# NATIONAL SPORTS UNIVERSITY

**M.Sc. Sports Coaching**

SCHEME OF EXAMINATION

SEMESTER I

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/101 | Applied Sports Physiology, Biological and Nutritional consideration in Coaching | 3 | 32 | 30 | 45 | 75 |
| MSC/CC/102 | Advanced Pedagogy and Planning in Sports Training | 3 | 48 | 30 | 45 | 75 |
| MSC/CC/103 | Coaching Dynamics in Sports (sports specific) | 3 | 48 | 30 | 45 | 75 |
| **Elective (choose any one)** | | | | | | |
| MSC/EC/101 | Sports Law, Policy and Risk Management | 3 | 48 | 30 | 45 | 75 |
| MSC/EC/102 | Sports Journalism | | | | | |
| MSC/EC/103 | Advanced Strength and Conditioning | | | | | |
| **PART- B LAB PRACTICAL-I (Experiential Learning)** | | | | | | |
| MSC/CC(P)/101 | Applied Sports Physiology, Biological and Nutritional consideration in Coaching | 2 | 64 | 20 | 30 | 50 |
| MSC/EC(P)/101 | Sports Law, Policy and Risk Management | 1 | 32 | 10 | 15 | 25 |
| MSC/EC(P)/102 | Sports Journalism | | 32 | 10 | 15 | 25 |
| MSC/EC(P)/103 | Advanced Strength and Conditioning | | 32 | 10 | 15 | 25 |
| **PART-C (PRACTICAL-II) Specific Sports (Experiential Learning)** | | | | | | |
| MSC/CC/(P)102 | Advanced Pedagogy and Planning in Sports Training | 4 | 128 | 50 | 50 | 100 |
| MSC/CC(P)/103 | Coaching Dynamics in Sports (sports specific) | 4 | 128 | 50 | 50 | 100 |
| MSC/SP/104 | Physical Fitness/ Sports Performance/ Achievement | 2 | 64 | 25 | 25 | 50 |
| **GRAND TOTAL** | | **25** | **608** | **275** | **350** | **625** |

Add on Credits: The students can opt for various courses offered by the Concerned Recognized University / Institutions / Association/Federation/ Skill Council as an "Add on Credits" (at least two credits) in a year after the due approval from the competent authority of the University/ UGC.

**M. Sc. Sports Coaching**

**SEMESTER I**

**Applied Sports Physiology, Biological and Nutritional consideration in Coaching**

**Code: MSC/CC/101**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/101 | Applied Sports Physiology, Biological and Nutritional consideration in Coaching | 3 | 48 | 30 | 45 | 75 |

**Learning Outcomes**:

- Understanding the effect of exercise and sports on neuromuscular system.
- Knowledge about cardio respiratory system and effect of exercise and sports.
- Understanding biological consideration in coaching and training.
- Understanding Nutritional consideration in sports coaching and training.
- Gain a general overview of the function of the nervous, muscular, cardiovascular, and respiratory systems and how they respond to exercise and exercise conditioning.
- Apply and examine the optimal means to promote health-related fitness and optimal athletic performance.

## UNIT I –Applied Sports Physiology-I

1.1 Overview of sports and exercise physiology, biology and nutrition: its scope and application in the field of sports coaching.

1.2 Training for high performance: assessment of biological adaptations and its application for improvement of sports performance.

1.3 Biochemical bases for high performance: metabolic limitations to performance and adaptations to training and its applications in framing training schedules for sportspersons.

1.4 Strategies to enhance adaptation of athletes taking account of peaking, tampering and overtraining, stretching and flexibility during coaching and training.

## UNIT II – Applied Sports Physiology-II

2.1. Submaximal and maximal determinants of exercise performance:

2.2. Training for different sports and activities: Factors affecting and improving aerobic capacity, anaerobic sport performance and training for strength power and speed

2.3. Emergence of advanced technological aids that analyzes athletes training response, heart rate monitors, power measurement and GPS technologies – application of coaching software system.

2.4. Process of energy release from carbohydrate, fat and proteins; measurement of energy expenditure during exercise and rest and its application in framing and monitoring training regimes.

## UNIT III –Biological consideration in training

3.1. Influence of exercise on proteomics, genomics, epigenetics and their signaling pathways. Genetic factors that impact the responses and adaptations of health-related traits to exercise stimuli.

3.2. Genetic polymorphism and genotypes associated with cardiovascular responses, muscle strength/power and endurance adaptations and its influences on region specific performance variations in athletes.

3.3. Biological markers of performance (muscle status and oxygen transport), health (nutritional and hydration status, allergies), recovery (inflammation, injury risk, muscle damage), Genetic biomarkers (ACE I/D, ACTN3 R577X) and its application in sports coaching.

3.4. Cellular and molecular adaptation mechanisms of skeletal muscle in response to various training intensity and its application in generating training schedule.

## UNIT IV- Applied Sports Nutrition for Coaches

4.1 Recent Advances in nutritional considerations and concerns specific to training and sport across life-stages of athletes; Recent case studies on fueling and nutrition issues among athletes. Comparing and critically analyzing the existing methodologies for nutrition assessment and monitoring.

4.2 Debating on the recent advances in the Type, Timing, Quality and Quantity of macronutrient and micronutrient fueling, and translating it into food choices/dietary supplement during training (preparation); in competition (participation); and in recovery from training and competition.

4.3 Research perspective and recommendations related to Special Nutrition/Dietary Strategies (High Carbohydrate-Low Fat Diet, Keto Diet, Mediterranean Diet, Intermittent Fasting etc.); Dietary Supplement Intake Strategies for recovery, and concerns of overuse among athletes.

4.4 Understanding and critically analyzing the existing strategies and timing for fluid intake; developing independent rationale for the beverage composition, formulation (isotonic, hypotonic and hypertonic) and volume for pre, during and post training/competition.

**PRACTICAL**
**COURSE CODE: MSC/ CC (P) 101**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC(P)/101 | Applied Sports Physiology, Biological and Nutritional consideration in Coaching | 2 | 64 | 25 | 25 | 50 |

**UNIT – I**

1.1. Sport Specific Physiological Report generation and interpretation of given athlete.
1.2. Sport Specific Nutrition Assessment Report generation and interpretation of given athlete.
1.3. Developing a customized training and nutrition schedule of an athlete, and implementing it across an Annual Training Cycle (In preparation, In competition and In Recovery).

**UNIT - II**

2.1. Evaluating the adaptation/changes in the physiological outcomes of the given athletes.
2.2. Evaluating the adaptation/changes in the nutritional outcomes of the given athletes.
2.3. Integrating and interpreting the physiological, nutritional and performance outcomes of the given athletes.

**UNIT – III**

3.1. Evaluating and interpreting any one genetic marker for strength and endurance performance, along with recommendations for talent identification.
3.2. Sport-specific recommendations for Dietary Ergogenic Aids across a fixed Annual Training Cycle.
3.3. Developing and implementing a novel easy-to-use sports nutrition assessment questionnaire/tool for on-field determination of risk for a given athlete.

**References:**


1. Duncan MacDougall and Digby Sale (2016) The Physiology of training for high performance. Oxford University Press, United Kingdom.
2. William D. McArdle, Frank I. Katch, Victor L. Katch(2010) Exercise physiology nutrition, energy, and human performance. Lippincott Williams & Wilkins, Baltimore, USA.
3. Astrand, P.-O. and Rodahl, K. (2003) Text book ofWork Physiology Physiological basis of exercise. Human Kinetics, USA.
4. Scott Powers and Edward Howley (2014) Exercise Physiology Theory and Application to Fitness and Performance.McGraw-Hill Higher Education
5. K. Birch, D. MacLaren, K. George .(2005) Instant notes insport and exercise physiology. Garland Science/BIOS Scientific Publishers.

6. Farrell, P. A., Joyner, M., & Caiozzo, V. (2011). ACSM's advanced exercise physiology.
7. Cheung, S. (2010). Advanced environmental exercise physiology. Human Kinetics.
8. Hale, T. (2005). Exercise physiology: a thematic approach (Vol. 5). John Wiley & Sons.
9. Ehrman, J. K., Kerrigan, D., & Keteyian, S. (2017). Advanced Exercise Physiology: Essential Concepts and Applications. Human Kinetics.
10. McArdle, W. D., Katch, F. I., & Katch, V. L. (2015). Exercise physiology: nutrition, energy, and human performance. 8th Edition, Lippincott Williams & Wilkins.
11. Werner W.K. Hoeger, Sharon A. Hoeger (2010) Principles and Labs for Physical Fitness. Wadsworth,Cengage Learning.
12. Maughan, R. J., & Shirreffs, S. M. (Eds.). (2013). Food, Nutrition and Sports Performance III. Routledge.
13. Campbell, B. (Ed.). (2013). Sports nutrition: enhancing athletic performance. CRC Press.
14. Marie Dunford. (2017) Nutrition for Sport and Exercise.
15. Jeukendrup, A. (2010). Sports Nutrition-From lab to Kitchen. Meyer & Meyer Sport.
16. Spano, M., Kruskall, L., & Thomas, D. T. (2017). Nutrition for Sport, Exercise, and Health. Human Kinetics.
17. Lanham-New, S. A., Stear, S., Shirreffs, S., & Collins, A. (Eds.). (2011). Sport and exercise nutrition (Vol. 8). John Wiley & Sons.
18. Lamprecht, M. (Ed.). (2014). Antioxidants in sport nutrition. CRC Press.
19. Fink, H. H., & Mikesky, A. E. (2017). Practical applications in sports nutrition. Jones & Bartlett Learning.
20. Wolinsky, I., & Driskell, J. A. (Eds.). (2005). Sports nutrition: vitamins and trace elements. CRC Press.
21. Driskell, J. A., & Wolinsky, I. (Eds.). (2016). *Nutritional assessment of athletes*. CRC press.
22. Eston, R., & Reilly, T. (Eds.). (2013). *Kinanthropometry and exercise physiology laboratory manual: tests, procedures and data: volume two: physiology*. Routledge.
23. ACSM's Health-Related Physical Fitness Assessment Manual.
24. H Aile, L., Agher Jr, G. A., Ael, M., & J Robertson, R. (2016). *Perceived exertion laboratory manual*. Springer New York.
25. Heyward, V. H., & Gibson, A. (2014). Advanced fitness assessment and exercise prescription 7th edition. Human kinetics.

**M. Sc Sports Coaching**

**SEMESTER I**

**COURSE NAME: ADVANCED PEDAGOGY AND PLANNING IN SPORTS TRAINING**

**COURSE CODE: MSC/CC/102**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/102 | Advanced Pedagogy and Planning in sports Training | 3 | 48 | 30 | 45 | 75 |

**LEARNING OUTCOMES:**

Students will able to understand

- Advanced Pedagogy in sports Training, Technology in teaching, Transforming education through technology
- Identifying the Building Blocks different Model Plan for beginners, intermediate, elite and advance players
- Integrating the scientific parameters of sports person, priorities in planning, identifications of training methods
- Long term Athletic Development Plan in Global level and its implementation

**UNIT -I**

**Advanced Pedagogy in Sports Training**

1.1 Advanced Pedagogy in sports Training its need and Importance, Technology in teaching, Transforming education through technology.

1.2 Voice Threads to Build Student Engagement, Blogging, Prezi–Your Presentations, Screen cast, Wikipedia

1.3 Social Media in to Education, Pooling to Keep Students Engaged, Lecture Capture, Cool Gadgets for Classrooms, Smart Board,

1.4 Personal Learning Environment-Learning beyond Classroom, Module (Virtual Learning Environment), teaching options - Chat rooms, Discussions board, Webinars

**UNIT –II**

**Training Plan Models**

2.1. Review of existing Various Models in planning,

2.2. Models: Application, Constraints, Implementation,

2.3. Prior Assumptions for the Proposed Model, Identifying the Building Blocks different Model Plan for beginners, intermediate, elite and advance players

2.4. Operationalizing the Model and evaluation

## UNIT-III

**Sports Training Plan**

3.1. Training Plan in Sports, Principle of planning
3.2. Integrating the scientific parameters of sports person, priorities in planning, identifications of training methods
3.3. Planning coaching sessions, steps to planning, identify the skills,
3.4. Plan practices, working with the sports science team

## UNIT-IV

**Sports policy and planning, LTAD Plan**

4.1 Factors affecting long term training plan in relation to various stake holders
4.2 Factors affecting long term training plan in relation to Socio economic status, Club culture, Sports Organization,
4.3 Designing annual Calendar of training and competition
4.4 Study of long-term athletic development Plan in relation to local global perspectives

**Suggested Reading:**


1. Armour Kathleen, Sport Pedagogy: An Introduction for Teaching and Coaching, Routledge; 1st edition, 2011.
2. Gale Bernhardt**,** Training Plans for Multisport Athletes Velo Press; 2nd edition, USA, 2006,
3. Istvam Balyi, Rechard way, Colin Higgs, Long Term Athletes Development, Human Kinetics, 2013.
4. Rechard light & Stephen Harvey, Positive Pedagogy for Sport Coaching, Routledge, 2019.
5. www.brainmac.co.uk. ltad
6. www.oxolt.com long term-athlete development
7. humankinetics.me.12.04.2019 ltad

**M.SC SPORTS COACHING**
**SEMESTER-1**
**Coaching Dynamics in Sports**
**MSC/CC/103**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/103 | Coaching Dynamics in Sports | 3 | 48 | 30 | 45 | 75 |

**Course Learning Outcome:**

After completing this course, the students will able to

- Know various aspects of coaching dynamics in sports
- Understand strong coaching philosophy, communication and social aspects of coaching
- Know coaching planning and implementing strategies and its importance in performance enhancement
- Understand Various coordinating responsibilities of a Coach as a leader

**UNIT - 1**

1.1 Development of Self Awareness, Self – Esteem in Coaching
1.2 Concept of "Athlete first - Winning Second"
1.3 Qualities of Successful Coach (Psychological, Social, Spiritual, Emotional etc.
1.4 Structuring various Coaching Style.

**UNIT – 2**

2.1 Developing Communication Skill (Verbal, Non-Verbal, Visual and Written), Active Listening.
2.2 Developing Credibility when you Communicate, communicating with positive approach, Sending Messages, Providing Feedback,
2.2 Managing Relationship with Parents and Athletes and Learning Interaction with social media.
2.3 Preparation of various aspect Competition, Target fixing, Build-up and Main Competition.

**UNIT – 3**

3.1 Fundamental of Skill Instruction, Basics of Good Teaching / Coaching.
3.2 Use of Technical & Tactical Skills during Coaching.
3.3 Developing Team cohesion, Managing Stress and optimizing Arousal level.
3.4 Video Analysis and corrections.

**UNIT – 4**

4.1 Principles of Coaching (Foundation of Skill Instruction, Difference between Learning and Performing, Ingredient of Skill Instruction, Process Focused Approach to providing Sports Skill Instruction, Learning Aids)
4.2 Planning and implementing a Training Session (Identifying the skill, understanding athlete's abilities, analyze situation, Establish Priorities in training, Select the methods, Plan practices)
4.3 Coordinating with Sports Science Team for the best use of coaching output.
4.4 Implementing Various Responsibilities of a Coach.

**Suggested Reading:**


1. International Council of Coaching Excellence; Sports Coaches Handbooks, Human Kinetics; First edition, 2020.
2. John Lyle, Chris Cushion; Sports Coaching Concepts: A framework for coaching Practice, Routledge; 2nd edition, 2016.
3. John Lyle, Chris Cushion; Sports Coaching Concepts: A framework for coaches Behaviour, Routledge; 2002.
4. James Smith, The Governing Dynamics of Coaching, Vervante, 2016.
5. Jim Denison, Coaching Knowledge: Understanding the Dynamics of Sport Performance, A&C Black, 2007.
6. Tania Cassidy, Robyn L. Jones, Paul Potrac: Understanding Sports Coaching, Routledge; 3rd edition, 2015.
7. Philip Brownell, **Professional** Coaching: Principle and practice, Springer Publishing Company; 1st edition, 2018.

**SEMESTER – I**

**SPORTS LAW, POLICY AND RISK MANAGEMENT**

**COURSE CODE: MSC/EC/101**

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Elective (choose any one) | | | | | | |
| MSC/EC/101 | Sports Law, Policy and Risk Management | 3 | 48 | 30 | 45 | 75 |

**Course Learning Outcome:**

After completing this course, the students will be able to

- Understand the origin sports law and regulation in India
- Understand the sports policy and Sports Code in India
- Apply risk management concepts and principles in activity-specific settings

**UNIT – I**

**Introduction to Sports Law**

1.1. Introduction of Sports Law and Regulation in India. Court of Arbitration for Sport (CAS)
1.2. Regulation of the sports coach/child (athlete) relationship
1.3. Legal support for women's participation in sport
1.4. Introduction of Judicial pronouncement of Indian as well as International Courts

**UNIT – II**

**Sports Policy in India**

2.1. Present Sports Policy: Integration with education and infrastructure development
2.2. National Sports Code in context of National Sports Federations and their policy
2.3. Comparative study of State Sports Policy of India
2.4. Development Sports Ecosystem in context of NEP 2020

## UNIT – III

### Introduction to Risk Management

3.1. Introduction to Risk Management
3.2. Management of Risk and Safety, Sports Participant Safety in different sports arena and stadium (athletic field, swimming pool, fitness center, etc.)
3.3. Sports spectators safety caution
3.4. Risk management planning (crowd control, transportation, selection)

## UNIT - IV

### Olympic and International Sports Law

4.1. Court of Arbitration for Sports (CAS)
4.2. Important CAS rulings
4.3. Anti-Doping and WADA
4.4. Sports law in various countries

**SEMESTER – I**

**PRACTICAL**

**COURSE CODE: MSC/EC(P)/101**

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Elective (choose any one) | | | | | | |
| MSC/EC(P)/101 | Sports Law, Policy and Risk Management | 1 | 32 | 10 | 15 | 25 |

**UNIT – I**

1.1. Field Visit
1.2. Assignment/Project
1.3. Arrangement of special lecture class / presentations amongst the students

**UNIT – II**

2.1. Incidental Analysis reports writing
2.2. Internal and External Survey on legal awareness
2.3. Feedback collection and interpretation

**Suggested Readings:**


1. Sports law in India, by Mohammed Naseem, - Kluwer Law International (1 November 2011)
2. Sport Law: A Managerial Approach, Third Edition. Sharp, Linda, et al., Holcomb Hathaway Publishers, Scottsdale, Arizona.
3. Cotton, D. J., &Woolman, J. T. (2017). Law for recreation and sport managers. (7th Ed.). Dubuque, IA: Kendall Hunt.
4. Shubham Borkar and Parimal Kashyap, Sports Law in India, Khurana andKhurana,2019.
5. John J. Miller and Kristi L. Schoepfer, JDLegal aspects of sports, Cenveo Publishers 2017, USA.
6. Lovely Dasgupta and Shameek Sen, Sports Law in in India, policy Regulation and Commercialisation, SAGEP Publication,2019
7. Deborah Healey, Sports and the Law, UNSW Press, 2009. Australia.

**SEMESTER I**

**SPORTS JOURNALISM**

**COURSE CODE: MSC/EC/102**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/EC/102 | Sports Journalism | 3 | 48 | 30 | 45 | 75 |

**COURSE LEARNING OUTCOMES**

After completing this course, the student will be able to

- Know about evolution of Sports on media front, rise of Journalism in sports
- Know about the Sports journalism and Media
- Know about the concept and ethics in sports journalism
- Learn and he familiarize with the News print, broad casting, and sports business
- Understand about sports and electronic media

**UNIT-I**

**Introduction**

1.1 Introduction to Mass Communication/Media and Journalism.
1.2 Principles of communication and theories.
1.3 Brief history of journalism in India (rise of mass media - traditional and online).
1.4 Introduction to Sports Journalism, Definition of Sports News, Characteristics of Sports Journalist.
1.5 Sports Journalism: Trends and ethics in Sports Journalism.

**UNIT-II**

**Writing Sports news/stories and feature articles**

2.1 News, concepts of reporting and writing, classification of news, sports news.
2.2 News writing (sports) and editing, headline writing, feature writing, interviews, columns.
2.3 Script writing, sports news writing for Television and Radio, news reading, commentary and presentation.
2.4 Writing for sports magazine and online platforms (sports news website and blogs). Statistics and data use in sports journalism.

**UNIT-III**

**Event management, PR, Sports Business and Management**

3.1 Management & Marketing Fundamentals
3.2 Event management (sports), advertising and Public Relations, Media management.
3.3 Sports Law & Administration.
3.4 Contemporary Issues in Sports

## UNIT-IV

**Social media**

4.1. Evolution of social media, social media Vs print and electronic media
4.2. Role of social media in current lifestyle health problem
4.3. Emotions and Anxieties that Rise from social media
4.4. The impact of social media in sports and sports industry

## PRACTICAL

## COURSE CODE: MSC/EC (P)/102

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| PART- B (Lab. PRACTICAL) | | | | | | |
| MPES/EC(P)/102 | Sports Journalism | 1 | 32 | 10 | 15 | 25 |

## UNIT – I

1.1. Handling of various equipment related to sports journalism
1.2. Writing various types of reports, leads, headlines and news stories
1.3. Conducting interviews and writing stories on it
1.4. Conducting and covering pre-event and post event press meet.

## UNIT – II

2.1. Writing and publishing Blogs
2.2. Record videos by using various camera movements and Angles
2.3. Interview with National repute sports person
2.4. Experiment on various types of shots and angle.

**Suggested Reading:**


1. Andrews Phil (2013). “Sports Journalism: A practical introduction”. SAGE Publications Ltd; second edition. ISBN-13:978-1446253373.
2. Chouhan Bhupindar Singh and Hitesh Chandra Rawal, Sports Journalism and Mass Media,
3. Sports Publication, New Delhi, 2019.
4. Motiz, Brian (December 2014). "Rooting for the story: Institutional sports journalism in thedigital age". Syracuse University.
5. Stofer, Kathryn T. et al., (October 2009). “Sports Journalism: An introduction to reporting and writing”. Rowman & Littlefield Publishers.
6. Singh Hoshiyar, Sports Journalism and Mass media, Khel Sahitya Kendra, 1917.

**M. Sc Sports Coaching**
**SEMESTER I**
**ELECTIVE COURSE**
**COURSE NAME: ADVANCED STRENGTH AND CONDITIONING**
**Course Code: MSC/EC/103**

| Course Code | Course Name | Credits | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Part – A (Theory Course) | | | | | | |
| MSC/EC/103 | Advanced strength and conditioning | 3 | 48 | 30 | 45 | 75 |

**Course Learning Outcome:**

**The students should be able to demonstrate the acquisition of knowledge and skills set required for:**

- A comprehensive knowledge and coherent understanding of the chosen disciplinary/ interdisciplinary areas of study in a broad multidisciplinary context, their different learning areas, their linkages with related fields of study, and current and emerging developments associated with the chosen
- Disciplinary /interdisciplinary areas of learning capacity to extrapolate from what has been learnt, and apply acquired competencies in new/unacquainted contexts, rather than merely replicate curriculum content knowledge, to generate solutions to specific problems.

**Unit-I**

**Exercises for Specific Fitness Evaluation & Designing of the fitness programme**

1.1. Psychological, physiological and anatomical considerations for designing fitness exercises
1.2. Concept of designing different fitness training programme and formalities prior to conduct of fitness program for different age groups & gender (children and adults)
1.3. Assessment of Speed, Speed Endurance, Strength and Muscular Endurance, Agility, Coordination, Balance, Flexibility and Motor quality of all age group, Calculate target heart rate zones for various aerobic exercise intensities.
1.4. Means and methods of Specific fitness development, Aerobic and anaerobic exercise, Calisthenics exercise, Swiss ball exercise and kettle ball exercises.

**Unit -II**

**Designing Resistance and other Training Program for Sports Person**

**2.1.** Psychological, physiological and anatomical considerations for programme designing for strength training protocol, Periodization of strength training.
2.2. Individualization of Aerobic Training Programs, Training Status, Exercise Order and Structure, Intensity, Volume, Rest Intervals, Repetition, Velocity and Frequency for Sportsperson.
2.3. Programme designing of speed, agility and balance: Exercise Order and Structure, Intensity, Volume, Rest Intervals, Repetition Velocity, Frequency for sportsperson.
2.4. Programme Designing and method of flexibility training for sportsperson.

**Unit-III**

**Exercise Prescription: (Need analysis of the conditioning programme)**

3.1. Exercise Prescription, steps (need analysis, exercise selection, exercise order, repetitions and rest periods for developing Motor Abilities for the children and youth

3.2. Exercise Prescription, steps (need analysis, exercise selection, exercise order, repetitions and rest periods for developing Motor Abilities for the women of all ages.

3.3. Exercise Prescription, steps (need analysis, exercise selection, exercise order, repetitions and rest periods for developing Corrective Motor Abilities for the senior citizen and old aged people.

3.4. Exercise Prescription, steps (need analysis, exercise selection, exercise order, repetitions and rest periods for developing for the Sportsperson preparing for sports competitions & other sporting activities

**Unit-IV**

## Special Training Equipment / Gadgets and Safety consideration

4.1. Modalities and Equipment's (Body weight, Free Weights, Machines, Medicine Balls, Stability Balls, Balance Devices, Elastic Bands, Tubes, Chains, Springs)

4.2. Free weights Vs Machines, Movement Specific Equipment's etc.

4.3. Training in the Water, Vibration Devices

4.4. Plyometric training programme and their equipment's with safety measures

**COURSE NAME: ADVANCED STRENGTH AND CONDITIONING**

**Practicum**

| Course Code | Course Name | Credits | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Part – A (Theory Course) | | | | | | |
| MSC/EC(P)/103 | Advanced strength and conditioning | 1 | 32 | 10 | 15 | 25 |

**Course Learning Outcome:**
**The students should be able to demonstrate the acquisition of knowledge and skills set required for:**

- adapting to the future of work and responding to the demands of the fast pace of technological developments and innovations that drive shift in employers' demands for skills, particularly with respect to transition towards more technology-assisted work involving the creation of new forms of work and rapidly changing work and production processes in the field of fitness and wellness arenas.
- exercising full personal responsibility for output of own work as well as for group/team outputs and for managing work that are complex and unpredictable requiring new strategic approaches in the field of strength and conditioning.
- Practical exposure for programming specific fitness plan and modules for all age people and sportsperson as per the training and competition demand of the specific sports and games

**Unit 1**

1.1. Assessment of Speed, Speed Endurance, Strength and Muscular Endurance, Agility, Coordination, Balance, Flexibility and Motor quality of all age group, calculate target heart rate zones for various aerobic exercise intensity, Aerobic and anaerobic exercise, calisthenics exercise and Swiss ball exercise by using digital technology

1.2. Exercise Prescription for developing Motor Abilities for the children and youth, women of all ages, older adults and old aged people and Sportsperson preparing for sports competitions & other sporting activities

1.3. Planning and implementing resistance Training Programs, Training Status, Exercise Order and Structure, Intensity, Volume, Rest Intervals, Repetition Velocity, Frequency for sportsperson as per the training and competition demand for the specific sports and games.

**Unit 2**

2.1. Aerobic Exercise Selection, Training Status, Exercise Order and Structure, Intensity, Volume, Rest Intervals, Repetition Velocity, Frequency for sportsperson as per the training and competition demand for the specific sports and games.

2.2. Designing Speed Endurance, Strength Endurance and Endurance Training Program for sportsperson as per the training and competition demand for the specific sports and games.

2.3. Modalities and Equipment's (Body weight, Free Weights, Machines, Medicine Balls, Stability Balls, Balance Devices, Elastic Bands, Tubes, Chains, Springs) Free weights Vs Machines, Movement Specific Equipment's Plyometric training equipment's and their safety measures etc.

**Suggested Readings**


1. Essentials of Strength Training and Conditioning, National Strength and Conditioning Association, Gregory Haff.G and Travis Triplett N, Human Kinetics, 4th ed.,2016.
2. Exercise Technique Manual for Resistance Training Product Bundle, National Strength and Conditioning Association, Human Kinetics, Inc.; Third edition (March 1, 2016)
3. Jim's Weight Training & Bodybuilding Workout Plan: James Atkinson, kindles
4. Advanced Strength and Conditioning, Anthony Turner and Paul comfort, kindle, 2017.
5. Practical Programming for Strength Training, Andy Baker, kindle, 2014.
6. Manilal, K.P. Advanced Strength and Conditioning,

**SEMESTER-1**

## Advanced Pedagogy and Planning in Sports Training

### MSC/CC(P)/102 Badminton

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL-II) Specific Sports (Experiential Learning)** | | | | | | |
| MSC/CC(P)/102 | Advanced Pedagogy and Planning in Sports Training | 4 | 128 | 50 | 50 | 100 |

**Learning outcomes:**

- Demonstration of various software technologies and lesson practice
- Review and presentation of training plan model
- Critically analyzing LTAD model and designing annual calendar
- Designing Macro, Meso and Micro Plan

**Unit- I**

**Demonstration of various software technologies and lesson practice**

1.1. Demonstration of various software technology in teaching learning process
1.2. lesson practice with advanced technology like smart board, Blogging, Prezi, Zoom Screen cast presentation
1.3. Designing virtual learning materials for class room teaching
1.4. Demonstration and explanation of various sports skill through technology,

**Unit-II**

**Review and presentation of training plan model**

2.1. Review of existing models of planning of sports
2.2. Presentation of a training plan models
2.3. Group discussion on various models of sports coaching in leading countries of the world
2.4. Submission of a project on models of sports planning/coaching

**Unit-III**

**Critically analyzing LTAD model and designing annual calendar**

3.1. Critically analyzing and designing of a LTAD plan
3.2. Designing annual calendar in badminton
3.3. Data collection regarding training plan from various local clubs
3.4. Observing training procedure of various clubs and submits an assignment of training plan

**Unit-IV**

Designing a Macro plan, Meso plan and Micro plan

4.1. Designing a Macro plan: **Set task** (e.g., focusing on the fitness, technical or tactical components), exact volume level, **intensity** and specific training **methods**
4.2. Designing a Meso plan **(**Develop or improve specific aspects of functional indicators of badminton player)
4.3. Designing a Micro plan (Beginning of pre-season, after long break in training)
4.4. Designing of Various Lesson plan with analytical part for preparatory/pre competition/transitional period respectively

Examination
Internal assessment: 50 marks
External assessment: 50 marks

| Evaluation criteria | Internal assessment | External assessment |
|---|---|---|
| Teaching practice with advanced technology | 20 marks | 20 marks |
| Project Submission on model of coaching/LTAD/ Annual coaching calendar | 20 marks | 20 marks |
| Observation of training plan of local club and submission of report | 10 marks | 10 marks |
| Total | 50 marks | 50 marks |

**SEMESTER-1**

**Coaching Dynamics in Sports**

**MSC/CC(P)/103/ Badminton**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL-II) Specific Sports (Experiential Learning)** | | | | | | |
| MSC/CC(P)/103 | Coaching Dynamics in Sports (Badminton) | 4 | 128 | 50 | 50 | 100 |

**Course Learning Outcome:**

After completing this course, the students will able to develop

- Assure of strong coaching philosophy, communication Skill and social aspects of coaching
- Knowledge of Coaching plan and implementation strategies and its importance in performance enhancement
- Learning various responsibilities of a Coach and as a leader.

**UNIT - 1**

1.1 Cross sectional assessment and analytical study project on psychological foundation of badminton players Self Awareness, Self – Esteem, Philosophical foundation
1.2 Assessment of philosophical foundation of Athlete first, Winning Second,
1.3 Evaluation of coachability of badminton players
1.4 Evaluation of Psychological Preparation and Readiness for the Competition of badminton players

**UNIT – 2**

2.1. Project assignment on development of interpersonal communication
2.2 Technical terminology & communication skill
2.3. Coaching Style in badminton, Interactive with social media
2.4. Forming Active Listening habits amongst badminton players

**UNIT – 3**

3.1. Project on application in coaching of fundamental of Skill Instruction in badminton
3.2. Basics of Good Teaching & Coaching for beginners, intermediate and advanced badminton players.
3.3. Evaluation and analyze critically the Technical & Tactical solutions in badminton
3.4. Evaluation Team cohesion on field to understand sociological foundation of badminton players

**UNIT – 4**

4.1. Strategic project planning and preparation for development of sociability attributes by managing Relationship with Parents and Athletes
4.2. Planning and implementing a Training Session (Identifying the skill, Knowing the training status of Badminton players analyze situation, Establish Priorities, Select the methods, Plan practices),
4.3. Coordinating with Sports Science Team for the best use of coaching output.
4.4. Practical approach Responsibilities of a Coach during competition and practice.

**Evaluation**
**Internal assessment: 50 marks**
**External assessment: 50 marks**

| Evaluation criteria | Internal assessment | External assessment |
|---|---|---|
| Teaching and coaching ability for beginners | 20 marks | 20 marks |
| Project Submission on Psycho physiological foundation of badminton players Self Awareness, Self – Esteem, interpersonal communication | 20 marks | 20 marks |
| Planning training session For beginners (micro plan and Meso plan) | 10 marks | 10 marks |
| Total | 50 marks | 50 marks |

**Suggested Reading:**


1. International Council of Coaching Excellence; Sports Coaches Handbooks, Human Kinetics; First edition, 2020.
2. John Lyle, Chris Cushion; Sports Coaching Concepts: A framework for coaching Practice, Routledge; 2nd edition, 2016.
3. John Lyle, Chris Cushion; Sports Coaching Concepts: A framework for coaches Behaviour, Routledge; 2002.
4. James Smith, The Governing Dynamics of Coaching, Vervante, 2016.
5. Jim Denison, Coaching Knowledge: Understanding the Dynamics of Sport Performance, A&C Black, 2007.
6. Tania Cassidy, Robyn L. Jones, Paul Potrac: Understanding Sports Coaching, Routledge; 3rd edition, 2015.
7. Philip Brownell, Professional Coaching: Principle and practice, Springer Publishing Company; 1st edition, 2018.

**SEMESTER-I**

**Physical Fitness / Sports Performance / Achievement**

**MSC/SP/104/ Badminton**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL-II) Specific Sports (Experiential Learning)** | | | | | | |
| MSC/SP/103 | Physical Fitness / Sports Performance / Achievement | 2 | 64 | 25 | 25 | 50 |

**Course Learning Outcome:**

After completing this course, the students will be able to

- Involved in regular conditioning programme to maintain their fitness
- Designing various fitness and conditioning exercises for different age group
- Know about their sports performance achievement

**Evaluation**

**Full marks 50 marks**

**Internal Assessment 25 marks**

**External Assessment 25 marks**

| Evaluation criteria | Internal Examiners mark | External Examiners Mark |
|---|---|---|
| Skill acquisition/test | 10 | 10 |
| Fitness and conditioning designing and implementing strategy | 5 | 5 |
| Evaluation of Sports Performance | 10 | 10 |
| Total | 25 | 25 |

**Assessment Rubrics and Guideline**

- The students will demonstrate and explain two skills of their own events with scientific principles.
- They will design fitness and conditioning programme for beginners, intermediate and advanced athletes in their record book.
- Sports Performance of the student will be observed by both internal and external examiner.

**M. Sc. Sports Coaching**
**SCHEME OF EXAMINATION**
**SEMESTER II**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/201 | Applied Psychophysiology of Performance | 3 | 48 | 30 | 45 | 75 |
| MSC/CC/202 | Applied Sports Movement Dynamics and Analytics | 3 | 48 | 30 | 45 | 75 |
| MSC/CC/203 | Technical Development and analysis (Specific Sports) | 3 | 48 | 30 | 45 | 75 |
| **Elective (choose any one)** | | | | | | |
| MSC/EC/201 | Sports Entrepreneurship | 3 | 48 | 30 | 45 | 75 |
| MSC/EC/202 | Sports Event Management | | | | | |
| MSC/EC/203 | Digital practices in sports coaching | | | | | |
| **PART- B Lab PRACTICAL-I (Experiential Learning)** | | | | | | |
| MSC/CC(P)/201 | Applied Psychophysiology of Performance | 1 | 32 | 10 | 15 | 25 |
| MSC/CC(P)/202 | Applied Sports Movement Dynamics and Analytics | 1 | 32 | 10 | 15 | 25 |
| MSC/EC(P)201 | Sports Entrepreneurship | **1** | 32 | 10 | 15 | 25 |
| MSC/EC(P)202 | Sports Event Management | | | | | |
| MSC/EC(P)203 | Digital practices in sports coaching | | | | | |
| **PART-C (PRACTICAL-II) Specific Sports (Experiential Learning)** | | | | | | |
| MSC/CC(P)/203 | Technical Development and analysis (Specific Sports) | 4 | 128 | 50 | 50 | 100 |
| MSC/SP/204 | Coaching Pedagogical Practice-II | 4 | 128 | 50 | 50 | 100 |
| MSC/SC/205 | Physical Fitness / Sports Performance / Achievement | 2 | 64 | 25 | 25 | 50 |
| **GRAND TOTAL** | | **25** | **608** | **275** | **350** | **625** |

Add on Credits: The students can opt for various courses offered by the Concerned Recognized University / Institutions / Association/Federation/ Skill Council as an "Add on Credits" (at least two credits) in a year after the due approval from the competent authority of the University/ UGC.

**M. Sc Sports Coaching**
**SEMESTER II**
**COURSE NAME: APPLIED PSYCHOPHYSIOLOGY OF PERFORMANCE**
**COURSE CODE: MSC/CC/201**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/201 | Applied Psychophysiology of Performance | 3 | 48 | 30 | 45 | 75 |

**Learning outcomes:**

**Students will come to know about**
Fundamentals of Psychophysiology
Impact of Exercise & Psychoneuroimmunology
Psycho physiological methods in Sports
Psycho physiological methods and functional Neuro-imaging in sports

**UNIT-I**

**Fundamentals of Psychophysiology**

1.1 Introduction to Psychophysiology, psychophysiology research trends and future directions in sports
1.2 Emotions in Sports, Stress and Anxiety (Somatic and Cognitive anxiety) in Sports
1.3 Relationship between competitive cognitive anxiety and motor performance in sports
1.4 Biofeedback techniques for monitoring the physiological responses of stress in sports

**UNIT-II**

**Exercise & Psychoneuroimmunology**

2.1 Introduction to psychoneuroimmunology (PNI), Role of exercise and Sports in PNI**.**
2.2 PNI in Sports Injury and Rehabilitation, Psychological Intervention in Sports Injury and rehabilitation
2.3 Cardiovascular Psychophysiology and Psycho-endocrinology and its relation to competitive sports and exercise.
2.4 Psychological techniques for improved immune system in sport (Self Imagery, Cognitive Strategies, Hypnosis, yoga, transcendental meditation, mindfulness meditation training for sports)

**UNIT-III**

**Psycho physiological methods in Sports**

3.1 Electrodermal activity (EA)- basics and application, skin conductance, skin resistance, and skin potential.
3.2 EA as an indicator of emotions in sports, Electro-Dermal Response (EDR) in sports,
3.3 EEG application in sports, Relationship between EEG and Alpha waves in Sports
3.4 Electrocardiography (ECG) evaluation in Sport

## UNIT-IV

**Psycho physiological methods and functional Neuro-imaging in sports**

4.1 Electrooculography (EOG), Electromyography (EMG) uses and application in sports
4.2 Polyethylene Terephthalate (PET), Functional Magnetic Resonance Imaging (fMRI) in Sports, fMRI and mindfulness relationship
4.3 Pupillometry, Plethysmography and pneumography and evaluation of sports performance.
4.4 Importance of sleep and Sleep hygiene in sports, Polysomnography (PSG) and sleep in sports,

**Practical**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC(P)/201 | Applied Psychophysiology of Performance | 1 | 32 | 10 | 15 | 25 |

## UNIT-I

1.1. Biofeedback for monitoring and controlling the physiological response to stress
1.2. Stress Inoculation Technique (SIT) by Meichenbaum for Athletes preparing for competition.
1.3. Stress identification and assessment (case study and project submission)

## UNIT –II

2.1 Mindfulness meditation training for sport (MMTS)
2.2 Self-Imagery for Sports injury and Rehabilitation
2.3 Sleep Hygiene Techniques

**M. Sc Sports Coaching**
**SEMESTER II**
**Applied Sports Movement Dynamics and Analytics**
**COURSE CODE: MSC/CC/202**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-A (THEORY)** | | | | | | |
| MSC/CC/202 | Applied Sports Movement Dynamics and Analytics | 3 | 48 | 30 | 45 | 75 |

**Learning objectives**

Having basic knowledge about Kinematic and kinetics of motion
Understanding external factors influencing sports performance
Understanding nature of biomechanical analysis,
Having knowledge about qualitative and quantitative analysis of human motion

**UNIT-I**

**Fundamentals of Sports Biomechanics Movement**

1.1 Linear Kinematics; analytical computation of various sports movement related to Distance, Displacement, Speed, Velocity, Acceleration and Interrelationship between these – Graphical Method. Applications of various types of motion in sports and its measurement.

1.2 Free body diagram and resolution of Vectors (velocity and acceleration). Application of Uniform acceleration motion: Equation of uniform acceleration, Calculation of movie camera speed, Finding the hand reaction time, various Projectile motion in sports, its importance in sports with special reference to diving, Gymnastics, jumping, throwing and shooting in basketball

1.3 Linear Kinetics; reduce pressure exerted on body during impact with ball and ground, Kinetic energy, potential energy, strain energy, Inter-conversion of energy

1.4 Newton's Laws of Motion: Newton's first law of motion and its application, Newton's second law of motion and its application, Newton's third law of motion and its application, Newton law of gravitation, Theoretical considerations, Effect of location on throwing activities

**UNIT-II**

2.1 Angular Kinematics; analytical computation of various angular motion viz. Angular distance, angular Displacement, Angular Speed, Angular velocity and Angular Acceleration

2.2 Right thumb rule and resolution of angular vectors

2.3 Angular Kinetics; analytical computation of various angular motion viz., Eccentric force couple, Moment of Inertia, Angular momentum, Interrelationship between Momentum of Inertia, Angular momentum and Angular velocity, analogues of Newton's Laws of Motion Transfer of momentum, its role in gymnastics and diving,

2.4 Levers, Equilibrium; Conditions of equilibrium, Types of equilibrium, Maintenance and breaking of equilibrium

## UNIT-III

3.1 Technique and its biomechanical reflections, Movement, Style and Technique, Various aspects of technique, Development of model

3.2 Criteria of ideal technique; General, Training, Biomechanical

3.3 Biomechanical Principles; Biomechanical Principles of Action and reaction, Biomechanical Principles of conservation of angular momentum, Biomechanical Principles of Optimum Path of Acceleration

3.4 Biomechanical Principles of Optimum Tendency in Acceleration and Biomechanical Principles of Coordination of Partial Impulses

## UNIT-IV

**Analysis of sports movements through modern Technology and Software**

4.1 Cinematography; (use of reflective Markers, joint points for placing marker, field setting), sports movement by video camera: (position of camera, height, tripod, light, frame per second, shutter speed, pixel).

4.2 Biomechanical analysis of fundamental movements – walking and running etc

4.3 Biomechanical analysis of sports skill: (specialized sports skill movements).

4.4 Analysis of Sports movement through software; Silicon coach pro7/8, Kinovea, Dart Fish, Coach's Eye (any one).

**PRACTICAL**
**COURSE CODE: MPES/CC (P)/202**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-B LAB PRACTICAL** | | | | | | |
| MSC/CC(P)/202 | Applied Sports Movement Dynamics and Analytics | 1 | 32 | 10 | 15 | 25 |

**UNIT-I**

1.1 Measurement of body weight and Mass
1.2 Determination of position of Centre of Gravity by Segmentation method
1.3 Measurement of 'Work done' by treadmill
1.4 Analysis of human movement through software EMG/Force Platform, Jump Platform.

**UNIT-II**

2.1 Recording of movement by Video camera (Basic preparations, scientific principles to be followed)

2.2 Drawing the Kinegram of recorded movement and analysis of distance-time information

2.3 Kinesiological Analysis of Exercise and Sport Movements

2.4 Biomechanical analysis of Exercise and sport movements

**Reference Book:**


1. A.K. Lawrence Mamta MP *Kinesiology* (Friends Publication India 2004)
2. Broer, M.R. *Efficiency of Human Movement* (Philadelphia: W.B. Saunders Co., 1966)
3. Bunn, John W. *Scientific Principles of Coaching* (Engle wood cliffs: N.J. Prentice Hall Inc., 1966)
4. Duvall, E.N. *Kinesiology* (Engle wood cliffs: N.J. Prentice Hall Inc., 1956)
5. Hoffman S.J. *Introduction to Kinesiology* (Human Kinesiology publication In.2005
6. Uppal Rasch and Burke, *Kinesiology and Applied Anatomy* (Philadelphia: Lea and Fibger, 1967)
7. Scott, M. G. *Analysis of Human Motion*, New York.
8. Wells, K. P. *Kinesiology* (Philadelphia: W.B. Saunders Co. 1966) Cooper, John M. and Glassgow, R.B. *Kinesiology* (St. Louis: C.V. Mosby Co., 1963)
9. Robert Frost Ph.D. George J. Goodheart Jr. D.C. Applied Kinesiology, Revised Edition: A Training Manual and Reference Book of Basic Principles and Practices Paperback – Illustrated, 20 August 2013
10. Donald A. Neumann and Paul Jackson Mansfield, Essentials of Kinesiology for the Physical Therapist Assistant E-Book
11. Duane Knudson, Fundamentals of Biomechanics

**M.SC SPORTS COACHING**
**SEMESTER-II**
**COURSE NAME- TECHNICAL DEVELOPMENT AND ANALYSIS**
**MSC/CC/203**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL-II) Specific Sports (Experiential Learning)** | | | | | | |
| MSC/CC/203 | Technical Development and analysis (Badminton) | 3 | 48 | 30 | 45 | 75 |

**Course Learning Outcomes:**

After completing this course, the students will be able to

- Understand technical, tactical and functional training of movement and hitting cycle in badminton
- Understand Tactics and tactical development and preparation in badminton
- Understand performance factors in badminton
- Understand application of advance techniques into tactics for singles, doubles and mixed doubles

**UNIT- I**

1.1. Techniques, tactics, strategies and functional training of movement and hitting cycle in badminton for different events
1.2. Development and mechanical analysis of advance technique (spin net shot, Stik smash, reverse slices/drops)
1.3. Critical analysis of advance movement cycle in singles, doubles and mixed doubles
1.4. Identifying strength and weakness of opponents in badminton

**UNIT-II**

2.1. A critical analysis of tactical action in badminton
2.2. Phases of Tactical action: Perception and analysis of competition situation, mental solution of the tactical task and Motor solution of the tactical task
2.3. Tactical training Preparation: Tactical knowledge, Tactical skill and tactical ability
2.4. Principle of tactical preparation in various badminton events

**UNIT-III**

3.1 Technical ability, Observation and execution of technical task in badminton events
3.2 Providing competition like experience during practice (pressure training)
3.3 Characteristics of technical training, technical preparation for badminton players
3.4 Steps in technical training in badminton and technique model

## UNIT-IV

4.1. Analysis and Application of advance techniques into tactics for singles (drills and situational multi shuttle feeding)
4.2. Analysis and Application of advance techniques into tactics for doubles (sparring drills)
4.3. analysis and Application of advance techniques into tactics for mixed doubles (sparring drills and multi shuttle feeding)
4.4. Fault correction and finding Tactical application in badminton to competition like situations (single doubles and mixed doubles)

Suggested Reading:


1. Aneja O P. (2012). *How to play badminton*. Prerna Prakashan.
2. Brahams. (2010). *Badminton handbook*. Meyer and Meyer sports.
3. Kumar S. (2010). *Badminton skills and rules*. Vishalkanishk printers.
4. Grice T. (2008*). Badminton steps to success (*2nd ed.*).* Human kinetics.
5. Singh M K. (2007). *Comprehensive badminton*. Friends' publication, India.
6. Jain A. (2005). *Badminton coaching manual*. Jain media graphics.
7. Narang P. (2005). *Play and learn badminton.* Jain media graphics.
8. Jain D. (2003). *Badminton skills and rules*. Chawla offset printers.
9. Robert G. (2003*). Ultimate guide to weight training for badminton.* Price world enterprises

**M.Sc. Sports Coaching**

**SEMESTER II**

**COURSE NAME: SPORTS ENTREPRENEURSHIP & PROJECT MANAGEMENT**

**COURSE CODE: MSC/EC/201**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **Elective** | | | | | | |
| MSC/EC/201 | Sports entrepreneurship & project management | 3 | 48 | 30 | 45 | 75 |

**Course Objective:**

After completing this postgraduate programme, a learner:

- Shall acquire fundamental knowledge of entrepreneurship and related study area.
- Shall acquire the knowledge related to entrepreneurship, Start-ups and its impact in sports industry.
- Shall be competent enough to undertake freelance working competence as per demands and requirements of sports Industry.
- Shall empower themselves by communication, professional and life skills.
- Shall be able to enhance the ability of leadership.
- Shall become socially responsible citizen with global vision

**Course Learning Outcome:**

After completing this course, the students will be able to

- Understand the Sports start-up and entrepreneurship and scope in sports industry
- Understand leadership quality required to become sports entrepreneur
- Have knowledge about Sports project management concept, phases &role and responsibilities

**UNIT I**

1.1. Meaning of Entrepreneurship - characteristics, functions and types of entrepreneurships
1.2. Entrepreneur - Role of entrepreneurship in economic development.
1.3. Factors affecting entrepreneur growth - economic –non-economic.
1.4. Entrepreneurship Development programmes - need - objectives – phases - evaluation. Institutional support to entrepreneurs.

**UNIT II**

2.1. Leadership – Meaning, Traits and Motives of an Effective Leader, Styles of Leadership.
2.2. Theories – Trait Theory, Behavioral Theory, Path Goal Theory. Transactional v/s Transformational leaders.
2.3. Strategic leaders – meaning, qualities. Charismatic Leaders – meaning of charisma,
2.4. Qualities, characteristics, types of charismatic leaders (socialized, personalized, office-holder, personal, divine)

## UNIT – III

**New Entries, Creativity and Business Ideas in Exercise and Sports**

3.1. Generating and exploiting new entries in sports field

3.2. Creativity the Business Idea in Sports, identifying opportunities for innovation in sport

3.3. Characteristics of individual entrepreneurs in sport

3.4. Entrepreneurialism within large sporting organizations

## UNIT - IV

4.1. Project Management: Meaning of project - concepts - categories - project life cycle phases

4.2. Characteristics of a project – project manager - role and responsibilities of project manager

4.3. Project identification - selection - project formulation – contents of a project report - planning commission guidelines for formulating a project - specimen of a project report.

4.4. Source of finance for a project - Institutional finance supporting projects project evaluation objectives - types - methods.

**Practical**

**Sports Entrepreneurship & Project Management**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **Elective** | | | | | | |
| MSC/EC/201 | Sports Entrepreneurship & Project Management | 1 | 32 | 10 | 15 | 25 |

**Course Learning Outcome:**

After completing this course, the students will be able to

- Conceptualizing the sports start-up projects and entrepreneurship skills
- Enhance leadership quality required to become sports entrepreneur

Have knowledge about Sports project management concept, phases and role and responsibilities

**Suggested activities any of one or two**

1. Special Vocational courses for the existing and past students of the NSU in bladed mode and paid internship and training at the nearby sports industry and academy (earn while learn program).
2. Start-ups conceptualisation for the manufacturing Local Sports equipment / Gym Equipment / recreational equipment / training gadgets and sports implements like Balls, Shuttles, / Sports Attires / Sports Safety Equipment / Sports Dress Retail Shopkeepers / Sports Goods Retail Shopkeepers
3. Artificial Sports Flooring / Synthetic Turf fixing expert / Sports Mats and landing pits installation expert.
4. Sports Nutrition Planner / Sports Nutrition Cuisine Specialist / Cooking expert
5. Fitness Assessment / Performance Analyst / Lab Experts / Movement Analyst
6. Sports Masseurs / Rehab Therapist / Strength and Conditioning Experts (Prehab)
7. Event Management Planner / Sports Business / Sports Goods Manufacturer / Import and Exports manager / Sports media manager / Sports Journalist and Social Media Promoters.

**Reference books**


1. Entrepreneurial Development :S.S.Khanka
2. Entrepreneurial Development: C.B.Gupta& N.P. Srinivasan
3. Project Management :S.Choudhury
4. Project Management: Denis Lock
5. Stephen P. Robbins, Timothy A. Judge (Author) - Organizational behaviour (15th Edition), Prentice Hall Publication.
6. Niraj Kumar- Organisational Behaviour: A New Looks (Concept, Theory & Cases), Himalaya Publishing House
7. Strategic Leadership – Sahu & Bharati – Excel Books 35
8. Peter I. Dowling &Denice E. (2006). International HRM (1st ed.). New Delhi
9. French Wendell, Bell Cecil and Vohra Veena. (2004).
10. Organization Development, Behavioral Science Interventions for Organization Improvement. (6th ed.)

**M.Sc. Sports Coaching**
**COURSE CODE: MSC/EC/202**
**SPORTS EVENT MANAGEMENT**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **Elective** | | | | | | |
| MSC/EC/202 | Sports event management | 3 | 48 | 30 | 45 | 75 |

**Course Objectives**

After completing this undergraduate programme, a learner:

- Shall acquire fundamental knowledge of sports event management and related study area.
- Shall acquire the knowledge related to conceptualization and planning process sports event industry and its impact.
- Shall be competent enough to undertake professional job as per demands and requirements of sports event industry.
- Shall empower themselves by communication, professional and life skills.
- Shall be able to enhance the ability of leadership.
- Shall be come socially responsible citizen with global vision

**Course Learning Outcome:**

After completing this course, the students will be able to

- Understanding the Sports event industry
- Understanding sports event conceptualization and planning process
- Understanding budgeting and identifying sponsors
- Advertising of sports events

**UNIT - I**

**Introduction to Sports Event Industry**

1.1. Introduction to Sports Event Industry, Evolution of Sports Events
1.2. Variety of Sports events, Role of Event organizations and sports event manager
1.3. Sports events vs. Non-sports events; Sports Tourism
1.4. Challenges in Sports event management, Future Trends in Sports Event Management and Marketing

## UNIT – II

**Sports Event Conceptualization and Planning Process**

2.1. Defining and developing objectives for the event; planning components – type of sport requirements, concept and design

2.2. Event flow, setting operational timelines, Creating checklists, Logistics plans, Safety and Security planning

2.3. Selecting and soliciting host City / Venues – understanding and managing expectations, finding the right people, identify and analyze management tasks for Staff, Vendors and Volunteers

2.4. Identify Sponsors, Designing sponsorship programme – media partnerships, Strength, weakness opportunity and challenges (SWOC) Analysis.

## UNIT – III

**Budgeting Process and advertising**

3.1. Identifying costs – Facility cost, Event operations cost, marketing expenses, Guest Management and Hospitality expenses. Miscellaneous expenses

3.2. Controlling costs and Contingency planning, identifying revenue streams – TicketSales, Hospitality partnerships

3.3. Sponsorships and Advertising; Broadcasting, tournament and participation fees,Grants and Donations

3.4. Sports event marketing, advertising, advertising through Sports celebrities

**Business of Sports**

4.1. The Business of the Entertainment Industry, Entertainment Sports

4.2. Ancillary Services and Revenue Management in the Sports An

4.3. Ticketing Methods and Data Analysis in Sports, Entertainment and Event Management

4.4. New Media Literacy in Sports, Entertainment and Event Management, Sponsorship, Sales and Relationship Management

## Practicum in Sports Event Management

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **Elective** | | | | | | |
| MSC/EC(P)/202 | Sports Entrepreneurship & Project Management | 1 | 32 | 10 | 15 | 25 |

### UNIT – I

1.1. Assignment on Sports Event Preparation & Sports Tourism
1.2. Creating procurement checklist for the Sports event
1.3. Organizing Intramural Sports
1.4. Organizing Extramural Sports

### UNIT – II

2.1. Field trip and reviewing the sports event – Pre and Post games Review
2.2. Post-event promotions and media coverage, preparing a budget
2.3. Procedures for following-up with Sponsors, Post-event briefing
2.4. Report writing on Evaluating and outcome of Sport Event

**Suggested Readings:**


1. Jacquelyn Cuneed & M. Joy Sidwell, (1994) Sports Management Field Experiences, Fitnson Information Technology; Inc.
2. L. Mathis & John H. Jackson (2000) Human Resource Management (Ninth Edition) South Western College Publishing.
3. Milena M. Parent, Sharon Smith - Swan, (2012) Managing Major Sports Events Theory and Practice – Routledge.
4. Paul M. Pedersen and Lucie Thibault, (2018), contemporary sports management, Human kinetics.
5. Supovitz Frank, (2013). The sports event Management and marketing Play book. 2nd edition, Wiley.
6. Solomon Jerry, Managing Sporting Events Human Kinetics Publishers.
7. T. Christopher Greenwell, Leigh Ann Danzey-Bussell and David J. Shonk, (2013) Managing sports events, Human kinetics.
8. Gym Management / Sports Academy and Club Manager / Recreation and Outdoor Sports Activities Experts / Community Sports Activities

**M. Sc Sports Coaching**
**DEGITAL PRACTICES IN SPORTS**
**COURSE CODE: MSC/CC/203**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| | | | | | | |
| MSC/CC/203 | Digital Practices in Sports | 3 | 48 | 30 | 45 | 75 |

**LEARNING OUTCOME:**

**UNIT-I**

**Digital Transformation to Sports Industry**

1.1 Understanding digital transformation
1.2 Impact of technology on sports and fitness,
1.3 Block chain use cases in sports industry: (fan token, digital trading cards, block chain-based ticketing system etc.)
1.4 Artificial Intelligence: Definition and its importance in sports.

**UNIT-II**

**Digital transformation and its impacts on sports performances**

2.1 Wearable devices, Athos core, Hexoskin tech shirt
2.2 Transmission Media: Magnetic media, twisted media, co-axial cable, optical fiber networks.
2.3 Tele fitness technologies, Scheduling and calendar management
2.4 5G and internet things, large-scale infrastructures such as connected stadiums

**UNIT-III**

**Software technology in sports**

3.1 eSports, flutter mobile development for fast and high-performing applications
3.2 Cloud Computing in sports
3.3 Smart workout equipments, connected gear, Athlete tracking systems**.**
3.4 Mobile Apps, AI analytics, web platform for stats analysis, software for team, club and sports event management

**UNIT-IV**

**Information technology in sports**

4.1. Sports related software's: Mobile applications.
4.2. Hardware equipments: Smart watches, Myovolt pads, Sensor equipped wearables.
4.3. Teaching and Learning concept: Online platforms, Applications- Google Meet, WebEx, Skype, Zoom, Team Viewer.
4.4. Technology in Sports: Hawk-eye technology, Goal-Line technology, Radar Gun technology, Stump Camera.

**Practical**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| | | | | | | |
| MSC/CC/203 | Digital Practices in Sports | 1 | 32 | 10 | 15 | 25 |

**Unit-I**

1.1 Mobile and system-based application software(s) for smart workouts.
1.2 Development, demonstration and analysis of eSports applications.
1.3 Connectivity and analysis of tele-fitness technologies.
1.4 Working analysis and implementation of Online connectivity digital platforms.

**Unit-II**

Mini-Project on digital practices in sports equipments and related hardware and software-based sports technologies (Hawk-eye technology, Goal-Line technology, Radar Gun technology, Stump Camera)

**SUGGESTED READINGS:**


1. P.M. Heathcote (2000), *„A" Level ICT (2nd ed*), Payne-Gallway Publishers Ltd ISBN 0-9532490-8-5
2. *"Data Communication and Networking"* by Behrouz A. Forouzan-Tata McGraw Hill, 4th Edition.
3. Norton Peter, "*Introduction to computers",* 4th Edition, TMH, 2001.
4. Alex Leon & Mathews Leon, "*Fundamentals of Information Technology*", Leon Techworld, 1999.

**M.SC SPORTS COACHING**
**SEMESTER-II**
**COURSE NAME- TECHNICAL DEVELOPMENT AND ANALYSIS (Badminton)**
**MSC/CC(P)/203**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL-II) Specific Sports (Experiential Learning)** | | | | | | |
| MSC/CC(P)/203 | Technical Development and analysis (Badmintons) | 4 | 128 | 50 | 50 | 100 |

## Course Learning Outcomes:

After completing this course, the students will be able to

- Understand analytical aspects of advance skills of hitting and defense in badminton
- Technical analysis of advance techniques training in badminton
- Understand Tactics and tactical development in badminton
- Critical Analysis of performance factors

### UNIT -I

1.1. Technical analysis of advance badminton attacking skills training
1.2. Technical analysis of advance badminton defensive skills training
1.3. Mechanical analysis of attacking techniques and its application into tactical training
1.4. Mechanical analysis of defense techniques and its application into tactical training

### UNIT-II

**2.1.** Introduction to advance technique training & its significance (spin net shots, Stik smash, revers shots)
2.2. Mechanical analysis of Advance technique/skill training for Singles
2.3. Mechanical analysis of Advance technique/skill training for doubles & mixed doubles
2.4. Advance technique training means & methods for singles, doubles & mixed doubles

### UNIT-III

3.1**.** Tactical development in relation to on court fitness for different events (known and semi unknown drills)
3.2. Tactical development means & methods for Singles (sparring and multi shuttle feeding)
3.3. Tactical development means & methods for Doubles & mixed doubles (sparring and multi shuttle feeding, situational drills)
3.4. Tactical development factors and need analysis.

**UNIT-IV**

4.1. Analysis of Performance factor 1: Biomechanical analysis of hitting and movement skills
4.2. Analysis of Performance factor 2: Tactical aspects of Singles, Doubles, Mixed Doubles training
4.3. Analysis of Performance factor 3: Advance means and methods of physical fitness training and testing
4.4. Analysis of Performance factor 4: Psychological support, nutritional periodization and lifestyle.

**Evaluation: Total marks 100**

**Internal assessment: 50 marks**

**External assessment: 50 marks**

| Evaluation criteria | Internal assessment | External assessment |
|---|---|---|
| Badminton techniques/Skill (demonstration & explanation with scientific principle) | 20 marks | 20 marks |
| Tactical Aspects | 10 marks | 10 marks |
| Officiating | 10 marks | 10 marks |
| Record book | 10 marks | 10 marks |
| **Total** | **50 marks** | **50 marks** |

**M.Sc. Sports Coaching**

**SEMESTER II**

**COURSE NAME: Coaching Pedagogical Practice**

**COURSE CODE: MSC/SP/204**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/SP/204 | Coaching Pedagogical Practice | 4 | 128 | 50 | 50 | 100 |

**Learning Outcomes:**

- The main objective is students will develop their coaching ability through advance technology with preparation of lesson plan
- The students will develop confidence through lesson

**Lesson plan:**

Class formation

Introduction

Demonstration the skill with latest technology

Proper explanation and all the advantage of technology

Kinesiological and Mechanical analysis of the skill

Practice by the students and sharp observation

Rectification and analytical part

Lead up activities

Class Dismissal

**Evaluation: Total marks 100**

**Internal assessment: 50 marks**

**External assessment: 50 marks**

| Evaluation criteria | Internal assessment | External assessment |
|---|---|---|
| Class formation, introduction & reporting | 10 marks | 10 marks |
| Observation of Demonstration | 10 marks | 10 marks |
| Explanation with Kinesiological and Mechanical Analysis | 10 marks | 10 marks |
| Observation and rectification | 10 marks | 10 marks |
| Lesson plan preparation, lead up game and dismissal part | 10 marks | 10 marks |
| Total | 50 marks | 50 marks |

**M.Sc. SPORTS COACHING**

**SEMESTER-II**

**COURSE NAME: Physical Fitness / Sports Performance / Achievement**

**Course Code: MSC/SC/205**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL-II) Specific Sports (Experiential Learning)** | | | | | | |
| MSC/SC/205 | Physical Fitness / Sports Performance / Achievement (badminton) | 2 | 64 | 25 | 25 | 50 |

**Course Learning Outcome:**

After completing this course, the students will be able to

- Involved in regular conditioning programme to maintain their fitness
- Designing various fitness and conditioning exercises for different age group
- Know about their sports performance achievements

**Evaluation**

**Full marks 50 marks**

**Internal Assessment 25 marks**

**External Assessment 25 marks**

| Evaluation criteria | Internal Examiners mark | External Examiners Mark |
|---|---|---|
| Skill acquisition/test | 10 | 10 |
| Fitness and conditioning designing and implementing strategy | 5 | 5 |
| Evaluation of Sports Performance | 10 | 10 |
| Total | 25 | 25 |

**Assessment Rubrics and Guideline**

- The Students will demonstrate and explain two skills with scientific principles. Both snatch and clean and Jerk techniques will be observed.
- They will design fitness and conditioning programme for Beginners, intermediate and advanced athletes.
- Sports Performance of the student will be observed by both internal and external examiner.

**M. Sc. Sports Coaching**
**SCHEME OF EXAMINATION**
**SEMESTER III**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/301 | Advanced Research Method and Statistics | 3 | 48 | 30 | 45 | 75 |
| MSC/CC/302 | Advances in Sports medicine, Rehabilitation and Recovery strategies in Sports | 3 | 48 | 30 | 45 | 75 |
| MSC/CC/303 | Sports Performance Analysis (Sports Specific) | 3 | 48 | 30 | 45 | 75 |
| **Elective (choose any one)** | | | | | | |
| MSC/EC/301 | Healing technique and Ayurvedic Modalities in sports | 3 | 48 | 30 | 45 | 75 |
| MSC/EC/302 | Yogic Science and Naturopathy | | | | | |
| MSC/EC/303 | Sports Startup and Incubation (Project) | | | | | |
| **PART- B LAB PRACTICAL-I (Experiential Learning)** | | | | | | |
| MSC/CC(P)/301 | Advanced Research Method and Statistics | 1 | 32 | 10 | 15 | 25 |
| MSC/CC(P)/302 | Advances in Sports medicine, Rehabilitation and Recovery strategies in Sports | 1 | 32 | 10 | 15 | 25 |
| MSC/CC(P)/303 | Sports Performance Analysis (Sports Specific) | 1 | 32 | 10 | 15 | 25 |
| MSC/EC/301 | Healing technique and Ayurvedic Modalities in sports | 1 | 32 | 10 | 15 | 25 |
| MSC/EC/302 | Yogic Science and Naturopathy | | | | | |
| MSC/EC/303 | Sports Startup and Incubation (Project) | | | | | |
| **PART-C (PRACTICAL – II)- Specific Sports (Experiential Learning)** | | | | | | |
| MSC/SP/304 | Athlete Development practices | 2 | 64 | 25 | 25 | 50 |
| MSC/SP/305 | High Performance Coaching-I | 4 | 128 | 50 | 50 | 100 |
| MSC/SP/306 | Physical Fitness / Sports Performance / Achievement | 2 | 64 | 25 | 25 | 50 |
| **GRAND TOTAL** | | **24** | **576** | **260** | **340** | **600** |

Submission of Research Proposal (synopsis) consists of introduction, review of the related literature and methodology. T h e work undertaken should be presented in PPT and VIVAVOCE should be conducted online / offline as per the convenience of the mentors / guide.

## SEMESTER – III

## Advanced Research Method and Statistics

## COURSE CODE: MSC/CC/301

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| PART- A (THEORY) | | | | | | |
| MSC/CC/301 | Advanced Research Method and Statistics | 3 | 48 | 30 | 45 | 75 |

### Course Learning Outcome:

After completing this course, the students will be able to

- To understand Research ethical issues and plagiarism
- To provide knowledge of writing a research problem, review of related literature, and drafting the research problem and its ethical considerations
- To provide knowledge of Sampling, hypothesis testing
- Understanding the use of different statistical methods in data analysis.

### UNIT – I

### Research, Ethical Issue and Plagiarism

1.1. Nature and Characteristics of Research Process

1.2. Types of Research: Basic &Applied, Quantitative & Qualitative Research

1.3. Ethical Issues in Research, WHO and ICMR guideline of human research

1.4. Plagiarism and Copyright violations, Plagiarism Software, UGC Guidelines on Research

### UNIT – II

### Process of Thesis Writing

2.1. Identifying the Research Problem, Meaning and Formulation of Research

2.2. Hypothesis, Delimitations and Limitations, Needs of Significance of the Study, Kinds and Steps of Literature Review, Guidelines of Review of related literature

2.3. Methods of Data Collection: Participants, Variables &Instruments Selection, Research Design

2.4. Writing of Research Proposal, Thesis Format

## UNIT – III

### Application of Statistical Technique and Hypothesis Testing

3.1. Statistics – Definition, Types. Measures of Central Tendency & Measures of Dispersion, Graphical Representation of Data
3.2. Normal Curve: Meaning of probability – Principles of normal curve – Properties of normal curve
3.3. Sampling distributions, sampling techniques, standard error of mean
3.4. Testing of Hypothesis - Region of Acceptance & Region of Rejection of Null and Alternative Hypothesis, Level of Significance, Type I and Type II Errors, One Tailed and Two Tailed test

## UNIT – IV

### Application of Parametric and Non-Parametric Test

4.1. Tests of significance: Independent "t" test, Dependent "t' test, chi - square test, Wilcoxon Signed Rank Test, Mann Whitney U Test
4.2. One way and two way ANOVA, ANCOVA
4.3. Meaning of correlation - co-efficient of correlation
4.4. Correlation analysis, estimation of regression line, Using SPSS to analyze the data and STATA data analyze software

**PRACTICAL**
**COURSE CODE: MSC/CC (P)/301**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- B (Lab. PRACTICAL)** | | | | | | |
| MSC/CC(P)/301 | Advanced Research Method and Statistics | 1 | 32 | 10 | 15 | 25 |

SPSS Software practice at Lab

## SUGGESTED READINGS:


1. Ahlawat, R. P. (2016). Research Process in Physical Education& Sports Sciences. Friends Publication.
2. Flick, U. (2017). Introducing Research Methodology. Sage Publications.
3. Flick, U. (2019). An Introduction to Qualitative Research. Sage Publications.
4. Kahn, J. V. (2016). Research in Education (Vol. 10). Pearson Education Inc.
5. Kamlesh, D. M. (2019). Methodology of Research in Physical Education and Sports. Sports Publication. 6. Kothari, C. (2019). Research Methodology: Methods and Techniques. New Age International Publishers.
6. Mishra, P. D. (2018). Research and Statistics in Physical Education. Sports Publication.
7. Thomas, J. R. (2016). Research Method in Physical Activity. US: Human Kinetics.
8. Verma J.P. (2013). Data Analysis in Management with SPSS Software Springer.
9. Verma, J.P. (2011). Statistical Methods for Sports and Physical Education. TataMcGraw Hill Education, New Delhi.
10. Verma,J.P. and Ghufran,M.(2012).Statistics for Psychology: A comprehensiveText. Tata McGraw Hill Education, New Delhi.
11. W. J. Best. (1981). Research in Education. Prentice Hall of India Private Limited.

## SEMESTER – III

Advances in Sports Medicine, Rehabilitation and Recovery strategies in Sports

## COURSE CODE: MSC/CC/302

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/302 | Advances in Sports Medicine, Rehabilitation and Recovery strategies in Sports | 3 | 48 | 30 | 45 | 75 |

### Course Learning Outcome:

After completing this course, the students will be able to

- Understanding the classification of sports injury
- Understanding injuries and rehabilitation in sports
- Understand the concept of first aid hydrotherapy, thermotherapy and different electrotherapeutic modalities
- Understand the List of the Drugs banned by WADA and coachs role in athletes care and rehabilitation

### UNIT – I

### Advances of Sports Medicine and Rehabilitation

1.1. Introduction to Sports Medicine and concept of modern sports rehabilitation in sports

1.2. Current concept of Athletic care Rehabilitation, multidisciplinary approach in athletic care and rehabilitation.

1.3. Principle and stages of athletic rehabilitation.

1.4. Action plan of Athletic Care Rehabilitation, return to play criteria (RTP).

## UNIT – II

### Injury, Tissue Response and its Classification

2.1. Inflammation (Cardinal signs), Stages of tissue healing, tissue response to stress
2.2. Classification of sports injuries. Common sports injury –Skin injuries (abrasion, blisters chafing), Muscle injuries (Contusion, cramps), cartilage, meniscus injury, fractures, Sprains & Strains etc
2.3. First Aid. Field-side emergencies. First aid for asphyxia, shock, fainting, bleeding, burns, hyperthermia, nose bleed, drowning, fracture electric shock etc. Cardiopulmonary resuscitation (CPR)
2.4. Acute soft tissue injury management: Principle of PRICE, POLICE, concept of optimal loading. Overuse injury in sports: prevention and management (Tendinitis, bursitis, epichondylitis etc)

## UNIT – III

### Hydrotherapy, Thermotherapy &Electrotherapeutic Modalities

3.1. Brief Explanation of Cryotherapy and Hydrotherapy – Whirlpool bath, contrast bath and its application to sports injury and recovery process, Cryospray.
3.2. Thermotherapy modalities -Shortwave Diathermy, Microwave Diathermy, IRR and Ultraviolet Rays, Its application to sports injury and recovery process
3.3. Concept & Use of Electrical Muscle Stimulation, TENS and Diapulse. Its application to sports injury and recovery process
3.4. Brief Description LASER therapies and Ultrasound therapy. Manual Therapy and Sports Massage, Its application to injury and recovery process

## UNIT – IV

4.1. Classifications of Drugs banned by WADA its side effects
4.2. Procedure and sampling at National and Inter National levels.
4.3. Recent advances in the field of rehabilitation in sports injury, methods to enhance recovery.
4.4. Coachs' role on athletes care and rehabilitation

## PRACTICAL

## CODE: MSC/CC(P)/302

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| PART- B (Lab. PRACTICAL) | | | | | | |
| MPES/CC(P)/302 | Advances in Sports Medicine, and Rehabilitation and recovery Strategies in Sports | 1 | 32 | 10 | 15 | 25 |

### UNIT – I

1.1. Orientation of most commonly used Therapeutic Modalities (Infrared, UVR, Ultrasound, Short wave Diathermy, TENS, LASER Therapy)

1.2. Orientation of Active and Passive exercises for rehabilitation

1.3. Common exercise for upper limb and lower limb, core stability exercise

1.4. Stretching of major muscles. Massage therapy.

### UNIT – II

2.1. First aid. Basic life support

2.2. Application of strapping/tapping and bandage for major joints and body parts.

2.3. Practical learning of Cryotherapy and thermotherapy techniques

2.4. Acquainted with common Rehabilitation equipment (Traction units, shoulder wheel, quadriceps table, wrist rotators, multiple pulley systems, finger board, whirlpool bath). Maintaining a record book

**Suggested Readings:**


1. Carolyn Kisner & Lynn Allen Colby, (2004) Therapeutic Exercise: Foundation &Techniques, New Delhi.
2. Dr. P.K. Pandey, (2003) Sports Medicine Curious Queries Khel Sahitya Kendra New Delhi.
3. Freddie H. Fu, David A. Stone, (2001) Sports Injuries: Mechanism, Prevention, Treatment, Lippincott Williams & Wilkins.
4. Jayant Joshi, Prakash Kotwal; B.I. Churchill Livingstone (2008) Essential of orthopedics& Applied Physiotherapy, New Delhi.
5. Peggy A. Houglum (2001) Therapeutic Exercise of Athletic Injuries, Athletic Training Education Series.
6. Stevan Roy and Richard Irvin (2001) Sports Medicine: Prevention, Evaluation, Management & Rehabilitation Official website of International Sports medicine

**SEMESTER – III**

**SPORTS PERFORMANCE ANALYSIS**

**COURSE CODE: MSC/CC/303**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/303 | Sports Performance Analysis | 3 | 48 | 30 | 45 | 75 |

**Course Learning Outcome:**

After completing this course, the students will be able to

- After completing this course, the students will be able to analyze and interpretation the data through the application of different software in the field of sports.
- Develop your expertise as a performance analyst
- Understand relevant techniques and procedures for a number of different scenarios
- Utilize the various modern technology in sports

**UNIT – I**

**Introduction to Sports Performance Analysis**

1.1. Introduction and need for Performance Analysis, Meaning and definition of notational analysis and modelling

1.2. Levels of analysis - team, subsidiary units and individuals in Badminton.

1.3. Development of notational analysis system (Hand, Technology based)

1.4. Sports performance analysis: National and International level in Badminton

## UNIT – II

### Sports Performance Indicators and Performance Profiling

2.1. Meaning and definition of performance indicators
2.2. Types of indicators (Temporal, Technical, Tactical, Biomechanical)
2.3. Systematic approach to categorize the performance indicators, the use of performance indicators in performance analysis in Badminton.
2.4. Performance profiling, Processes in creating performance profiles, establishing normative profiles in performance analysis

## UNIT – III

### Feedback Technology and Sports Performance

3.1. Meaning, definition and types of feedback
3.2. Video feedback, presenting visual feedback technology in weightlifting, Precision and timing of feedback in Badminton.
3.3. Different feedback technologies in sports, Video technology and temporal feedback in Badminton.
3.4. The role of analyst in sports coaching process, applications of analysis systems to sports coaching practice in Badminton.

## UNIT – IV

### Technology in Sports Performance Analysis

4.1. Filming Equipments (Camera, Capture Device, Storage, Tripod) in Badminton.
4.2. Sports Analysis software (Creating dashboard, Types of button, Tagging) in Badminton
4.3. Types of data, data collection system, general steps in analysis and visualization
4.4. Introduction to sensor technology, Modern Technology in Badminton.

**SEMESTER-III**

**PRACTICAL**

**COURSE CODE: MSC/CC(P)/303**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- B (Lab. PRACTICAL)** | | | | | | |
| MSC/CC(P)/303 | Sports Performance Analysis | 1 | 32 | 10 | 15 | 25 |

**UNIT – I**

1.1. Software & Latest Technology

1.2. Sports Analysis software (Creating dashboard, Types of buttons, Tagging)

1.3. Notational Analysis

1.4. Global positioning systems

**UNIT – II**

2.1. Automatic player tracking systems

2.2. Sensor technology companies

2.3. Tele-remote training and analysis

2.4. Laser technology in static and dynamic conditions

## Suggested Readings:


1. Carling, C., Williams, A. M., & Reilly, T. (2007). Handbook of soccer match analysis: A systematic approach to improving performance.
2. Mike Hughes, Ian M. Franks and Henriette Dancs, (2019) Essentials of Performance Analysis in Sport, Routledge.
3. Peter O'Donoghue, (2014) Data Analysis in Sport, Routledge
4. Routledge. Hughes, M., & Franks, I. (2007). The essentials of performance analysis: an introduction. M., & Franks, I. M. (Eds.). (2004).
5. Notational analysis of sport: Systems for better coaching and performance in sport. Psychology Press. McGarry, T., O'Donoghue, P., & de EiraSampaio, A. J. (Eds.). (2013).

**SEMESTER III**

**M.Sc. Sports Coaching**

**Healing Techniques and Ayurvedic modalities in Sports Coaching**

**COURSE CODE: MSC/EC/301**

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Elective | | | | | | |
| MSC/EC/301 | Healing Techniques and Ayurvedic modalities in Sports Coaching | 3 | 48 | 30 | 45 | 75 |

**Course Learning Outcome**

After completing this course, the students will be able to

- Conceptualizing and introductions of different healing techniques help in enhancement of sports performance
- Know about different healing therapies uses for healing of the athletes
- Know about psycho neurobics techniques and therapeutic values for healing of the athletes
- Know about ayurvedic modalities used for curing of the athletes

**Unit 1**

1. Introduction of Healing therapy, classification of Healing therapy, methods and means of Healing techniques
2. Therapies: Raiki, sound / music therapy, pranic healing, anapanasati, vipasyana, Om / Sloka Chenting, Kundalini / chakra healing / Aura cleansing
3. self-suggestions, affirmation, progressive relaxation techniques, Hypnosis therapy, spiritual and body energy healing therapy
4. Yog-Nindra, Sleep therapy, sleep meditation with music, guided active and passive meditation

**Unit 2**

1. Psychoneurobics healing technique
2. Colour therapy, concentration, touch therapy
3. Isolation therapy, Outdoor meditation, Group meditation
4. Social and spiritual healing

**Unit 3**

Ayurvedic modalities

1. Banana leaf therapy, Mud therapy, Feet reflexology, sand therapy,
2. Oil massage therapy, steam therapy, Agni therapy, Panchakarma Therapy,
3. Varma therapy, marma therapy, Abhayng Massage,Tratak therapy,
4. Acupuncture, Acupressure, aqua therapies, Fasting therapy

## Unit 4

1. Popular traditional medicine / Herbs used for enhancing sports performance
2. Injuries management through sidhha,
3. Injuries management through local Herbal / traditional medicinal plants
4. Merits and demerits of Popular traditional medicine / Herbs used for enhancing sports performance

## PRACTICAL

### Healing Techniques and Ayurvedic modalities in Sports Coaching

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Elective | | | | | | |
| MSC/EC/301 | Yogic science and Naturopathy | 1 | 32 | 10 | 15 | 25 |

### Course Learning Outcome

After completing this course, the students will be able to

- Practical exposures of different healing techniques psychoneurobics techniques and therapeutic values help in enhancement of sports performance
- Practical acquaintances of ayurvedic modalities used for curing of the athletes

### Unit 1

### Healing Techniques

Practical experience and virtual learning of Healing therapy, classification of Healing therapy, methods and means of Healing techniques like Raiki, sound / music therapy, pranic healing, anapanasati, vipasyana, Om / Sloka Chenting, Kundalini / chakra healing / Aura cleansing, self-suggestions, affirmation, progressive relaxation techniques, Hypnosis therapy, spiritual and body energy healing therapy Yog-Nindra, Sleep therapy, sleep meditation with music, guided active and passive meditation and Psychoneurobics healing technique, Colour therapy, concentration, touch therapy Isolation therapy, Outdoor meditation, Group meditation, Social and spiritual healing

### Unit 2

### Ayurvedic modalities

Practical experience or virtual learning Banana leaf therapy, Mud therapy, Feet reflexology, sand therapy, Oil massage therapy, steam therapy, Agni therapy, Panchakarma Therapy, Varma therapy, marma therapy, Abhayng Massage,Tratak therapy, Acupuncture, Acupressure, aqua therapies, Fasting therapy also Practical acquaintances Popular traditional medicine / Herbs used for enhancing sports performance, Injuries management through sidhha, Injuries management through local Herbal / traditional medicinal plants Merits and demerits of Popular traditional medicine / Herbs used for enhancing sports performance

# SEMESTER III

## YOGIC SCIENCE AND NATUROPATHY

## COURSE CODE: MSC/EC/302

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Elective | | | | | | |
| MSC/EC/302 | Yogic science and Naturopathy | 3 | 48 | 30 | 45 | 75 |

## LEARNING OUTCOME

- Understand the yoga and its historical development.
- Differentiate between various stages of astanga yoga.
- Demonstrate different asanas, pranayamas and kriyas.
- Apply and demonstrate various benefits of yoga to be applied in the field of sports.
- Yoga and stress management, health and wellness.
- Develop yogic programs/schedules.

## COURSE CONTENTS

### UNIT-I

**Introduction**

1.1. Meaning and definition of Yoga. Philosophy and aim of Yoga.
1.2. Types of Yoga, their special features with reference to their objectives.
1.3. Astanga Yoga, Importance of Yams (Abstinences) Niyamas (Observances) in the field of Yoga.
1.4. Hatha Yoga, Raja Yoga, Karma Yoga, Bhakti Yoga and Gnana Yoga

### UNIT- II

**Kriya, Bandhas, and Mudras, Asanas, Suryanamaskar**

2.1. Asana: Definition, Classification, Sitting, Standing, Lying, & Inverted Asanas, Benefits of Asanas
2.2. Surya Namaskara- Description and Benefits.
2.3. KRIYAS, Meaning of Neti, Nauli, Dhauti, Kapalabhati, Trataka, Bhastrika,
2.4. BANDHAS, Jalandhara, Udyana, Mula, Importance of Bandhas
2.5. MUDRAS, Definition, types and Benefits

## UNIT – III

### Pranayama and Meditation

3.1. P**R**ANAYAMA: Definition, Types of Pranayama, Importance & Impact of Pranayama on naadis.
3.2. Chakras: Definition and types, Effects of Pranayama on chakras.
3.3. Meditation, Meaning, Definition and Benefits of Meditation. Types of Meditation:
3.4. Meditation and Health. Meditation and stress Management. Its importance in Sports. Yoga and stress management

## UNIT-IV

### Naturopathy

4.1. Meaning, definition and importance of naturopathy in modern days

4.2. Naturopathy - Hydrotherapy (*Jalchikitsa)*- Hot, Cool, Moving

4.3. Heat Therapy (Tej Chikitsa)- Dry and Moisture

4.4*Mardan* Therapy/Indian Massage (*Abhyanga Chikitsa*)

**PRACTICAL**
**YOGIC SCIENCE AND NATUROPATHY**

**CODE: MSC/CC (P)/302**

| Subject Code | Subject Name | Credit | Learning Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Elective | | | | | | |
| MSC/EC(P)/302 | Yogic science and Naturopathy | 1 | 32 | 10 | 15 | 25 |

**Unit-I**

**Yogic Kriya (Shatkarma), Yogasana**

1.1. Kriya- a. kapalbhati and Trataka

1.2. Neti and Dhouti,Nouli and Basti

1.3. Asana- a. Standing, Sitting, Laying position

1.4. Cultural, Relaxing, Meditative, Pysiological Classifications

**Unit- II**

Pranayama, Dhyana and Naturopathy (*Nisargopachar*)

2.1. Pranayama- Cooling, Heating, balancing

2.2. Dhyana (Meditation) – Beginners, Intermediate,Advance

2.3. Naturopathy - Hydrotherapy (*Jalchikitsa)*- Hot, Cool, Moving

2.4. Heat Therapy (Tej Chikitsa)- Dry and Moisture, *Mardan* Therapy/Indian Massage (*Abhyanga Chikitsa*)

**Suggested Readings**


1. Muktibodhananda S. (2013). Hatha Yoga Pradipika, Munger, Bihar School of YogaPublication (3rd ed.). ISBN-10:9788185787381
2. Niranjananda S. S. GherandaSamhita. (2012). Munger, Bihar School of Yoga. PublicationISBN-97893816201993.
3. Maheshananda S, Sharma B.R., Sahay GS, Bodha R. K, Jha B. L, Bharadwaj C.L. (2009). Siva Samhita.Lonavalla,Kaivalyadhama Publication. ISBN: 9788189485535
4. Maheshananda S, Sharma B.R, Sahay G.S. (2005). VasisthaSamhita, Lonavalla, Kaivalyadhama Publication. ISBN:8189485377
5. Kuvalayananda S. (1993). Asanas. Lonavala,KaivalyadhamaPublication, India.
6. Satyananda S.S. (2004). Asana Pranayama Mudra Bandha,Munger,Yoga Publications Trust, Bihar,India. ISBN: 8186336141

7. Nagarathna R, Nagendra H.R. (2008). Yoga for Promotion of Positive Health. Vivekananda Yoga Research Foundation Swami Vivekananda Yoga Prakashana. ISBN:9788187313083
8. Iyengar B.K.S. (2003). Light on Yoga, USA, HarperCollins. ISBN: 8172235011
9. Mondal S. (2013). Science of exercise: ancient Indian origin. J Assoc Physicians India. 61:40-42.
10. S.D. Dwivedi: Naturopathy for perfect health, kalpaz publication Delhi, 2002
11. Pravesh Handa: Naturopathy and Yoga, kalpaz publication Delhi, 2006
12. S.J. Singh: My Nature cure of Practical Naturopathy
13. M.K. Gandhi: The story of my experiment with truth
14. M.K. Gandhi: My Nature Cure

## SPORTS STARTUP AND INCUBATION

| Course Code | Course Name | Credits | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Part – A (Theory Course) | | | | | | |
| MSC/EC/303 | SPORTS STARTUP AND INCUBATION | 3 | 48 | 30 | 45 | 75 |

### Course Objectives

Start-up Incubation (also known as start-up accelerators) hold significant importance in a country like India where entrepreneurs by the score are launching new setups and changing the game of Sports business in minutes.

- Comprehend the concept of incubation centres and their role in enterprise creation and development;
- Identify functions of incubation centres; and
- Identify incubation centres network in India.

### Course Learning Outcome:

After completing this course, the students will be able to

- Understand the Sports start-up and entrepreneurship and scope in sports industry
- Understand leadership quality required to become sports Start-up Incubation.
- Have knowledge about sports industry, sports business, project management concept, phases &role and responsibilities

### UNIT I

1.1. Meaning of Start-up and Incubation - characteristics, functions and types of Start-ups and Incubation
1.2. Role of Start-up and Incubation in economic development.
1.3. Factors affecting Start-up and Incubation growth - economic –non-economic. Start-up and Incubation
1.4. Development programmes - need - objectives – phases - evaluation.

### UNIT II

2.1. Meaning and definitions of business incubation, Roll and responsibilities of business Incubators,
2.2. Leadership quality required to become sports business incubators
2.3. Factors affecting choice of sports business and sports project management
2.4. Concept, phases, role, responsibilities and advantage for sports start-ups and business incubation.

### UNIT III

14.1. Sports industry potentials and scope of sports business in India
14.2. Start-ups and Incubation centres available in India, State and central government policy and strategies for start-ups and incubation
14.3. Best sports Incubators and incubation centres and incubation setups in India
14.4. Institutional and government support available to incubators.

## SPORTS STARTUP AND INCUBATION

### Practicum

| Course Code | Course Name | Credits | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Part – A (Theory Course) | | | | | | |
| MSC/EC(P)/303 | SPORTS STARTUP AND INCUBATION | 1 | 32 | 10 | 15 | 25 |

### Course Learning Outcome:

**After completing this course, the students will be able to**

- Understand the practical exposure for sports start-up and entrepreneurship
- Acquainted with scope and potentials in sports industry
- Understand leadership quality required to become sports Start-up Incubation.

**Unit I**

- Case study of successful sports incubators and sports start-ups
- Finding scope of sports business in different part of the country and peer discussions in Start-ups group
- Preparation of cross-sectional study reports on sports industry and sports markets in India

**Unit II**

- Open ended individual project preparation for sports start-ups
- Generation of business Ideas, Group discussions, project sharing with mentors
- Visits to the sports industry and preparation of study reports

https://mic.gov.in/assets/doc/startup_policy_2019.pdf

https://www.startupindia.gov.in/content/sih/en/incubator-framework.html

https://actionforindia.org/afi-activity-accelerator-programs.html

https://www.aspeninstitute.org/wp-content/uploads/files/content/docs

https://howdo.com/training/tools/business-incubator/

**M.SC SPORTS COACHING**

**SEMESTER-III**

**COURSE NAME – Athlete Development Practices**

**MSC/SP/304**

**Badminton**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL – II)- Specific Sports (Experiential Learning)** | | | | | | |
| MSC/SP/304 | Athlete Development practices | 2 | 64 | 20 | 30 | 50 |

**UNIT-I**

**Basic skill development –Ages 11 and under in badminton**

1.1. Designing Fitness and conditioning class
1.2. Fundamental Skill Teaching in Badminton
1.3. Designing Coordination exercises
1.4. Movement correction

**UNIT-II**

**Basic Training Development – Ages 11 to 14**

2.1. Designing Fitness and conditioning class for badminton players
2.2. Skill teaching in badminton and their rectification
2.3. Designing Light weight training exercises
2.4. Designing Coordinative ability training programming

**UNIT-III**

**Intermediate and advance training development –Ages 15-20**

3.1. Conditioning Training programme for intermediate and advance level
3.2. Designing Moderate intensity to high intensity training plan in badminton
3.3. Assessment of physical fitness and skill test in badminton
3.4. Observation of competition and their Performance record analysis

**Evaluation**
**Full marks 50 marks**
**Internal Assessment 25 marks**
**External Assessment 25 marks**

| Evaluation criteria | Internal Examiners mark | External Examiners Mark |
|---|---|---|
| Designing Training plan for different age group | 10 | 10 |
| Coaching Ability for different age group | 10 | 10 |
| Record book | 5 | 5 |
| Total | 25 | 25 |

**Reference books:**


1. Aneja O P. *How to play badminton*. Prerna Prakashan. 2012.
2. Brahams. Badminton handbook. Meyer and Meyer sports, 2010.
3. Kumar S. Badminton skills and rules. Vishalkanishk printers,2010.
4. Grice T. Badminton steps to success *(*2nd ed.*)*.Human kinetics ,2008.
5. Singh M K.*Comprehensive badminton*. Friends publication, India, 2007.
6. Jain A. Badminton coaching manual. Jain media graphics, 2005.
7. Narang P. Play and learn badminton. Jain media graphics, 2005.
8. Jain D. *Badminton skills and rules*. Chawla offset printers, 2003.
9. Robert G. *Ultimate guide to weight training for badminton*. Price world enterprises,2003.

**M.SC SPORTS COACHING**

**SEMESTER-III**

**COURSE NAME – High Performance Coaching-I**

**MSC/SP/305**

**Badminton**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL – II)- Specific Sports (Experiential Learning)** | | | | | | |
| MSC/SP/305 | High Performance Coaching-I | 4 | 128 | 40 | 60 | 100 |

## Learning Outcomes:

After completing this course, the students will be able to

- Understand coaching practice and high-performance development in badminton
- Understand High-performance training plan in badminton
- Understand the Long-Term Athlete Development for badminton.
- Understand the Psychological preparation for high performance

### Unit - I

1.1. Principles of high-performance coaching for badminton players
1.2. Long term training plan for badminton
1.3. Micro, Meso and Macro plan
1.4. Fitness assessment of badminton players

### Unit – II

2.1. Physique – testing player's fitness – vision – psychological demands – physiological demands for higher performance
2.2. High performance Physical preparation – fixing target – different intensity work
2.3. High performance tactical preparation for badminton players
2.4. Badminton technique, nutrition and movement analysis of Badminton players

### Unit – III

3.1. Designing Long Term Athlete Development (LTAD) for badminton
3.2. Intensity, load and volume of training
3.3. High performance athlete pathway strategy and programs, Intensive training plan (two session, three session per day)
3.4 Individual and small group coaching plan in badminton

## Unit – IV

4.1. Develop Psychological preparation for high performance
4.2. Match analysis – strong – weak points – discussion
4.3. Player's commitment in Badminton
4.4. Badminton player's mental health and safety plan

**Evaluation**
**Full marks 100 marks**
**Internal Assessment 50 marks**
**External Assessment 50 marks**

| Evaluation Criteria | Internal assessment | External assessment |
|---|---|---|
| Coaching plan for high performance Badminton player | 15 marks | 15 marks |
| Performance analysis | 15 marks | 15 marks |
| A case study/Project: Analysis of high-Performance coaching of a Badminton Player | 20marks | 20 marks |
| Total | 50 marks | 50 marks |

**M.SC SPORTS COACHING**

**SEMESTER-III**

**COURSE NAME – Physical Fitness / Sports Performance / Achievement**

**MSC/SP/306**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL – II)- Specific Sports (Experiential Learning)** | | | | | | |
| MSC/SP/306 | Physical Fitness / Sports Performance / Achievement | 2 | 64 | 25 | 25 | 50 |

**Course Learning Outcome:**

After completing this course, the students will be able to

- Involved in regular conditioning programme to maintain their fitness
- Designing various fitness and conditioning exercises for different age group
- Know about their sports performance achievements

**Evaluation**
**Full marks 50 marks**
**Internal Assessment 25 marks**
**External Assessment 25 marks**

| Evaluation criteria | Internal Examiners mark | External Examiners Mark |
|---|---|---|
| Skill acquisition/test | 10 | 10 |
| Fitness and conditioning designing and implementing strategy | 5 | 5 |
| Evaluation of Sports Performance | 10 | 10 |
| Total | 25 | 25 |

**Assessment Rubrics and Guideline**

- The students will demonstrate and explain two skills with scientific principles. Both snatch and clean and Jerk techniques will be observed.
- They will design fitness and conditioning programme for Beginners, intermediate and advanced athletes.
- Sports Performance of the student will be observed by both internal and external examiner.

## M. Sc Sports Coaching

## SCHEME OF EXAMINATION

## SEMESTER IV

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/401 | Specialization (Sports Specific) | 3 | 48 | 30 | 45 | 75 |
| **PART-C (PRACTICAL) Concerned Sports / Games** | | | | | | |
| MSC/CC(P)/401 | Specialization (Sports Specific) | 1 | 32 | 10 | 15 | 25 |
| MSC/CC/402(P) | High Performance Coaching (Sports Specialization) | 4 | 128 | 50 | 50 | 100 |
| MSC/T/403 | Thesis | 8 | 256 | 100 | 100 | 200 |
| MSC/SI/404 | Internship / Apprenticeship (in summer vacation) | 8 | Six weeks | --- | 200 | 200 |
| **GRAND TOTAL** | | **24** | **464** | **190** | **410** | **600** |

- Submission of the Thesis by the student. The work undertaken should be presented in PPT and VIVA VOCE should beconducted.
- Internship- All the students would be assigned at within the campus or various SAI centers under MYAS/Sports Academy/ Sports Club for their internship during end semester brake. The students will spend 192 hours at their center during their six weeks internship programme. The criteria of Internship will be provided separately.
- The student selects any two or three study topics / Minor Project / study problem / innovation / analytics / and independently carries out library and/or empirical research. Faculty supervision is provided on an individual basis.
- Prerequisite: To be determined by the faculty and the dean / director. Experiential Education and Learning successful completion of this course satisfies one, two or three credits.

**M.SC SPORTS COACHING**

**SEMESTER-IV**

**COURSE NAME – SPECIALIZATION (Specific Sport)**

**MSC/CC/401**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART- A (THEORY)** | | | | | | |
| MSC/CC/401 | Specialization (Sports Specific) | 3 | 48 | 30 | 45 | 75 |

**Course Learning Objectives:**

After completing this course, the students will able to

1 Understand the scientific process of age group training and its implication in the planning on the field
2 Understand digital intervention in panning and periodization to monitor training plan and its execution
3 Able to identify special gadgets and its utilities in talent identification and talent development processes.

## Unit - 1

1.1 Age Specific Training of Childhood and Adolescence (Age group – 6 – 8yrs, 9 – 10yrs, 11 – 12yrs)
1.2 Concept of General and Age Specific Training of Sub Junior (U - 16), Youth (U - 18), Junior (U - 20) and Precautions of Early Specialization.
1.3 Training of Elite Athletes, Use of Performance Analysis of the Elite Athletes.
1.4 Individualized Training and Case Studies.

## Unit - 2

2.1 Advance Planning and Periodization, use of related software's for Elite badminton training programme.
2.2 Preparation for Competition (Build-up and Major Competitions), Acclimatization, Hypoxic Training / High Altitude Training, Psychological Preparation, etc.
2.3 Advance Training means, Load, Recovery and Adaptation.
2.4 Event Specific Common Injuries, Cause, Rehabilitation and Cross Training during Injury.

## Unit – 3

3.1 Talent Identification in Specialized Events, Criteria, Monitoring and use of Advance Gadgets.
3.2 Formulation of Event Specific Field Test, and Sports Science Tests (Physiological, Biomechanical Psychological, Anthropometrical, Bio-chemical etc). Event Specific formulation of Norms
3.3 Use of Event Specific food supplements and precautions
3.4 Understanding latest Changes in Competition Rules and Event Management in Badminton

## Unit – 4

4.1 Bio-Mechanical Principles applied to Specific techniques in badminton

4.2 Kinematic and Kinematic analysis of Specific Events singles, doubles and Mixed doubles.

4.3 Identification of faults, reasons and Correction in Specific events.

4.4 Performance analysis, Devices, software used, longitudinal studies.

**M.SC SPORTS COACHING**

**SEMESTER-IV**

**High Performance Coaching-II**

**MSC/CC(P)/402**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **PART-C (PRACTICAL) Concerned Sports / Games** | | | | | | |
| MSC/CC(P)/402 | High Performance Coaching II | 4 | 128 | 40 | 60 | 100 |

**Course Learning Outcome:**

After completing this course, the students will able to

- Understand the current status of the badminton players by various Assessment.
- They will be able to plan and implement systematically the needful developing areas for development of High Performance.
- Understand the various technical aspects of specific events and able to do the required development.
- Use of Modern Technical tools for monitoring performance factors.

**Unit- 1**

1.1 Critical Assessment of status of badminton players about various training components for future development,
1.2 Use of various physical and sports science-based tests for identifying of the current status of the badminton players.
1.3 Formulation of Tests in every Meso cycle plan of Yearly Cycle of Advance badminton players.
1.4. Case studies of Monitoring of various performance factors related to the performance of Elite Badminton players.

**Unit – 2**

2.1 Find out the various areas of development and drawing the systematic plan for the window of development in term of Physical, Physiological and other related performance determining criterions.
2.2 Construction of Event Specific Micro Cycle Plan in Preparation, Pre-Competition and Competition periods of Advance and Elite Badminton players.
2.3 Progression of Load Dynamics and adaptation of Specific training Components in Double and Triple Periodization
2.4 Preparation of Training Model for Picking of Performance in Competition Meso Cycle.

**Unit - 3**

3.1 Use of Athlete Management System (AMS) for Advance and Elite Level badminton players.
3.2 Assessment of Training Load and fatigue by using RPE Scale (Borg rating of perceived exertion scale).
3.3 Preparation of technical Model for assessment of Kinematic and Kinetic variable of singles doubles and mixed doubles.
3.4 Learning Systematic Drawing E-filing of records, Chart, Performance Results etc.

**Unit - 4**

4.1. Understanding and preparation Annual Calendar for Domestic National Competitions in line of International Competitions.
4.2. Planning of District and State Championship Calendar in badminton aligning the National/ International badminton Calendar.
4.3. Preparation of Event Chart/ and start list for Junior and Senior National Championship.
4.4. Conducting District/National/International Level Competition.

**Evaluation**
**Full marks 100 marks**
**Internal Assessment 50 marks**
**External Assessment 50 marks**

| Evaluation Criteria | Internal assessment | External assessment |
|---|---|---|
| Coaching plan for high performance Athletes | 15 marks | 15 marks |
| Performance analysis | 15 marks | 15 marks |
| A case study/Project: Analysis of high-Performance coaching of an Athlete | 20marks | 20 marks |
| Total | 50 marks | 50 marks |

**SEMESTER-IV**

**THESIS**

**COURSECODE: MSC/T/403**

| Course Code | Course Name | Credit | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| **THESIS** | | | | | | |
| MSC/T/403 | Thesis | 8 | 256 | 80 | 120 | 200 |

**Course Learning Outcomes:**

- By completing the Master's Thesis, students will demonstrate their academic ability, i.e. their ability to think critically, write according to academic standards, and conduct independent research that is critical, methodical, and systematic.
- A student admitted to M.Sc. shall submit a thesis at the end of IV Semester and must submit his/her Synopsis and get it approved by the Head of Department on the recommendation of Department Research Committee (DRC).
- The beginning of the process of Thesis will start in the beginning of IV Semester in form of preparation and submission of synopsis, facing and getting final approval from the DRC.
- The thesis must be submitted not less than one week before the beginning of the IV Semester End Examination.
- The candidate has to face the Viva-Voce examination conducted by DRC.

**Structure of the Thesis:**

**Title Page**

**Certificate**

**Abstract (200-250 words)**

**Acknowledgements**

**Table of Contents**

**List of Figures, Tables, Illustrations,**

Chapter 1: Introduction

Chapter 2: Review of Literature

Chapter 3: Methods

Chapter 4: Results and Discussion

Chapter 5: Summary, Conclusion and Recommendations

**References**

The detail would be given from the Department

## INTERNSHIP

| Course Code | Course Name | Credits | Teaching Hours | Internal Marks | External Marks | Total Marks |
|---|---|---|---|---|---|---|
| Part – A (Practical Course) | | | | | | |
| MSC/EC/103 | Internship | 8 | 256 | - | 200 | 200 |

## ESSENCE OF THE COURSE

This course will enable students to develop competence and professional identity as a Teacher or coach, by means of their engagement in Sports club / Sports School /sports academy / Sports science lab College school-classroom-training- coaching-community matters, that will shape their perspective and develop their professional competence to exhibit ethical responsibility as a teacher or coach. It aims to provide the student (intern) with the opportunity to inculcate and demonstrate necessary skills for excelling as a professional teacher, develop skills and competencies for working with diverse groups (individual, cultural, gender, special ability, etc.) in the school, demonstrate the professional ability to provide physical education; outreach and liaison through collaboration with the school community and off-school campus community, interdisciplinary colleagues/experts and Educational Institution

## COURSE LEARNING OUTCOME

**After completing this course, the students will be able to**

- demonstrate professional responsibility with „self- classroom- school" management, proper documentation & reporting, timely submissions-correction-signature and time management, preparing of training plan, coaching sessions etc.
- identify complex ethical situations that challenge professional values and seek guidance for addressing these situations from mentors at appropriate venue.
- demonstrate awareness of the impact teachers"/coaches" behavior has on school children or Sports trainee, staff members, the public, and the profession.
- demonstrate the ability to provide services sensitive to individuals with various types of diversity issues.
- demonstrate competence in facilitation and presentation of skills using appropriate technology and with proper documentation for ensuring efficient liaising.
- develop teaching/coaching proficiency for outdoor and indoor activities.
- organize and compose mass demonstration /displays.
- conduct physical education program for various age groups.

- Organize local level competitions.

## COURSE CONTENTS

1. Be provided an **Internship Program Diary (IPD)** which will have all details of Internship Program (IP).
2. Practice in accordance with professional ethics for Sports Coach given in IPD. Identify and make detailed note of complex ethical situations that challenge professional values and seek guidance for addressing these situations from mentors at appropriate venue.
3. Apply knowledge of perspectives, curriculum, pedagogy and enhanced professional capacity to their professional practice in internship place of work. With an intention to actively involve him/her Coach Interns CI will ensure planning, documentation and Teaching / Training / Coaching (with feedback schedules) of 10 Practical sessions.
4. Coach Interns should be able to articulate individual theoretical and practical perspective and approach prior to, during, and after completing internship experience and how they utilize it within the context of treatment in and outside playfield internship place of work. Articulation opportunity will be provided in a „Follow-up Workshop (FW)" (preferably from 4.00 pm to 6.00 pm on Friday/Saturday) every week by internship in charge in Internship workplace during which all mentors will be present.
5. Coach Interns should demonstrate awareness of the impact behavior has on trainees, supporting members, the public, and the profession. They will share their recorded observations during follow-up workshop every week. Complete required case documentation and report signing promptly and accurately every day and every week. (Coach Interns **behavior & its impact record sheet**)
6. Facilitate completion of individual program requirements including necessary hours i.e.36 hours of internship program per week.
7. Participate in all regularly scheduled activities of the Sports Science Lab / Sports school / club academy /college / university/ and develop a daily routine schedule for his/her place of internship based on personal observation, participation and thorough consultation with the mentors (Internship program daily routine schedule).
8. Become familiar with all sorts of formal and informal activities in and outside classroom / lab / playfield / training arena in the internship workplace and develop a detailed checklist of all such activities (formal and informal separately) with brief notes of each of them. (Checklist of Formal and Informal Activities in workplace)
9. Better understand the beliefs, attitudes, and behavior of diverse individual athletes in the class and learn to observe, identify and report them for feedback and holistic growth of child / athletes to appropriate professional and community member. They will develop athletes' profile, anecdotal record and report card for all athletes of one and present them in front of mentors.
10. Involve themselves in creative ways of tracking learners" progress, establishing study circles/ Sports clubs/forums for professional development of in-service school sports teachers / trainers / coaches / experts or forums for supporting and dialoguing with the Workplace Management Committee, parents and the community. The various efforts must be recorded as planning, preparation, procedure, implementation and feedback of various creative ways (Creative Ways Record File)

**Some Other Important notes for coach interns:**

1. This should include an initial phase of 4 weeks for observing a regular training activity with a mentor and would also include peer observations, internship observations and observations of interns‟ teaching and learning activities by faculty.

2. It is important that the coach interns consolidate and reflect on their teaching / field experience during and after the internship program. Therefore, along with writing reflective journals during the internship programme, there shall be space for extended discussions and presentations on different aspects of the teaching experience after the internship.

**3.** Internship should not be reduced to the "delivery‟ of a certain number of training plans, but should aim for meaningful and holistic engagement with learners and the internship workplace.

**4.** The tasks and projects may include collaborative partnership with the schools for developing innovative practices / creative ways of tracking learners‟ progress, establishing study circles / athlete clubs / forums for professional development of in-service school sports teachers / trainers / coaches / experts or forums for supporting and engaging in dialogue with the Workplace Management Committee, parents and the community.

**5.** The details of records of attendance for all Internships will be maintained by Mentors and countersigned by IO (**Attendance Record of Internship Observer**)

**TEACHING LEARNING STRATEGIES**

- The internship program will be taught by using the latest/innovative method, as per available resources and teaching aids in the classroom and on the field.

**SUGGESTED MODE OF TRANSACTION**

- Demonstration/Explanation/Field Work/learning by doing / evaluation and analysis of the performance / Field training and coaching and Lab training or assessment / assisting mentors for follow up training execution so on….

**The evaluation of Intensive Coach interns will be based on submission of all duly completed and self - signed records and approved by the mentors**

| **ASSESSMENT RUBRICS** | **Marks: 200** |
|---|---|
| • Pretest Record-Activity Details | 20 |
| • Athletes' responses & Behaviors' Report | 10 |
| • Athletes Diversity Report | 20 |
| • Internship Observer's & Mentors Observation Reports | 20 |
| • Internship Program Diary (IPD) | 30 |
| • 20 Training sessions / Coaching Plans (05 x 20 Marks) | 100 |

**Note**: Regularity in attendance will be given due weight age in every component. Leave will be permissible as per norms and sanctioned by IO through proper channel only. Hundred percent attendance will be mandatory (barring sanctioned leave)

**Note**: List of documents to be prepared and submitted by Teacher Intern at the end of Internship (duly signed and discussed in follow-up workshops every week).