

## SEMESTER – VI

### BSc-PE-DSE-4(4): 403 SPORTS FIELD TECHNOLOGY

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
BSc-PE-DSE-4(4): 403 SPORTS FIELD TECHNOLOGY	4	3	1	0	Class XII pass	NIL

**Learning Outcome:** - The learner will be able to use the knowledge of Yoga and will have a command of the basic and advanced rules and regulations and conducting a tournament.

#### **Learning Objectives:-**

1. The student will understand Technical preparation, Marking, Physical, physiological, psychological, and sociological characteristics Technical Preparation for Focused Events, Required motor abilities and their technical preparation, Technical and tactical preparation, Physical, physiological, psychological and sociological characteristics of athletes
2. The student will comprehend Structure and organization of the meet Budgeting, purchase of equipment Preparation, execution, and conclusion of the respective events Protocols and ceremonies
3. The student will apprehend how a particular instrument is made and how it is used.

#### **THEORY SYLLABUS (45 HOURS)**

##### **UNIT I – Sports Technology (12 HOURS)**

- 1.1 Meaning and definition of sports technology.
- 1.2 Significance of technology in sports
- 1.3 General Principles of instrumentation in sports.
- 1.4 Meaning of Foams, Types of foams (Polyurethane, Polystyrene, Styrofoam, closed-cell, open-cell foams, and Neoprene) and their uses in different sports.

## **UNIT II – Nanotechnology in Sports Materials (12 HOURS)**

- 2.1 Meaning and Definition of Nanotechnology
- 2.2 Meaning of nano glue and nano molding technology.
- 2.3 Uses and Benefits of Nanotechnology in sports uniforms, and Safety equipment
- 2.4 Uses and Benefits of Nanotechnology in Sports equipment and playing surfaces

## **UNIT III – Surfaces of Playfields and Measuring Gadgets (10 HOURS)**

- 3.1 Method of construction and installation for Synthetic and Cinder tracks.
- 3.2 Meaning and types of flooring materials for different sports: synthetic (polyurethane and poly grass) and wooden.
- 3.4 Modern Measuring Equipment Used in Running, Throwing, and Jumping Events.

## **UNIT IV – Modern Stadiums and Training Machines (11 HOURS)**

- 4.1 Identifying requirements of indoor and outdoor playfields
- 4.2 Tennis: Serving Machine, Mechanism and Advantages
- 4.3 Dimensions of Sports Infrastructure - Gymnasium, Pavilion, Swimming Pool, Indoor Stadium and Outdoor Stadium.
- 4.4 Lighting Facilities: Method of erecting and luminous in indoor and outdoor stadiums. Methods of measuring luminous.

## **SUGGESTED READINGS**

1. Finn, R.A. and Trojan P.K. (1999) “Engineering Materials and their Applications” UK: Jaico Publisher.
2. John Mongilo, (2001), “Nano Technology 101 “New York: Green wood publishing group. Walia,
3. Principles and Methods of Education (Paul Publishers, Jullandhar), 1999.

**Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.**