BHARATHIDASAN UNIVERSITY

Tiruchirappall-620O24

Tamil Nadu-India

Programme: MPED , physical education

course title : TEST, MESUREMENT AND EVALUATION IN PHYSICAL EDUCATION

course code : 21MPE11

UNIT – III PHYSICAL FITNESS TEST

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PHYSICAL FITNESS TEST

- A physical fitness test is a series of exercises or assessments designed to evaluate an individual's physical capabilities, including strength, endurance, flexibility, and cardiovascular health. The specific components of the test may vary depending on the purpose, but common assessments typically include:
- **Cardiovascular Fitness (Endurance)**
- **Muscular Strength and Endurance**
- **Flexibility**
- **Body Composition**
- **Balance and Agility**
- **Speed and Power**

AAHPPERD HEALTH REALETED FITNESS BATTERY(REVISED IN 1984)

- The **AAHPERD Health-Related Fitness Battery (Revised in 1984)**, developed by the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD), is a set of fitness assessments designed to evaluate health-related fitness components. The battery was revised in 1984 to address various aspects of physical fitness that are essential for maintaining good health. The tests focus on the following components:
- Cardiorespiratory Endurance
- Muscular Strength
- Muscular Endurance
- Flexibility
- Body Composition

ACSM HEALTH RELATED PHYSICAL FITNESS TEST

- **ACSM Health-Related Fitness Test:**

1. **Cardiovascular Fitness**: 1.5-mile run (or step test).
2. **Muscular Strength**: 1RM bench press.
3. **Muscular Endurance**: Push-up test (max reps).
4. **Flexibility**: Sit-and-reach test.
5. **Body Composition**: Skinfold caliper measurement.

- **Interpretation:**
- The ACSM test protocols include normative data, which helps in categorizing the fitness level of the individual (e.g., excellent, good, average, poor) based on their age, gender, and performance on each test.

ROGERS PHYSICAL FITNESS INTEX

•**Rogers Physical Fitness**: This might be a specific fitness program, gym, or brand related to physical fitness, but I
•would need more details to provide the right context.
•**Intex**: This is a well-known company that manufactures inflatable products such as pools, air mattresses, and fitness
• equipment like inflatable boats, kayaks, and even exercise equipment.

CARDIO VASCULAR TEST

- A **cardiovascular test** is used to assess the health and function of your heart and blood vessels. These tests help diagnose cardiovascular conditions, such as coronary artery disease, heart failure, arrhythmias, and more. Some common types of cardiovascular tests include:
- **1. Electrocardiogram (ECG or EKG)**
- **Purpose**: Measures the electrical activity of the heart.
- **How**: Electrodes are placed on the skin to record the electrical signals.
- **What it detects**: Heart rhythm problems, heart attack, and other cardiac issues

HAVARD STEP TEST,12MINUTES RUN AND WALK TEST

- **Harvard Step Test**
- **Purpose**: The Harvard Step Test measures cardiovascular endurance, specifically the efficiency of the heart and lungs in response to exercise.
- **How it works**:
- **Step Height**: A 12-inch (30.5 cm) high step is used.
- **Procedure**:
  - The subject steps up and down on the platform at a rate of 30 steps per minute for 5 minutes.
  - If the subject cannot complete the full 5 minutes, the test ends early.
  - After the exercise, the heart rate is measured immediately at the end of the test (at 0 minutes), then again at 1 minute and 2 minutes after completing the test.

- **Scoring**: The recovery heart rates are used to determine the fitness score. **Formula**:
  Harvard Step Test Index=Duration of Exercise (in seconds)Sum of hear t rates at 1st, 2nd, and 3rd minute of recovery\text{Harvard Step Test Index} = \frac{\text{Duration of Exercise (in seconds)}}{\text{Sum of heart rates at 1st, 2nd, and 3rd minute of recovery}}Harvard Step Test Index=Sum of heart rates at 1st, 2nd, and 3rd minute of recovery Duration of Exercise (in seconds)
  - The resulting score helps categorize the fitness level:
    - Excellent: 90 or above
    - Good: 80–89
    - Average: 65–79
    - Below average: Below 65

- **2-Minute Run and Walk Test (Cooper Test)**
- **Purpose**: The 12-minute run and walk test is designed to assess the maximal distance a person can run or walk in 12 minutes, providing a measure of aerobic endurance.
- **How it works**:
- **Procedure**: The individual runs (or walks) around a marked track or measured area for 12 minutes.
  - The total distance covered in this time is measured.
  - The test is performed at the individual's own pace, and they should aim to cover as much distance as possible.
- **Scoring**: The distance covered in 12 minutes is used to assess cardiovascular fitness.
  - The results are often compared to age- and sex-based norms to evaluate the fitness level.

MULTI STAGE FITNESS TEST

- The **Multi-Stage Fitness Test** (MSFT), commonly known as the **Beep Test**, is a popular cardiovascular fitness assessment used to evaluate the aerobic capacity and endurance of individuals. It involves running back and forth between two markers that are 20 meters apart, with the pace progressively increasing as the test continues.
- **Beep Test Works:**

1.Setup:

1. The test is conducted in a flat, non-slippery area.
2. Two markers are placed 20 meters apart.

2.Procedure:

1. The test starts with a slow pace and the participants run from one marker to the other before the beep sounds.
2. After each successful shuttle (run), participants wait for the next beep and run again.
3. As the test progresses, the time between beeps shortens, increasing the speed of the run. This means participants must run faster to reach the other marker before the next beep sounds.

TUTTLE PULSE RATIO-TEST

- he **Tuttle Pulse Ratio Test** (also known as the **Tuttle Pulse Ratio Method**) is a procedure used in electrical engineering to analyze the performance of pulse systems. It's particularly useful in the field of **pulse modulation**, **signal processing**, and **communication systems**.
- However, there isn't much widely known or standardized documentation regarding the specifics of the "Tuttle Pulse Ratio Test" by that exact name in public resources. It's possible that you're referring to a concept or a tool that might be specific to certain specialized systems or textbooks, possibly related to the study of signal analysis or pulse behaviors.

TEST FOR FITNESS COMPONENTS

- Testing for fitness components involves assessing various areas of physical fitness, such as cardiovascular endurance, muscular strength, flexibility, and body composition. Below is an overview of common fitness tests for each component:

YOYO TEST ,SOMATOTYPE AND POSTURE EVALUATING TECHNIQUE

- **YOYO Test (Yo-Yo Intermittent Recovery Test)**
- The **YOYO test** is a field test designed to assess an individual's ability to recover during intermittent high-intensity exercise. It is often used to measure **aerobic fitness** and **recovery capacity**, making it particularly relevant for sports that involve intermittent running (e.g., soccer, basketball).
- **Procedure:**
- **Level 1 (Yo-Yo Intermittent Recovery Test 1)**: The test involves running back and forth between two markers set 20 meters apart. The test has a series of increasingly faster shuttles, starting at a pace of 10 km/h.
- After each shuttle, the person has a short rest period (10 seconds) before starting the next run.
- The pace increases progressively with each level.
- Participants are required to run to the markers before the sound (usually a beep) and must turn back when they hear it.
- The test continues until the participant can no longer maintain the required pace.

- **Somatotype Evaluation**
- A **somatotype** is a classification system that describes an individual's physique based on three components: **endomorphy**, **mesomorphy**, and **ectomorphy**. Each of these components reflects a different aspect of body composition and shape.
- **The three somatotypes:**
- **Endomorph**: Characterized by a higher percentage of body fat and a wider, rounder shape. People with endomorphic features often have a tendency to gain fat easily.
- **Mesomorph**: This somatotype reflects a muscular, athletic build with a naturally higher proportion of lean muscle mass.
- **Ectomorph**: Characterized by a slim, lean body with a lower amount of fat and muscle mass. Ectomorphs typically find it harder to gain weight and muscle.

- **Techniques for Posture Evaluation:**

1.Visual Observation:

1. **posture analysis** typically begins with a simple visual inspection of the body while the person stands in a neutral position. Key areas to observe include:
   1. **Head position**: Is the head forward, tilted, or tilted back?
   2. **Shoulders**: Are they level or uneven? Are they rounded forward or pulled back?
   3. **Spine alignment**: Is the spine in a neutral position? Look for excessive curvature (hyperlordosis, hyperkyphosis).
   4. **Hips**: Check for tilting (anterior or posterior pelvic tilt).
   5. **Knees and feet**: Observe if there is valgus (knees inward) or varus (knees outward).