analyze a video of a performance to identify strengths/weaknesses or compare different offensive strategies.
        - **Evaluating:** Having students peer-assess performances based on set criteria or justify their choice of play in a scenario.
        - **Creating:** Assigning projects like designing a fitness program for a specific goal, choreographing a dance routine, or inventing a new cooperative game.
    - Using this taxonomy helps PE teachers ensure they are developing and assessing a range of thinking skills related to physical activity, health, and sport, contributing to holistic education. (Ref: PDF Unit 1, Pg 4-5, 7)

14. **Analyze the impact of Idealism and Pragmatism as philosophical foundations on the practices and goals of Physical Education:**
    - **Idealism in PE:**
        - **Focus:** Emphasizes the mind, ideas, values, character, and moral development over purely physical aspects.
        - **Goals:** Develop a well-rounded individual with strong character, self-discipline, ethical behavior, and respect. Strives for perfection and self-improvement.
        - **Practices:** Uses sports and activities to teach honesty, teamwork, perseverance, fair play. The teacher acts as a role model (mentor) guiding moral and physical development. Focus is on the 'why' and the values learned, not just skill execution. Activities might be chosen for their potential to build character.
        - **Impact:** Leads to a PE curriculum that values sportsmanship, ethical conduct, and personal growth alongside physical fitness. May prioritize activities that foster these values.
    - **Pragmatism in PE:**
        - **Focus:** Emphasizes learning through experience, problem-solving, practical application, and real-world relevance. Knowledge is gained through doing.
        - **Goals:** Develop physically and socially skilled individuals who can function effectively in society. Focus on practical skills, adaptability, and lifelong fitness habits.
        - **Practices:** Emphasizes active, hands-on learning ("learning by doing"). Uses problem-solving activities, team challenges, student-centered learning (choice), and experimentation. Programs are flexible and adapt to student needs and real-life situations. Skills learned (teamwork, fitness) should have practical application outside PE.
        - **Impact:** Leads to a dynamic, activity-based curriculum focused on practical skill development, problem-solving, social skills, and preparing students for active lifestyles. Less emphasis on abstract ideals, more on functional outcomes. (Ref: PDF Mod 3, Pg 4-6)

15. **Describe Newton's three Laws of Motion and provide specific examples of how each law applies to movements in sports:**
    - **1. Law of Inertia (1st Law):** An object at rest stays at rest, and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an external force.
        - **Sports Example:** A soccer ball placed for a penalty kick remains at rest until the external force of the player's foot acts upon it. Once kicked, it continues in motion until slowed by air resistance (force) and friction with the ground (force), or stopped by the goalie/net (force).
    - **2. Law of Acceleration (2nd Law):** The acceleration of an object is directly proportional to the net force acting on it and inversely proportional to its mass (F = ma).
        - **Sports Example:** A tennis player hitting a ball harder (applying more force) will cause the ball to accelerate more quickly towards the opponent's court compared to a gentle tap. Similarly, a lighter tennis ball accelerates more easily than a heavier shot put when the same force is applied.

- **3. Law of Action-Reaction (3rd Law):** For every action, there is an equal and opposite reaction.
    - **Sports Example:** When a swimmer pushes water backward with their hands and feet (action), the water pushes the swimmer forward with an equal and opposite force (reaction), propelling them through the pool. A high jumper pushes down on the ground (action), and the ground pushes back up on the jumper (reaction), helping them lift off. (Ref: PDF Mod 3, Pg 11-12)

16. **Discuss the various career opportunities available for professionals in the fields of Physical Education, Exercise Science, and Sport, giving examples of roles and work settings:** Professionals in PE, Exercise Science, and Sport have diverse career paths focusing on teaching, coaching, fitness, health, research, management, and more. Key opportunities include:

    - **Physical Education Teacher:** Teach PE in schools (primary, secondary, colleges, universities), developing motor skills and fitness habits. Requires degree & teaching certification.
    - **Sports Coach:** Train athletes/teams in specific sports, developing skills and strategies. Work in schools, colleges, pro teams, private academies. Requires sport-specific knowledge/certifications.
    - **Fitness Trainer/Personal Trainer:** Develop and deliver fitness programs for individuals/groups in gyms, fitness centers, clubs, or freelance. Requires fitness certifications.
    - **Sports Scientist:** Apply scientific principles (physiology, biomechanics) to enhance athletic performance and training. Work in research institutions, sports organizations, fitness centers. Requires degree in sports science/kinesiology.
    - **Exercise Physiologist:** Develop fitness/rehabilitation programs, often for clinical populations (recovering from illness/injury). Work in hospitals, rehab centers, clinics. Requires degree & clinical certifications.
    - **Strength and Conditioning Coach:** Design and implement programs to improve athletic strength, power, and performance. Work with sports teams at various levels.
    - **Sports Psychologist:** Help athletes improve mental performance (motivation, focus, stress management). Work with teams, universities, private practice. Requires psychology degree with specialization.
    - **Recreation Director:** Plan and oversee recreational programs in community centers, parks, resorts. Requires degree in PE/recreation management.
    - **Health and Wellness Coach:** Guide clients on healthier lifestyle choices (activity, nutrition). Work in corporate wellness, fitness centers, independent consultancy. Requires health coaching certifications.
    - **Sports Event Manager:** Plan and organize sports events/tournaments. Work for clubs, event companies, associations. Requires degree in sports/event management.
    - **Sports Nutritionist:** Provide dietary advice to optimize performance. Work with teams, fitness centers, private practice. Requires nutrition/dietetics degree with specialization.
    - **Adaptive Physical Education Specialist:** Work with students with disabilities. Requires PE degree with adaptive PE/special education training. Work in schools, rehab centers. (Ref: PDF Mod 4, Pg 2-5)

17. **Explain the key principles of exercise physiology and discuss their importance in designing effective training programs:** The principles of exercise physiology guide how the body adapts to training stress, crucial for designing effective programs:

    - **Principle of Overload:** To improve fitness, the body must be stressed beyond its normal workload. This stimulus triggers adaptation. *Importance:* The foundation of all training progress; without overload, there's no improvement.
    - **Principle of Progression:** Training intensity/volume must gradually increase over time to continue stimulating improvement and avoid plateaus. *Importance:* Ensures continued adaptation safely, avoiding injury from too rapid increases.
    - **Principle of Specificity (SAID):** Adaptations are specific to the type of training performed (muscles used, energy systems stressed, movement patterns). *Importance:* Ensures training targets the desired fitness component or sport skill effectively (e.g., train like a sprinter to become a better sprinter).
    - **Principle of Reversibility ("Use It or Lose It"):** Fitness gains are lost when training stops or is significantly reduced. *Importance:* Highlights the need for consistent training to maintain fitness levels.
    - **Principle of Individuality:** People respond differently to the same training due to genetics, fitness level, age, etc. *Importance:* Training programs should be personalized for optimal results.
    - **Principle of Recovery:** The body needs time to rest and repair after training stress to adapt positively. Adequate rest, nutrition, and sleep are vital. *Importance:* Prevents overtraining, reduces injury risk, and allows adaptations to occur.
    - **(Implied/Related Principles often included):**
        - **Principle of Adaptation:** The body gradually adapts to training loads over time.
        - **Principle of Variation:** Changing workouts (intensity, volume, type) can prevent plateaus and maintain motivation.
        - **Principle of Diminishing Returns:** As fitness increases, the rate of improvement slows down.
    - **Overall Importance:** Applying these principles ensures training is purposeful, safe, effective, and tailored to individual goals, maximizing fitness gains and performance enhancement while minimizing risks. (Ref: PDF Mod 3, Pg 17-19)

Question Paper 2

SECOND SEMESTER MULTI DISCIPLINARY COURSE FYIMP EXAMINATION MARCH 2025 (INTERNAL ASSESSMENT) KU01MDCPES101: FOUNDATION OF PHYSICAL EDUCATION, EXERCISE SCIENCE AND SPORT

Time: 3 Hours Maximum Marks: 60

PART A (Answer any five questions. Each question carries 3 marks) (5 x 3 = 15 Marks)

1. Define Exercise Science.
2. What is the main difference between Physical Activity and Exercise?
3. Differentiate between Gross Motor Skills and Fine Motor Skills.
4. What is the Principle of Reversibility in exercise training?
5. Which award is considered the highest sporting honor in India (provide the current name)?
6. Define Formative Assessment.
7. What is Biomechanics?

PART B (Answer any three questions. Each question carries 5 marks) (3 x 5 = 15 Marks)

8. Explain the primary goals and objectives of Physical Education in relation to the broader goals of education.
9. Discuss the importance of hydration for fitness and athletic performance.
10. Describe the key features and objectives of the Target Olympic Podium Scheme (TOPS).
11. Explain the fundamental difference between Motor Behavior and Motor Development.
12. Discuss the importance of Self-Efficacy in the context of sport and exercise psychology.

PART C (Answer any three questions. Each question carries 10 marks) (3 x 10 = 30 Marks)

13. Discuss the various types of assessment used in education (e.g., Diagnostic, Formative, Summative, Norm-Referenced, Criterion-Referenced) and explain their specific purposes in a Physical Education context.
14. Analyze the impact of Naturalism and Existentialism as philosophical foundations on the practices and goals of Physical Education.
15. Explain the three main energy systems (ATP-PC/Phosphagen, Anaerobic Glycolysis/Lactic Acid, Aerobic/Oxidative) used by the body during physical activity.

Describe the type of activity primarily fueled by each system.
16. Analyze the role and impact of major government initiatives like Khelo India, Fit India Movement, and TOPS in promoting a sports culture and improving athlete performance in India.
17. Discuss key concepts within the Sociology of Sport, including socialization through sport, social stratification (class, gender, race inequalities) in sport, and the relationship between sport and politics.

Answers for Question Paper 2 (Based on provided PDF notes)

PART A

1. **Define Exercise Science:** Exercise Science is an academic discipline that studies human movement, exercise, and how the body responds and adapts to physical activity. It explores physiological, biomechanical, and psychological principles related to exercise, aiming to improve performance, health, and rehabilitation. (Ref: PDF Unit 1, Pg 1)
2. **Difference between Physical Activity and Exercise:**
    - **Physical Activity:** Any bodily movement produced by skeletal muscles requiring energy expenditure. It includes all movement, even unstructured/incidental activities (e.g., walking, gardening).
    - **Exercise:** A *subset* of physical activity that is planned, structured, repetitive, and aimed specifically at improving or maintaining physical fitness. (Ref: PDF Unit 1, Pg 17)
3. **Differentiate Gross & Fine Motor Skills:**
    - **Gross Motor Skills:** Involve large movements using the whole body or large muscle groups (e.g., walking, running, jumping, throwing).
    - **Fine Motor Skills:** Involve small, precise movements using small muscle groups, typically involving hand-eye coordination (e.g., writing, buttoning a shirt, playing an instrument). (Ref: PDF Mod 3, Pg 1)
4. **Principle of Reversibility:** Also known as the "Use It or Lose It" principle, it states that fitness gains achieved through training are lost when training stops or is significantly reduced. Detraining effects can occur relatively quickly. (Ref: PDF Mod 3, Pg 18)
5. **Highest sporting honor in India (current name):** The Major Dhyan Chand Khel Ratna Award (formerly known as the Rajiv Gandhi Khel Ratna Award). (Ref: PDF Mod 4, Pg 10)
6. **Define Formative Assessment:** Formative Assessment is used to monitor and guide learning *during* the instructional process. It provides ongoing feedback to teachers and students to improve teaching and learning in real-time. Examples include exit tickets, quizzes, drafts, and in-class discussions. (Ref: PDF Unit 1, Pg 8)
7. **What is Biomechanics?** Biomechanics is a subfield of kinesiology that applies mechanical principles (like physics concepts of force, motion, levers) to study and analyze human movement. It examines how forces affect the body and how the body produces movement. (Ref: PDF Mod 3, Pg 10)

PART B

8. **Explain the goals/objectives of PE in relation to broader goals of education:** PE aims to develop a well-rounded individual, contributing to holistic education. Its goals align with broader education by:
    - **Promoting Physical Health & Fitness:** Developing healthy habits and fitness components. (Relates to producing healthy citizens).
    - **Enhancing Motor Skills:** Developing coordination, balance, and specific skills. (Relates to physical competence).
    - **Fostering Lifelong Activity:** Instilling a love for movement. (Relates to lifelong well-being).
    - **Supporting Social & Emotional Development:** Teaching teamwork, leadership, cooperation, respect, conflict resolution. (Relates to developing social skills and character).
    - **Enhancing Cognitive Function:** Physical activity can improve focus and academic performance. (Relates to intellectual development).
    - **Cultivating Ethical Values:** Teaching fair play, discipline, perseverance. (Relates to moral education).
    - Overall, PE complements academic learning by nurturing the physical, mental, social, and emotional dimensions, helping create responsible, healthy, and well-rounded citizens, which is a primary goal of general education. (Ref: PDF Unit 1, Pg 2-4)
9. **Discuss the importance of hydration for fitness and athletic performance:** Hydration (maintaining adequate water balance) is crucial because:
    - **Temperature Regulation:** Water helps regulate body temperature through sweating during exercise. Dehydration impairs this, increasing risk of heat illness.
    - **Circulation & Nutrient Transport:** Water is the primary component of blood, essential for transporting oxygen and nutrients to working muscles and removing waste products.
    - **Muscle Function:** Muscles require water to function properly. Dehydration can lead to cramps, fatigue, and reduced muscle endurance and strength.
    - **Performance:** Even mild dehydration can significantly decrease aerobic performance, strength, power, and cognitive function (concentration, decision-making).
    - **Preventing Fatigue:** Dehydration is a major contributor to fatigue during exercise.
    - Proper hydration before, during, and after exercise is essential for optimal performance, safety, and recovery. (Ref: PDF Mod 3, Pg 20-21)
10. **Describe the key features and objectives of the Target Olympic Podium Scheme (TOPS):**
    - **Objectives:**
        - **Medal-Oriented Support:** Provide focused support to elite Indian athletes with potential to win medals at the Olympics, Paralympics, and other major international events (Asian Games, Commonwealth Games).
        - **Holistic Development:** Offer comprehensive support including world-class coaching, sports science facilities, nutrition, international exposure, and medical support.
        - **Customized Assistance:** Provide financial aid and personalized training programs (training abroad, personal coaches).
    - **Key Features:**
        - **Athlete Identification & Selection:** Expert committee selects athletes based on performance, potential, and rankings (Core Group and Development Group).
        - **Financial Support:** Direct funding for training, coaching, equipment, medical needs, plus a monthly out-of-pocket allowance (INR 50,000).
        - **Expert Guidance:** Access to national/international experts (scientists, physios, psychologists, nutritionists).
        - **Foreign Training Exposure:** Opportunities to train abroad and compete internationally.
        - **Paralympic Support:** Includes Paralympic athletes with similar resources. (Ref: PDF Mod 4, Pg 7-8)
11. **Explain the fundamental difference between Motor Behavior and Motor Development:**

Aspect	Motor Behavior	Motor Development
Scope	Broad field studying movement control, learning, and development.	Specific branch focusing *only* on changes across the lifespan.
Focus	How movements are controlled (Motor Control), learned (Motor Learning), and change (Motor Development).	How movement abilities *change* from infancy to old age.

Aspect	Motor Behavior	Motor Development
Timeframe	Can be short-term (control/learning) or long-term (development).	Primarily long-term perspective (lifespan progression).
Essence	Study of movement processes (control, learning, change).	Study of the *process of change* in movement abilities over time.
(Ref: PDF Mod 3, Pg 3 - Table & text)		

12. **Discuss the importance of Self-Efficacy in sport and exercise psychology:** Self-Efficacy is the belief in one's ability to succeed in *specific situations or accomplish a specific task*. It's crucial in sport/exercise because:
    - **Performance:** Athletes with higher self-efficacy tend to perform better, especially under pressure, as they believe they can execute the required skills.
    - **Effort & Persistence:** Individuals with strong self-efficacy put in more effort and persist longer in the face of challenges or setbacks.
    - **Goal Setting:** High self-efficacy leads to setting more challenging goals and greater commitment to achieving them.
    - **Motivation:** Belief in one's capabilities enhances intrinsic motivation and enjoyment of the activity.
    - **Coping with Stress/Anxiety:** Self-efficacy helps athletes manage anxiety and stress more effectively, viewing challenges as opportunities rather than threats.
    - **Adherence:** In exercise settings, higher self-efficacy predicts better adherence to fitness programs.
    - It can be built through mastery experiences (success), vicarious experiences (seeing others succeed), verbal persuasion (encouragement), and managing physiological/emotional states. (Ref: PDF Mod 3, Pg 25)

PART C

13. **Discuss various types of assessment and their purposes in a PE context:** Assessments in PE evaluate different aspects of learning (cognitive, affective, psychomotor) at various stages. Key types include:
    - **Diagnostic Assessment:**
        - *Purpose:* To identify learners' prior knowledge, strengths, weaknesses, and misconceptions *before* instruction begins.
        - *PE Context:* Pre-tests on skills (e.g., throwing accuracy), fitness levels, or knowledge of rules to tailor instruction.
    - **Formative Assessment:**
        - *Purpose:* To monitor learning *during* instruction, providing ongoing feedback to guide teaching and student progress.
        - *PE Context:* Teacher observation during drills, skill checklists used during practice, peer feedback, short quizzes on strategy, student self-reflection after an activity.
    - **Summative Assessment:**
        - *Purpose:* To evaluate learning *at the end* of an instructional unit or period to measure mastery of objectives.
        - *PE Context:* Final skills tests (e.g., standardized fitness tests like PACER, timed swim), written exams on rules/health concepts, game performance evaluations, final projects (e.g., designing a fitness plan).
    - **Norm-Referenced Assessment:**
        - *Purpose:* To compare a student's performance against the performance of a larger group (norm group). Determines relative standing.
        - *PE Context:* Standardized fitness tests with percentile rankings (e.g., comparing a student's score to national averages for their age/gender). Often used for talent identification.
    - **Criterion-Referenced Assessment:**
        - *Purpose:* To measure performance against a fixed set of predetermined criteria or standards (learning objectives). Determines if a student has met specific benchmarks.
        - *PE Context:* Assessing if a student can successfully perform a specific skill (e.g., execute 3 out of 5 successful free throws), achieve a certain fitness standard (e.g., run a mile under 10 minutes), or correctly answer 80% of questions about nutrition. This is common for grading based on achieving learning outcomes.
    - **(Other types mentioned in notes):** Ipsative (comparing current to past performance), Objective/Subjective, Performance-Based, Portfolio, Peer/Self-Assessment.
    - Using a combination of these assessments provides a comprehensive picture of student learning and progress in PE. (Ref: PDF Unit 1, Pg 8-10)

14. **Analyze the impact of Naturalism and Existentialism as philosophical foundations on the practices and goals of Physical Education:**
    - **Naturalism in PE:**
        - **Focus:** Emphasizes learning through nature, experience, and freedom of movement. Aligns activity with natural human development.
        - **Goals:** Promote holistic development (physical, mental, social, emotional) through natural, enjoyable activities. Focus on individual growth pace and self-expression rather than rigid competition. Develop lifelong wellness habits through positive experiences.
        - **Practices:** Emphasizes "learning by doing," play-based learning, outdoor education (hiking, climbing), activities using the body and natural surroundings with minimal artificial equipment. Allows children freedom to explore movement. Waldorf/Montessori approaches often reflect naturalism.
        - **Impact:** Leads to a less structured, more exploratory PE curriculum that values play, enjoyment, connection with nature, and individual developmental readiness. Focus is on the process and intrinsic enjoyment.
    - **Existentialism in PE:**
        - **Focus:** Emphasizes individual choice, freedom, personal responsibility, self-discovery, and finding meaning through experience.
        - **Goals:** Help individuals discover their own potential, preferences, and values through physical activity. Foster self-awareness, autonomy, and personal responsibility for one's own physical development and well-being. Create meaningful experiences.
        - **Practices:** Allows students choice in activities aligning with their interests/values. Encourages self-paced learning and focus on personal progress/effort rather than strict benchmarks or competition. Provides opportunities for reflection on experiences. Emphasizes creativity, self-expression, and intrinsic motivation.
        - **Impact:** Leads to a student-centered PE curriculum that prioritizes individual autonomy, choice, self-discovery, and finding personal meaning in movement. Less standardized, more focused on individual journeys and responsibility for health choices. (Ref: PDF Mod 3, Pg 7-9)

15. **Explain the three main energy systems and the type of activity fueled by each:** The body produces ATP (energy currency) through three main systems:
    - **1. ATP-PC System (Phosphagen System):**
        - *Process:* Uses stored ATP and Creatine Phosphate (PC) for immediate energy. Doesn't require oxygen (anaerobic). Very rapid energy production but very limited stores.
        - *Duration:* Provides energy for very short-duration, high-intensity activities (approx. 0-10 seconds).
        - *Activity Examples:* Short sprints (e.g., 100m dash start), explosive jumps, heavy weightlifting (1-3 reps), throwing events.
    - **2. Anaerobic Glycolysis (Lactic Acid System):**
        - *Process:* Breaks down carbohydrates (glycogen/glucose) without oxygen (anaerobic) to produce ATP. Faster than aerobic system but slower than ATP-PC. Produces lactic acid as a byproduct.
        - *Duration:* Provides energy for high-intensity activities lasting longer than the ATP-PC system can sustain (approx. 10 seconds up to 2 minutes).
        - *Activity Examples:* Longer sprints (e.g., 400m run), repeated high-intensity bursts in team sports (e.g., basketball fast break), swimming 100-200m events.

- **3. Aerobic System (Oxidative Metabolism):**
  - *Process:* Uses oxygen to break down carbohydrates, fats (and sometimes protein) to produce large amounts of ATP. Slower energy production but sustainable for long periods.
  - *Duration:* Primary energy source for low-to-moderate intensity activities lasting longer than 2-3 minutes, and for recovery.
  - *Activity Examples:* Long-distance running (marathon), cycling, swimming long distances, walking, prolonged team sport play, resting state.
- All three systems often work simultaneously, but one system typically dominates depending on the intensity and duration of the activity. (Ref: PDF Mod 3, Pg 14)

16. **Analyze the role and impact of major government initiatives like Khelo India, Fit India Movement, and TOPS in promoting sports culture and athlete performance in India:**
    - **Khelo India:**
      - *Role:* Aims to revive sports culture at the grassroots level by promoting mass participation, identifying talent (through School/Youth Games), developing infrastructure, and providing financial assistance/scholarships.
      - *Impact:* Increased participation in organized sports at school/youth levels, improved identification of promising talent, development of better sports facilities in some areas, created a visible platform (KIYG) showcasing young athletes. Contributes to building a broader base for sports.
    - **Fit India Movement:**
      - *Role:* A national movement to encourage citizens of all ages to adopt physically active lifestyles, incorporating fitness and sports into daily routines. Focuses on awareness and behavioral change.
      - *Impact:* Increased awareness about the importance of physical fitness across the population through various initiatives (School Week, Freedom Run, Plog Run, App). Promotes a culture shift towards health and wellness, potentially increasing grassroots participation in informal physical activities and sports over time. Integrates fitness into education.
    - **Target Olympic Podium Scheme (TOPS):**
      - *Role:* A flagship scheme focused specifically on elite athletes with potential to win medals at major international competitions (Olympics, Paralympics). Provides customized, high-level financial and technical support (coaching, training, equipment, exposure).
      - *Impact:* Significant improvement in the performance of Indian athletes at the highest level (e.g., increased medal counts at recent Olympics/Paralympics). Provided crucial resources enabling athletes to access world-class training and competition. Increased international exposure and competitiveness of top athletes. Inspired youth participation by showcasing success.
    - **Overall Analysis:** These initiatives work at different levels: Fit India promotes mass fitness culture, Khelo India builds the grassroots sports pipeline and identifies talent, and TOPS polishes the elite athletes for international success. Together, they represent a multi-pronged government strategy to improve both general public health through activity and India's standing in international sports. While challenges remain (infrastructure gaps, equitable access), these programs have had a positive impact on raising awareness, increasing participation, identifying talent, and supporting elite performance. (Ref: PDF Mod 4, Pg 5-9)

17. **Discuss key concepts within the Sociology of Sport:** Sociology of Sport examines sport as a social institution and its interaction with society. Key concepts include:
    - **Socialization Through Sport:** Sport acts as an agent of socialization where individuals learn societal values (teamwork, discipline, fair play, competitiveness), norms, and roles through participation. Early exposure, coaches, parents, and peers significantly shape attitudes and long-term involvement.
    - **Social Stratification in Sport:** Sport often reflects and sometimes reinforces existing social inequalities based on:
      - **Social Class:** Access to certain sports (e.g., golf, equestrian) can be limited by cost. Socioeconomic status influences opportunities for coaching, facilities, and time for participation.
      - **Gender:** Historically, sport has been male-dominated. Despite progress (e.g., Title IX in US), women's sports often face disparities in funding, media coverage, and participation opportunities. Gender stereotypes can limit choices. Issues like toxic masculinity exist in some sporting cultures.
      - **Race and Ethnicity:** Historically, race has played a major role in access and participation. Representation and discrimination issues persist. Success in certain sports can be linked to cultural factors or limited opportunities in others.
    - **Sport and Politics:** Sport is intertwined with politics.
      - It influences national identity and patriotism (e.g., Olympics).
      - Governments use sport for 'soft power' diplomacy (hosting major events).
      - Athletes use their platform for social activism and political statements.
      - Sporting events can foster diplomatic relations or trigger conflicts.
      - Governing bodies (FIFA, IOC) hold significant political influence.
    - **(Other related concepts):** Sport as a social institution (embedded in education, media, economy), Deviance in sport (doping, cheating), Sport and social change (inclusion, equality).
    - Understanding these concepts helps analyze how sport shapes and is shaped by broader social forces, identities, and power structures. (Ref: PDF Mod 3, Pg 22-24)

Question Paper 3

SECOND SEMESTER MULTI DISCIPLINARY COURSE FYIMP EXAMINATION (INTERNAL ASSESSMENT) KU01MDCPES101: FOUNDATION OF PHYSICAL EDUCATION, EXERCISE SCIENCE AND SPORT

Time: 3 Hours Maximum Marks: 60

PART A (Answer any five questions. Each question carries 3 marks) (5 x 3 = 15 Marks)

1. Define 'Sports' as distinct from general physical activity.
2. What is the primary benefit of performing Squats according to the notes?
3. What does the 'Valuing' level of Krathwohl's Affective Taxonomy represent?
4. State the primary role of Fats in the context of exercise and energy provision.
5. Who is the Dronacharya Award primarily given to in the Indian sports context?
6. What is the main purpose of Criterion-Referenced Assessment?
7. Define Motor Learning as a component of Motor Behavior.

PART B (Answer any three questions. Each question carries 5 marks) (3 x 5 = 15 Marks)

8. Compare and contrast the core ideas of Naturalism and Idealism as philosophies applied to Physical Education.
9. Discuss the implications of Health and Wellness concepts specifically for the field of Exercise Science.
10. Describe two key components or initiatives of the Khelo India program *besides* the Khelo India Youth Games (KIYG).
11. Describe the key characteristics of motor development during the Infancy stage (0-2 Years).
12. Explain the difference between Intrinsic Motivation and Extrinsic Motivation in the context of sports participation.

PART C (Answer any three questions. Each question carries 10 marks) (3 x 10 = 30 Marks)

13. Explain the three main domains of learning (Cognitive, Affective, Psychomotor). Discuss how these domains are interrelated and addressed simultaneously when teaching a complex sport skill, using an example like learning a basketball layup.
14. Select three distinct career paths mentioned in the notes (e.g., Sports Scientist, PE Teacher, Health & Wellness Coach). For each, describe the primary role, typical qualifications mentioned, and common work settings based on the provided text.
15. Describe the three classes of levers found in the human body. Provide a specific anatomical example for each class and explain how the force, fulcrum, and load are arranged during a relevant movement.
16. Discuss the key issues related to Race/Ethnicity and Gender as themes within the Sociology of Sport, citing examples or concepts mentioned in the provided notes.
17. Explain the importance of nutrient timing (pre-workout, during-workout if needed, post-workout). Provide specific nutritional strategies (considering macronutrients) for two different fitness goals discussed: Muscle Gain and Endurance Training.

Answers for Question Paper 3 (Based *only* on provided PDF notes)

PART A

1. **Define 'Sports':** Sports involve organized and competitive physical activities or games that require skill, strategy, and physical effort. They often have established rules, involve individual or team participation, and aim to achieve specific goals like winning or mastering techniques. They can be recreational or professional. (Ref: PDF Unit 1, Pg 1)
2. **Primary benefit of Squats:** Squats build lower body strength, improve mobility, and enhance core stability. (Ref: PDF Unit 1, Pg 18)
3. **'Valuing' level of Krathwohl's Affective Taxonomy:** This level involves attaching value or worth to experiences, concepts, objects, or behaviors. It signifies a level of commitment or acceptance beyond mere awareness or response (e.g., Accepting the importance of teamwork, Supporting fair play). (Ref: PDF Unit 1, Pg 5)
4. **Primary role of Fats in exercise/energy:** Fats are important for hormone production, joint health, and providing long-term energy. They primarily support low-intensity, long-duration activities. (Ref: PDF Mod 3, Pg 20)
5. **Dronacharya Award:** Awarded to outstanding coaches for producing medal-winning performances by athletes at international events. (Ref: PDF Mod 4, Pg 10)
6. **Main purpose of Criterion-Referenced Assessment:** To measure a student's performance against a fixed, predetermined set of criteria or standards (learning objectives), determining whether specific benchmarks have been met. (Ref: PDF Unit 1, Pg 8)
7. **Define Motor Learning:** Motor Learning is a component of Motor Behavior that studies how movements improve with practice and experience, including the processes involved in skill acquisition and retention. (Ref: PDF Mod 3, Pg 1)

PART B

8. **Compare/Contrast Naturalism and Idealism in PE:**
    - **Core Idea:** Idealism emphasizes mind, values, character, and moral development through PE, seeing the teacher as a role model and activities as means to instill ethics. Naturalism emphasizes learning through nature, experience, freedom, enjoyment, and alignment with natural human development, minimizing structure and artificiality.
    - **Focus:** Idealism focuses on developing the 'ideal' well-rounded, ethical individual. Naturalism focuses on holistic development through natural, intrinsically motivating activities and connection with nature.
    - **Method:** Idealism uses structured activities to teach values like discipline and fair play. Naturalism favors play-based learning, outdoor activities, and freedom for exploration.
    - **Contrast:** Idealism values structure for moral guidance; Naturalism values freedom and natural processes. Idealism focuses on striving for perfection/ideals; Naturalism focuses on enjoyment and individual pace. (Ref: PDF Mod 3, Pg 4-5, 7)
9. **Implications of Health/Wellness for Exercise Science:** Exercise Science is fundamentally linked to promoting health and wellness. Key implications include:
    - **Disease Prevention/Management:** Understanding how exercise impacts physical health helps design programs to prevent/manage chronic diseases (heart disease, diabetes, obesity).
    - **Mental Well-being:** Exercise science explores how physical activity reduces stress, improves mood, and enhances cognitive function, contributing to mental wellness.
    - **Rehabilitation:** Knowledge of biomechanics and physiology aids in designing effective injury prevention and rehabilitation programs.
    - **Performance Enhancement:** Applying principles helps optimize physical performance, a component of physical wellness for athletes.
    - **Holistic Approach:** Exercise science increasingly recognizes the multidimensional nature of wellness, considering how exercise impacts emotional, social, and other dimensions beyond just the physical.
    - **Personalization:** Understanding individual responses allows for tailored exercise programs promoting personalized wellness journeys. (Ref: PDF Unit 1, Pg 14-15)
10. **Two key components/initiatives of Khelo India (besides KIYG):** (Any two from the list)
    - **Khelo India School Games (KISG):** Annual school-level competitions to identify talent in multiple disciplines, with winners receiving scholarships.
    - **Sports Infrastructure Development:** Construction and modernization of sports facilities, especially in underserved areas, to improve access to training.
    - **Community Coaching and Physical Fitness Program:** Training community coaches and promoting fitness awareness in the public, schools, and colleges.
    - **Sports for Peace and Development:** Using sports to promote peace-building and social development in specific regions like Jammu & Kashmir and the North-East. (Ref: PDF Mod 4, Pg 6)
11. **Motor Development in Infancy (0-2 Years):** This stage is characterized by rapid changes:
    - **Reflexive Movements:** Dominated initially by involuntary reflexes (e.g., sucking, grasping, Moro reflex) which gradually integrate or disappear.
    - **Gross Motor Skills Development:** Progression from lifting the head, to rolling over, sitting, crawling, standing, and eventually walking. Marked by increasing control over large muscle groups.
    - **Fine Motor Skills Development:** Emergence of reaching, grasping objects, and developing hand-eye coordination. Starts with crude movements and becomes more refined. (Ref: PDF Mod 3, Pg 2)
12. **Intrinsic vs. Extrinsic Motivation in Sports:**
    - **Intrinsic Motivation:** Driven by internal factors and enjoyment derived directly from the activity itself. The reward is the participation or the feeling of accomplishment. Examples: Playing a sport for the love of the game, the challenge, or the fun of it.
    - **Extrinsic Motivation:** Driven by external rewards or outcomes that are separate from the activity itself. Examples: Playing for money, trophies, medals, fame, scholarships, or to avoid punishment.
    - **Difference:** The source of motivation is internal (enjoyment, interest) for intrinsic, and external (rewards, pressure) for extrinsic. (Ref: PDF Mod 3, Pg 24)

PART C

13. **Three Domains of Learning & Interrelation in Basketball Layup:**
    - **Domains:**
        1. **Cognitive (Knowledge):** Mental skills, understanding concepts, rules, strategies. (E.g., Knowing the rules of traveling, understanding the steps of

a layup, knowing when to use it).
    2. **Affective (Attitudes/Emotions):** Feelings, values, motivation, attitudes, social skills. (E.g., Enjoying practice, valuing teamwork, managing frustration after missing, having confidence to attempt the shot).
    3. **Psychomotor (Skills):** Physical skills, coordination, performing motor tasks. (E.g., The actual physical execution of dribbling, jumping, coordinating hand-eye movement to release the ball, landing).
- **Interrelation in Teaching a Layup:** Effective teaching addresses all three simultaneously:
    - **Cognitive:** The coach explains the steps, rules (no traveling), and tactical reasons for using a layup (getting close to the basket). Students need to *understand* the sequence and rules.
    - **Psychomotor:** Students practice the physical movements – dribbling towards the basket, the footwork (e.g., right-left-up for a right-handed layup), the jump, extending the arm, releasing the ball off the backboard. This requires coordination and physical execution. Assessment involves observing the physical skill.
    - **Affective:** The coach needs to create a positive environment where students feel motivated to try, aren't afraid to fail (build confidence), learn to cooperate in drills, and develop perseverance through practice. Success in executing the skill boosts self-esteem (affective outcome). Frustration needs to be managed.
- A student cannot perform a good layup (psychomotor) without understanding the steps (cognitive) and having the confidence and motivation to practice and execute it (affective). Teaching involves explaining (cognitive), demonstrating and practicing (psychomotor), and encouraging/motivating (affective). (Ref: PDF Unit 1, Pg 4-6)

14. **Three Career Paths (Role, Qualifications, Settings):**

- **1. Sports Scientist:**
    - *Role:* Study and apply scientific principles (physiology, biomechanics, psychology) to enhance athletic performance, improve training techniques, and sometimes aid rehabilitation.
    - *Qualifications:* A degree in sports science, kinesiology, or exercise physiology.
    - *Work Settings:* Research institutions, sports organizations (teams, governing bodies), fitness centers.
- **2. Physical Education Teacher:**
    - *Role:* Teach PE in educational settings (schools, colleges), helping students develop motor skills, fitness habits, knowledge about health, and a love for physical activity.
    - *Qualifications:* A degree in physical education or related fields, often requiring a teaching certification (depending on region/level).
    - *Work Settings:* Primary and secondary schools, colleges, universities.
- **3. Health and Wellness Coach:**
    - *Role:* Guide clients to make healthier lifestyle choices through physical activity, nutrition, and overall well-being strategies. Focus on behavior change and goal setting.
    - *Qualifications:* Certifications in health coaching, wellness, or fitness-related fields.
    - *Work Settings:* Corporate wellness programs, fitness centers, independent consultancy/private practice. (Ref: PDF Mod 4, Pg 2-4)

15. **Three Classes of Levers in the Human Body:** Levers involve a rigid bar (bone) moving around a fixed point called a fulcrum (joint), with force applied (muscle contraction) to move a load/resistance.

- **1. First-Class Lever:** The fulcrum is located between the applied force and the load (Force - Fulcrum - Load).
    - *Anatomical Example:* Extending the neck (looking up). The fulcrum is the atlanto-occipital joint, the force is applied by the posterior neck muscles, and the load is the weight of the head tilting backward.
- **2. Second-Class Lever:** The load is located between the fulcrum and the applied force (Fulcrum - Load - Force). These levers provide a mechanical advantage (force multiplication).
    - *Anatomical Example:* Plantarflexion (standing on tiptoes/calf raise). The fulcrum is the ball of the foot (metatarsophalangeal joints), the load is the body weight acting through the ankle, and the force is applied by the calf muscles (gastrocnemius/soleus) pulling up on the heel bone.
- **3. Third-Class Lever:** The applied force is located between the fulcrum and the load (Fulcrum - Force - Load). These levers prioritize speed and range of motion over force advantage; they are the most common type in the human body.
    - *Anatomical Example:* Bicep curl (elbow flexion). The fulcrum is the elbow joint, the force is applied by the biceps muscle attaching to the forearm (radius/ulna), and the load is the weight held in the hand (or the weight of the forearm itself). (Ref: PDF Mod 3, Pg 12)

16. **Issues of Race/Ethnicity and Gender in Sociology of Sport:**

- **Race and Ethnicity:**
    - *Historical Access:* Historically, race has significantly impacted access to sports participation and opportunities. Segregation and discrimination were common.
    - *Representation & Discrimination:* Issues persist in many professional leagues regarding representation in playing roles, coaching, and management positions. Subtle or overt discrimination can still occur.
    - *Cultural/Economic Links:* Success or participation rates in certain sports are sometimes linked to cultural traditions or socioeconomic factors that may correlate with racial or ethnic groups (e.g., accessibility of facilities, cost of equipment).
- **Gender:**
    - *Visibility & Coverage Disparities:* While women's sports have gained visibility, they still often face significant disparities in funding, media coverage, and sponsorship compared to men's sports.
    - *Participation & Equity:* Laws like Title IX (in the U.S., mentioned as context) have promoted gender equity in school sports, increasing opportunities, but challenges remain globally.
    - *Stereotypes & Norms:* Gender stereotypes can limit participation choices for both men and women (e.g., certain sports seen as 'masculine' or 'feminine').
    - *Toxic Masculinity/Homophobia:* Some sporting cultures grapple with issues of toxic masculinity and homophobia, creating non-inclusive environments.
- These sociological factors demonstrate that sport is not just about physical ability but is deeply embedded in social structures and power dynamics related to race and gender. (Ref: PDF Mod 3, Pg 23)

17. **Nutrient Timing and Strategies for Muscle Gain & Endurance:**

- **Importance of Nutrient Timing:** Consuming the right nutrients at the right time around exercise can optimize performance, enhance recovery, and support fitness goals.
    - **Pre-Workout:** Aims to fuel the upcoming session, top off glycogen stores, and provide readily available energy. Primarily focuses on carbohydrates, with some protein potentially beneficial. Should be consumed 30-90 minutes prior.
    - **During-Workout (if needed):** For longer (>60-90 min) or very intense sessions, consuming simple carbohydrates and electrolytes helps maintain blood glucose, spare glycogen, and maintain hydration/performance.
    - **Post-Workout:** Crucial for recovery. Aims to replenish depleted glycogen stores, repair muscle tissue damaged during exercise, and promote adaptation. Focuses on protein for repair and carbohydrates for glycogen replenishment, ideally within 30-60 minutes post-exercise.
- **Strategies for Fitness Goals:**
    - **Muscle Gain:**
        - *Overall:* Requires a caloric surplus (consuming more calories than burned).
        - *Macronutrients:* High protein intake (1.6-2.2 g/kg/day) is essential to provide building blocks for muscle repair and growth. Adequate carbohydrate intake is needed to fuel intense strength training sessions and aid recovery.
        - *Timing:* Consuming protein and carbs post-workout is particularly important to maximize muscle protein synthesis. Consistent protein

intake throughout the day is also beneficial. Often combined with progressive overload strength training.

- **Endurance Training:**
  - *Overall:* Focuses on sustained energy provision.
  - *Macronutrients:* High carbohydrate intake (6-10 g/kg/day) is critical to maximize glycogen stores for prolonged energy. Moderate protein for muscle repair and adequate fat for overall energy.
  - *Timing:* Pre-exercise carbohydrates are vital for performance. During long sessions, consuming easily digestible carbs and electrolytes is key. Post-exercise carbs and protein are needed for glycogen replenishment and repair. Hydration is paramount. (Ref: PDF Mod 3, Pg 21)