

# SCIENCE OF SPORTS TRAINING

(3+0 Cr. Hr)

## COURSE OBJECTIVES

The course is basically designed to create awareness in the perspective physical education for understanding the sports training and to develop a professional coach who can impart training under the scientific principles and in a systematic order. The course will enable the future coach to place the training processes in proper and thoughtful manner.

## COURSE CONTENTS:

- i. **SPORTS TRAINING**  
Introduction, Understanding of sports training, Coach in different capacities, relationship between coach and organization, athlete and link personals, Coaching style, Qualities of a good Coach
- ii. **TRAINING PRINCIPLES**  
Gradualness, Age Dependence, Utility, Loading/Over-Loading, Reversibility and specificity
- iii. **COMPONENTS OF FITNESS**  
Introduction, Components their need and importance in sports
- iv. **FUNDAMENTAL ASPECTS AND TRAINING OF STRENGTH ABILITIES**
  - a. Introduction
  - b. Classification of Strength:
    - i) Maximum Strength
    - ii) Speed Strength-Elastic Strength
    - iii) Strength Endurance
    - iv) Organization of Strength Training
- v. **FUNDAMENTAL ASPECTS AND TRAINING OF ENDURANCE**
  - a. Introduction, Local & general endurance types, Endurance training methods
  - b. Aerobic and anaerobic endurance short, middle and long-distance endurance
- vi. **FUNDAMENTAL ASPECTS AND SPEED TRAINING**
  - a. Introduction, Speed of movement
  - b. Phases of running action

**vii. WARM-UP & COOL DOWN**

- a. Introduction, Kinds (General, Specific)
- b. Need and Importance
- c. Effects of warm-up and Cool down

**viii. LOAD (OUTER AND INNER LOAD)**

- a. Introduction
- b. Loading factors
- c. Training methods, forms of organization and load structure
- d. Load and adaptation
- e. On selected principles for the arrangement of load (increasing load, continuous load).

**RECOMMENDED BOOKS**

1. Hodgson, D. R., McKeever, K. H., & McGowan, C. M. (2014). *The athletic horse: principles and practice of equine sports medicine*. Elsevier Health Sciences.
2. Haff, G. G., & Triplett, N. T. (Eds.). (2015). *Essentials of strength training and conditioning 4th edition*. Human kinetics.
3. Bompa, T., & Buzzichelli, C. (2015). *Periodization Training for Sports, 3E*. Human kinetics.
4. Baker, J., & Farrow, D. (2015). *Routledge handbook of sport expertise*. Routledge.
5. Viru, A. (2017). *Adaptation in sports training*. Routledge.