BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI - 620 024

(Accredited With A+ Grade By NAAC In The Third Cycle)

Department of Physical Education and Yoga

Bachelor of Physical Education (B. P. Ed)

EC-IV Theories of Sports and Major Games (21BPE44EA)

Sem. -IV

Credit-4

Unit-5

Conditional Exercises And Warming Up

Warming up

- Prepares your body for physical activity by increasing your heart rate, blood flow, and muscle temperature. It can also help prevent injuries. Some examples of warm-up activities include:
  - Dynamic stretching
  - Leg bends
  - Leg swings
  - Shoulder/arm circles
  - Jumping jacks
  - Jumping rope
  - Lunges
  - Squats
  - Walking or a slow jog
  - Yoga

Cooling down

- Returns your body to a normal resting state after exercise. It can help reduce muscle soreness and improve your range of motion. Some examples of cool-down activities include:
  - Static stretching
  - Walking or slow cycling for 5-10 minutes

Meaning of "strategy"

- The meaning of "strategy" in the context of physical education and sports refers to a comprehensive plan designed to achieve specific goals during physical activities or competitions. It involves making decisions about how to utilize available resources, such as players, time, and space, to gain an advantage over opponents and succeed in achieving the desired outcomes.

Importance of strategy:

1. Enhances Performance:

- **Optimizes Resources**: By strategically using available resources, including player skills, time, and physical conditioning, performance can be maximized.
- **Focuses Efforts**: Strategy helps focus efforts on areas that will most likely yield positive results, ensuring that time and energy are used efficiently.

Maximizes Strengths and Minimizes Weaknesses:

- **Leverages Strengths**: Strategies are designed to capitalize on the strengths of individuals and teams, allowing them to perform at their best.
- **Compensates for Weaknesses**: Effective strategies can also help mitigate weaknesses, providing a balanced approach to competition and play.
- **3. Provides Direction and Purpose:**
- **Clear Goals**: Strategy gives players and teams clear goals to aim for, creating a sense of purpose and direction.
- **Structured Play**: A strategic plan offers a structured approach to play, helping teams stay organized and cohesive.
- **4. Creates Competitive Advantage:**
- **Outmanoeuvres Opponents**: A well-crafted strategy can provide a competitive edge, allowing teams or individuals to outthink and outmanoeuvre their opponents.
- **Adaptability**: Strategic thinking includes the ability to adapt to changing circumstances, which can be crucial in dynamic and fast-paced sports environments.
- **5. Improves Decision-Making:**
- **Informed Choices**: Strategy involves making informed decisions based on analysis and planning, which can improve the quality of choices made during play.
- **Quick Adjustments**: Having a strategic framework allows for quicker and more effective adjustments in response to opponents' actions or unexpected events.

6. Fosters Teamwork and Communication:

- **Coordination**: Strategy requires and fosters coordination among team members, ensuring that everyone is working towards the same goals.
- **Communication**: Effective strategies depend on clear communication, which can improve overall team dynamics and performance.
- **7. Enhances Learning and Development:**
- **Understanding the Game**: Developing and implementing strategies helps players gain a deeper understanding of the game, including its rules, tactics, and nuances.
- **Skill Development**: Strategic practice and play can lead to the development of new skills and the refinement of existing ones.
- **8. Increases Confidence:**
- **Preparedness**: Knowing that there is a plan in place can boost players' confidence, as they feel more prepared to face their opponents.
- **Mental Toughness**: Strategic thinking can also enhance mental toughness, as players learn to stay focused and composed under pressure.

Role of weight training

Weight training, also known as strength training or resistance training, can improve sports performance in a number of ways, including:

- **Injury prevention**: Weight training can help prevent injuries by:
  - **Increasing bone density**: Weight training can help make bones more resilient and less likely to break.
  - **Strengthening muscles**: Weight training can help ensure that all muscle groups are equally strong, which can reduce the risk of strains and sprains.
  - **Improving flexibility**: Weight training can help make tendons and ligaments more flexible and less likely to tear.

- **Improving performance**: Weight training can help improve performance in a variety of sports, including:
  - **Increasing jump height**: Weight training can help increase jump height.
  - **Improving change of direction**: Weight training can help improve change of direction.
  - **Improving anaerobic capacity**: Weight training can help improve anaerobic capacity.
  - **Improving stride efficiency**: Weight training can help improve stride efficiency.
- **Improving coordination**: Weight training can help improve coordination.

Recreational games

- Recreational games are a growing part of physical education (PE) curricula and can help students develop in many ways. Some examples of recreational games include:
- **Ultimate Frisbee**: A fast-paced game that combines elements of soccer, basketball, and football
- **Disc Golf**: A social game that involves strategy and walking
- **Balancing challenges**: Activities like walking the line, flamingo stand, and kneel balance can help build focus, coordination, and patience
- Other recreational games include: Mixers and ice breakers, Relay games, and Tag games.

Lead-up games

- Lead-up games in physical education (PE) are games that help students learn the skills, rules, and strategies of a sport in a fun way. Here are some examples of lead-up games:
- **Dance Tag**: A warm-up game that focuses on creativity and dance movement
- **Dodge ball**: A fun game that helps students improve their throwing and catching skills
- **Dribbling gates**: A soccer activity where students partner up and try to pass through as many gates as possible in a given amount of time

OFFENSIVE AND DEFENSIVE STRATEGIES

- In physical education, offensive and defensive strategies are important parts of tactics and can determine the outcome of a game. The main difference between the two is their purpose:
- **Offensive**: The goal is to create and take advantage of opportunities to score.
- **Defensive**: The goal is to prevent the other team from scoring.
- Here are some examples of offensive and defensive strategies in different sports:

- **American football**
- Teams plan many aspects of their plays, including formations, who plays, and player roles and instructions.
- **Soccer**
- Offenses can use dribbles, short passes, or long passes to advance the ball to a shooting range. Defenses decide how many defenders to use and how far away from their goal to line them up.
- In general, strategy is a long-term vision, while tactics are short-term actions taken to achieve that vision.

principles of offense and defence

In physical education, the principles of offense and defence are the strategies and tactics used to score and prevent scoring, respectively:

- **Offense**
- Some principles of offense include:
  - **Penetration**: Players should try to break through the defense, such as with a fast break
  - **Spacing**: Players should position themselves to make it difficult for the defense to trap or help
  - **Ball and player movement**: Players should move with purpose, and off-ball activity is important
  - **Options for the ball handler**: Players should have multiple options to attack the defense
  - **Rebounding**: Players should go strong for rebounds while maintaining balance
  - **Versatile positioning**: Players should be able to fill any spot on the court
  - **Using individual talents**: Players should be able to take advantage of their team's best skills

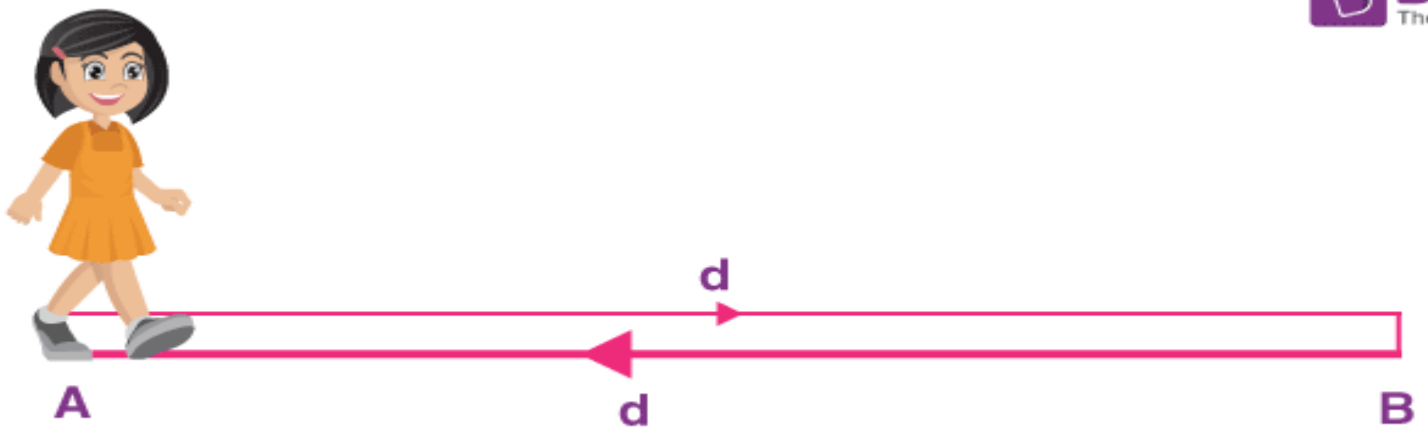
Some principles of defence include:

- **Pressure the ball**: Players should force the offense into mistakes
- **Support the ball**: Players should take side steps to the ball and keep the triangle of ball-you-player
- **Deny passes and cuts**: Players should deny penetrating passes and cuts
- **Balance**: Players should cancel the offense's mobility
- **Discipline and patience**: Players should be patient and assess the risk of challenging for the ball
- **Predictability**: Players should encourage the offense to play into certain areas of the field

DISTANCE AND DISPLACEMENT

As discussed earlier, distance and displacement are used to describe the change in position. Now, if someone asks what the distance between A and B is, we can't give a definite answer because it depends on the path taken. It may or may not be the same for all three paths. But for displacement, we can always give a definite answer as it is a straight line joining the two points. In other words, displacement is nothing but the shortest distance between the two points, which in this case is Path 2. Also, it has a particular direction from A to B, as we can see.

- So now that we have a basic idea of both, we will try to solve an example: Suppose the distance between two cities, A and B, is 'd'. A person goes from A to B and returns. Calculate distance travelled and displacement.



Distance travelled = Total path length covered

= d + d

= 2d

Displacement is measured as the shortest distance between the initial and final position. In this case, both are the same, and hence, displacement is also zero.

So for a motion, can displacement be greater than the distance covered? Think about it, and if not, can it be equal?

velocity with example

- Velocity is essentially a vector quantity. It is **the rate of change of distance**. It is the rate of change of displacement. Speed of an object moving can never be negative. The velocity of a moving object can be zero.
- In simple words, velocity is **the speed at which something moves in a particular direction**. For example as the speed of a car travelling north on a highway, or the speed a rocket travels after launching. The scalar means the absolute value magnitude of the velocity vector is always be the speed of the motion.

Centripetal Force Examples in Daily Life

- The centripetal force pulls or pushes an object towards the centre of a circle as it travels, causing angular or circular motion.

- When spinning a ball on a string or twirling a lasso, the force of tension on the rope pulls the object towards the centre.
- The centripetal force is provided by the frictional force between the ground and the wheels when turning a car.
- When going through a loop on a roller coaster, the force is provided by the normal force as the seat or wall pushes you towards the centre.
- For the planets orbiting around the Sun, the centripetal force is provided by Gravity.

Centrifugal Force

- Centrifugal force is a pseudo force in a circular motion which acts along the radius and is directed away from the centre of the circle. The force does not exist when measurements are made in an inertial frame of reference. It only comes into play when changing our reference frame from a ground/inertial to a rotating reference frame.

Friction

- Friction is the force resisting the relative motion of solid surfaces, fluid layers, and material elements sliding against each other.

force

- Push or pull of an object is considered a force. Push and pull come from the objects interacting with one another. Terms like stretch and squeeze can also be used to denote force.

Differences Between Centripetal And Centrifugal Force	
Centripetal Force	Centrifugal Force
Centripetal force is the component of force acting on an object in curvilinear motion which is directed towards the axis of rotation or centre of curvature.	Centrifugal force is a pseudo force in a circular motion which acts along the radius and is directed away from the centre of the circle.
It is observed from an inertial frame of reference.	It is observed from a non-inertial frame of reference.
If a car is travelling through a curve on a circular horizontal road, the centripetal force provided by the force of friction between the tyres of the vehicle and the road surface allows the car to negotiate the turn.	When a car in motion takes a sudden turn towards the left, passengers in a car experience an outward push. This is due to the centrifugal force acting on passengers.


thank
you