

MPD-E102 SPORTS TECHNOLOGY

The Course learning outcomes (COs): On completion of the two years M.P.Ed., program, the students will be learning and able to do/perform the following.....

CO-1. Defining various concepts of sports technology.

CO-2. Identifying various concepts of surfaces of playfields.

CO-3. Describing the training gadgets and surfaces of playfields.

CO-4. Classifying various modern equipment's.

CO-5. Operating the modern equipment's and training gadgets for the improvement of sports performance

Unit I – Sports Technology

Meaning, definition, purpose, advantages and applications.

General Principles and purpose of instrumentation in sports.

Workflow of instrumentation and business aspects.

Technological impacts on sports.

Unit II – Science of Sports Materials

Adhesives- Nano glue, Nano-moulding technology, Nano-turf.

Foot wear production, Factors and application in sports, constraints.

Foams- Polyurethane, Polystyrene, Styrofoam, closed-cell and open-cell foams, Neoprene, Foam. Smart Materials – Shape Memory Alloy (SMA), Thermo chromic film, High-density modelling foam.

Unit III – Surfaces of Playfields

Modern surfaces for playfields, construction and installation of sports surfaces.

Types of materials – synthetic, wood, polyurethane Artificial turf.

Modern technology in the construction of indoor and outdoor facilities.

Technology in manufacture of modern play equipment's.

Use of computer and software in Match Analysis and Coaching.

Unit IV – Modern equipment and Training Gadgets

Playing Equipment's: Balls Types, Materials and Advantages, Bat/Stick/ Racquets: Types, Materials and Advantages.

Clothing and shoes: Types, Materials and Advantages.

Measuring equipment's: Throwing and Jumping Events. Protective equipment's: Types, Materials and Advantages.

Sports equipment with Nano technology, Advantages.

Basketball: Ball Feeder, Mechanism and Advantages.

Cricket: Bowling Machine, Mechanism and Advantages,

Tennis: Serving Machine, Mechanism and Advantages,

Volleyball: Serving Machine Mechanism and Advantages.

Lighting Facilities: Method of erecting Flood Light and measuring luminous.

Video Coverage: Types, Size, Capacity, Place and Position of Camera in Live coverage of sporting events.

References:

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