<table>
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<tr>
<th>Chapter</th>
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<tr>
<td>1</td>
<td><strong>Physical and Physiological changes in growing athletes</strong></td>
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<td>Structural and functional changes during the rapid growing spurt in adolescence.</td>
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<td></td>
<td>Various Challenges in training and recovery during the rapid growing spurt and attention of the Coaches and support staff to avoid injuries and improve performance.</td>
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<td><strong>Various Assessment &amp; their importance</strong></td>
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<td>Various field and laboratory testing, its types &amp; frequency, Need for testing of athletes.</td>
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<td>Basic consideration for conducting field tests.</td>
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<td>Administering various Basic tests of Speed, Power, Endurance, Flexibility, Agility &amp; Balance.</td>
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<td>Importance of Basal heart rate monitoring.</td>
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<td>Various tests for High performance athletes.</td>
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<td><strong>Resistance Training</strong></td>
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<td>Resistance Training, its definition, uses.</td>
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<td>Various Modalities of Resistance Training, their Advantages and Disadvantages, Viz. a) own Body weight.</td>
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<td>b)Partner Resistance. c)Free Weight. d) Machines. e) Medicine Ball. f) Elastic TheraBand. g) Movement Specific resistance device. h) Strength Implements. i) Water &amp; Environmental Resistance Training</td>
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<td>Various Principles of Resistance training:</td>
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<td><strong>Designing a Resistance Training Programme</strong></td>
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<td>Exercise Prescription, Concept.</td>
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<td>Consideration for framing Exercise prescription,</td>
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<td></td>
<td>Components of Strength training, a) Need analysis, b) acute programme Variables c)Cronic Programme Manipulation d)Administrative concerns.</td>
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<td>5</td>
<td><strong>Periodization of Strength Training</strong></td>
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### Objective of Periodization
Logical and progressive preparation of a strength training programme. Volume and intensity of manipulation, dividing a year into training periods, dividing the loads as per requirement of the specific period.

Models: linear or classical Modal and Non linear or Undulating Model.


| 6 | **Strength & Conditioning**  
Training & Performance, designing training programme for high performance athletes |
|---|---|
| 7 | **Sports Injuries & Rehabilitation**  
| 8 | **Soft tissue injuries**  
<p>| 9 | <strong>Load management and injury prevention among young athletes.</strong> |</p>
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<th><strong>10</strong></th>
<th><strong>Sports Injuries with special relevance to Team Games</strong></th>
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<tr>
<th><strong>12</strong></th>
<th><strong>Understanding Blood tests and Body measurements to guide athlete’s Diet.</strong></th>
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<p>| <strong>Nutritional Supplements &amp; Uses.</strong> |
|---|---|
| Definition &amp; objective of intake, when to take, Deficiency. How to proceed to intake of Food Supplements. phase -1(Deficiency, symptoms, training), Phase -2 (Consultation &amp; Safety) &amp; Phase-3 (gradual progression &amp; Supplement free zone). Action, Recommendation &amp; Caution of Supplement intake of Whey Protein, Casein, Vegan, BCAA, L-Glutamine, Sports Drinks, OMEGA 3, Creatinine, Multi-vitamin, HMV, Beta ALENINE, ZMA (Zinc Magnesium Aspartate). |</p>
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<tr>
<th>Chapter</th>
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<td><strong>Sports Psychology: Stress Management</strong></td>
<td>Understanding the Mind- Body connect to Stress, Neuroscience the cutting-edge technology to combat Stress, Coping Mechanism for Stress Management.</td>
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<td>14</td>
<td><strong>Motivation &amp; Self Determination</strong></td>
<td>Relates to self-determination, different self-exercise areas, Emotional support, Information support, Esteem support, Tangible support.</td>
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<td>15</td>
<td><strong>Positive Coaching</strong></td>
<td>Communication, Coach- Athlete relationship, being sensitive to learning styles, Understanding different personality types of athletes.</td>
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<td>16</td>
<td><strong>Biomechanics</strong></td>
<td>Techniques &amp; Bio Mechanics. Key biomechanical ways of athlete analysis including video analysis, Force platform jump tests, new wearable bio mechanical devices</td>
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<td><strong>Theoretical Insight into Running Mechanics</strong></td>
<td>Why analyzing running mechanics, factors affecting running mechanics, external forces acting on body, brake force and injury, arm action, coordination and core strength, bilateral muscle imbalance</td>
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<td>20</td>
<td><strong>Mechanics of Injury</strong></td>
<td>Technique correction in sports events for better technique and prevention of injuries, use of technology in identification and prevention of injuries</td>
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<td>21</td>
<td><strong>Sports Anthropometry</strong></td>
<td>Growth and Maturation in Athletes. What is growth &amp; maturation, significance of growth and maturation in sports, various methods of studying maturation, estimation of maturation in a simplistic way. Relationship of chronological</td>
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| 22 | **Sports Physiology**  
Physiology of Strength Training - Basic terminologies; basic sports physiology, Physiological adaptation to strength training. Physiological basis of strength training program. Strength training & peak sports performance. Medical aspects of strength training. Concept of over-training vs overreaching & supercompensation: how to identify common illness related with faulty strength training, blackout during lifting, acute cardiovascular response etc. Common injuries related with faculty strength training. Basics on Sports & Exercise medical use of strength training. |
| 23 | **Doping:**  
Doping & it’s Hazards. How to prevent young Athletes from Doping. |