

Semester III
Theory course
IMTC – 301-Scientific Principles of Sports Training

ESSENCE OF THE COURSE

This course will enable students to understand the modern concept of sports training. It aims to develop understanding about the aim and objective of sports training, principles of sports training, system of sports training, training components, training process and training programming and planning.

COURSE LEARNING OUTCOME

After completing this course, the students will be able to

-) Understand the modern concept of sports training.
-) Describe the principles of sports training.
-) Evaluate and develop system of sports training – basic performance, intermediate performance and high performance training.
-) Plan training sessions.
-) Realize and apply the Methods of Technique Training.
-) Design different training program for Training Components.
-) Explain Periodization and its types.
-) Identify talents.

COURSE CONTENTS

11.1 UNIT I

Sports training: Definition – Aim, Characteristics, Principles of Sports Training, Over Load: Definition, Causes of Over Load, Symptoms of Overload, Remedial Measures – Super Compensation – Altitude Training – Cross Training

11.2 UNIT II

Physical Fitness Components: Strength: Methods to improve Strength: Weight Training, Isometric, Isotonic, Circuit Training, Speed: Methods to Develop Speed: Repetition Method, Downhill Run, Parachute Runing, Wind Sprints, Endurance, Methods to Improve Endurance: Continuous Method, Interval Method, Repetition Method, Cross Country, Fartlek Training

11.3 UNIT III

Flexibility: Methods to Improve the Flexibility- Stretch and Hold Method, Ballistic Method, Special Type Training: Plyometric Training. Training for Coordinative abilities: Methods to Improve Coordinative abilities: Sensory Method, Variation in Movement Execution Method, Variation in External Condition Method, Combination of Movement Method, Types of Stretching Exercises. Training Plan: Macro Cycle, Meso Cycle. Short Term Plan and Long Term Plans –= Periodization: Meaning, Single, Double and Multiple Periodization, Preparatory Period, Competition Period and Transition Period.

11.4 UNIT IV

Definition of Doping – Side effects of drugs – Dietary supplements – IOC list of doping classes and methods. Blood Doping – The use of erythropoietin in blood boosting – Blood doping control – The testing programmes – Problems in drug detection – Blood testing in doping control – Problems with the supply of medicines Subject to IOC

regulations: over-the- counter drugs (OTC) – prescription only medicines (POMs) – Controlled drugs (CDs). Reporting test results – Education

TEACHING LEARNING STRATEGIES

-) The content of the syllabus may be taught by using lecture method, discussion method, quiz method, educational videos, charts and assignment method depending upon the resources and facilities available at the University/Institute/ Department/Colleges.

MODE OF TRANSACTION

-) Field Work/Project Work/Viva/Seminars/Term Papers/Presentations/Self- Learning Instructional Material etc.

ASSESSMENT RUBRICS

- | | |
|--|-------------------|
|) End Semester Exam | Marks: 100 |
|) Classroom Test, Project Work, Assignments, Presentations | Marks: 70 |
| o Classroom Tests: Best one out of two unit tests | Marks: 30 |
| o Project Work, Assignments, Presentations | Marks: 10 |
| | Marks: 20 |

REFERENCES:

1. Bunn, J.N. (1998) Scientific Principles of Coaching, New Jersey Engle Wood Cliffs, Prentice Hall Inc
2. Cart, E. Klafs & Daniel, D. Arnheim (1999) Modern Principles of Athletic Training St. Louis C. V. Mosphy Company
3. Daniel, D. Arnheim (1991) Principles of Athletic Training, St. Luis, Mosby Year Book
4. David R. Mottram (1996) Drugs in Sport, School of Pharmacy, Liverpool: John Moores University
5. Gary, T. Moran (1997) – Cross Training for Sports, Canada : Human Kinetics
6. Hardayal Singh (1991) Science of Sports Training, New Delhi, DVS Publications
7. Jensen, C.R. & Fisher A.G. (2000) Scientific Basic of Athletic Conditioning, Philadelphia
8. Ronald, P. Pefiffer (1998) Concepts of Athletics Training 2nd Edition, London: Jones and Bartlett Publications
9. YograjThani (2003), Sports Training, Delhi : Sports Publications