

National Curriculum and Credit Framework (NCCF)

Syllabus

for

PHYSICAL EDUCATION

w.e.f. Academic Session 2023-24



Kazi Nazrul University
Asansol, Paschim Bardhaman
West Bengal 713340

SEMESTER- I

MAJOR COURSE - 1

Course Name: Foundations and History of Physical Education and Sports Science

Course Code: BAPEDMJ101

Course Type: Major (Theoretical)	Course Details: MJC-1			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- Students may understand the historical development and the concept of Physical Education, Exercise, and Sports Science.
- Students may learn about this subject's philosophical, biological, psychological, and sociological foundations.

Outcomes:

- Students may have a strong background in physical education, exercise, and sports science.
- This subject may generate vibration for further development of Physical Education, Exercise, and Sports Science.

Unit 1 : Concept of Physical Education, Exercise and Sports Science

- 1.1 Meaning, Definition, and Scope of Physical Education, Exercise and Sports Science
- 1.2 Aim and Objectives of Physical Education, Exercise, and Sports Science
- 1.3 Modern Concept of Physical Education, Exercise, and Sports Science
- 1.4 Importance of Physical Education, Exercise, and Sports Science in Modern Society

Unit 2 : Historical Development of Physical Education, Exercise, and Sports Science

- 2.1 Ayurveda: Concept of human, Yoga, Vyayama (exercise) and Krida (Sports)
- 2.2 Historical development of Physical Education and Sports in India in the Pre-Independence period
- 2.3 Historical development of Physical Education and Sports in India in the Post-Independence period

- 2.4 National Sports Awards: Major Dhyan Chand Khel Ratna Award, Arjuna Award, Dronacharya Award

Unit 3 : Olympic Movement, Commonwealth, and Asian Games

- 3.1 Ancient Olympic Games
3.2 Modern Olympic Games, Objectives, Motto, Flag, Emblem, Torch, Oath and Olympic Village, Opening Ceremony and Closing Ceremony
3.3 Historical background of Commonwealth and Asian Games
3.4 Analysis of Indian Sports Performance: Olympic, Commonwealth and Asian Games

Unit 4 : Foundation & Principles of Physical Education, Exercise and Sports Science

- 4.1 Philosophical Foundation: Idealism, Realism, Pragmatism and Naturalism in Physical Education
4.2 Biological Principles: Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development. Age: Chronological age, anatomical age, physiological age, and mental age
4.3 Psychological Foundation- Meaning and Definition of Psychology and Sports Psychology. Importance of Psychology and Sports Psychology in Physical Education, Exercise, and Sports Science
4.4 Sociological Foundation: Meaning and Definition of Sociology, Society and Socialization. Role of games and sports in National and International Integration

Guidelines for Evaluation:

1. Physical Fitness Test through AAHPERD
2. Preparation of a record book of Indian Sports performance

Reference:

- Bucher, C. A., & Wuest, D. A. (2006). Foundations of Physical Education, Exercise Science, and Sport (15th ed.). McGraw-Hill.
- Lumpkin, A. (2008). Introduction to Physical Education, Exercise Science, and Sport Studies (7th ed.). McGraw-Hill.

- Zeigler, E. F. (2003). History and Status of American Physical Education and Educational Sport. Trafford Publishing.
- Mechikoff, R. A., & Estes, S. G. (2013). A History and Philosophy of Sport and Physical Education: From Ancient Civilizations to the Modern World (6th ed.). McGraw-Hill.
- Park, R. J. (1989). The Rise of Sport in England: A Survey of Historical Literature. University of California Press.
- Harris, J. C. (Ed.). (1994). Sport and Social Order: Contributions to the Sociology of Sport. Routledge.
- Howell, M. L., & Howell, D. L. (1986). A History of Physical Education and Sport. Charles C Thomas Pub Ltd.
- Kamlesh, M. L. (2002). Physical Education: Facts and Foundations. P.B. Publications.
- Sharma, O. P. (2007). History, Principles, and Foundation of Physical Education. Khel Sahitya Kendra.
- Bhatia, K. K. (2014). Principles and Foundations of Physical Education. Kalyani Publishers.
- Singh, A. (2008). Essential of Physical Education. Kalyani Publishers.
- Sandhu, S. S. (2010). Sports Sciences: Physiological and Medical Aspects. Sports Publication.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.

MINOR COURSE - 1

Course Name: Introduction to Physical Education and Sports

Course Code: BAPEDMN101

Course Type: Minor (Theoretical)	Course Details: MNC-1			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. To educate the students about exercise & sports and the science behind it
- ii. To improve the student's understanding of the benefits of regular exercise and sports

Outcomes:

- i. Students may be interested in participating in exercise and sports
- ii. Students may convince others for exercise and sports participation

Unit 1 : Concept of Physical Education and Sports Science

- 1.1 Meaning, Definition, and Scope of Physical Education and Sports Science
- 1.2 Concept of Play, Games and Sports
- 1.3 Aim, Objectives, and Importance of Physical Education and Sports Science
- 1.4 Modern Concept of Physical Education and Sports Science

Unit 2 : Historical Development of Physical Education and Sports Science

- 2.1 Historical development of Physical Education and Sports in India during the Pre-Independence period
- 2.2 Historical development of Physical Education and Sports in India of the Post-Independence period
- 2.3 National Sports Awards: Major Dhyan Chand Khel Ratna Award, Arjuna Award, Dronacharya Award
- 2.4 Sports Schemes in India

Unit 3 : Olympic Movement, Commonwealth, and Asian Games

- 3.1 Ancient Olympic Games
- 3.2 Modern Olympic Games: History, Objectives, Motto, Flag, Emblem, Torch, Oath, Olympic Village, Opening, Victory and Closing Ceremony
- 3.3 Historical background of Commonwealth and Asian Games

3.4 Indian Sports Performance: Olympic, Commonwealth, and Asian Games

Unit 4 : Foundation & Principles of Physical Education and Sports

- 4.1 Biological Principles: Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development.
- 4.2 Age: Chronological age, Anatomical age, Physiological age, and Mental age
- 4.3 Psychological Foundation- Meaning and Definition of Psychology and Sports Psychology. Importance of Psychology and Sports Psychology in Physical Education and Sports Science
- 4.4 Sociological Foundation: Meaning and Definition of Sociology, Society and Socialization. Role of games and sports in National and International Integration

Reference:

- Bucher, C. A., & Wuest, D. A. (2006). Foundations of Physical Education, Exercise Science, and Sport (15th ed.). McGraw-Hill.
- Lumpkin, A. (2008). Introduction to Physical Education, Exercise Science, and Sport Studies (7th ed.). McGraw-Hill.
- Zeigler, E. F. (2003). History and Status of American Physical Education and Educational Sport. Trafford Publishing.
- Mechikoff, R. A., & Estes, S. G. (2013). A History and Philosophy of Sport and Physical Education: From Ancient Civilizations to the Modern World (6th ed.). McGraw-Hill.
- Park, R. J. (1989). The Rise of Sport in England: A Survey of Historical Literature. University of California Press.
- Harris, J. C. (Ed.). (1994). Sport and Social Order: Contributions to the Sociology of Sport. Routledge.
- Howell, M. L., & Howell, D. L. (1986). A History of Physical Education and Sport. Charles C Thomas Pub Ltd.
- Kamlesh, M. L. (2002). Physical Education: Facts and Foundations. P.B. Publications.
- Sharma, O. P. (2007). History, Principles, and Foundation of Physical Education. Khel Sahitya Kendra.
- Bhatia, K. K. (2014). Principles and Foundations of Physical Education. Kalyani Publishers.
- Singh, A. (2008). Essential of Physical Education. Kalyani Publishers.
- Sandhu, S. S. (2010). Sports Sciences: Physiological and Medical Aspects. Sports Publication.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.

MULTIDISCIPLINARY COURSE - 1

Course Name: Fitness and Wellness

Course Code: MDC105

Course Type: Multidisciplinary (Theoretical)	Course Details: MDC-1		L-T-P: 2 – 1 – 0		
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			15		35

Objectives:

- i. To educate students about physical fitness, mental fitness, and wellness.
- ii. To motivate students to maintain their fitness and wellness

Outcomes:

- i. Students may accept fitness and wellness programs in daily life.
- ii. They may lead healthy lifestyles and convince others.

Unit 1 : Health-Related Physical Fitness

- 1.1 Concept of Fitness and Physical Fitness
- 1.2 Concept of Health-Related Physical Fitness
- 1.3 Components of Health-related Physical Fitness
- 1.4 Assessment Techniques of Health-related Physical Fitness

Unit 2 : Performance-Related Physical Fitness

- 2.1 Modern Concept of Physical Fitness
- 2.2 Concept of Performance-Related Physical Fitness
- 2.3 Components of Performance related Physical Fitness
- 2.4 Assessment Techniques of Performance related Physical Fitness

Unit 3 : Wellness

- 3.1 Concept of Wellness
- 3.2 Aim and Objectives of Wellness
- 3.3 Components of Wellness
- 3.4 Importance of Wellness in the Modern Society

Reference:

- Hoeger, W. W. K., & Hoeger, S. A. (2019). Principles and Labs for Fitness and Wellness (14th ed.). Cengage Learning.
- Powers, S. K., & Dodd, S. L. (2017). Total Fitness and Wellness (8th ed.). Pearson.
- Fahey, T. D., Insel, P. M., & Roth, W. T. (2017). Fit & Well: Core Concepts and Labs in Physical Fitness and Wellness (13th ed.). McGraw-Hill Education.
- Robbins, G., Powers, D., & Burgess, S. (2016). A Wellness Way of Life (10th ed.). McGraw-Hill Education.
- Anspaugh, D. J., Hamrick, M. H., & Rosato, F. D. (2011). Wellness: Concepts and Applications (8th ed.). McGraw-Hill.
- Donatelle, R. J. (2019). Health: The Basics (13th ed.). Pearson.
- Bishop, J. G. (2001). Fitness through Aerobics (6th ed.). Benjamin Cummings.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.
- Sharma, V. M. (2011). Health and Physical Education. Saraswati House Pvt. Ltd.
- Dharmendra, A. (2012). Fitness and Wellness. Sports Publications.
- Kansal, D. K. (2008). A Textbook of Applied Measurement, Evaluation & Sports Selection. Sports & Spiritual Science Publications.
- Gharote, M. L., & Ganguly, S. K. (2002). Physical Fitness and Wellness: A Holistic Approach. Kaivalyadhama.
- Kumar, R. (2010). Health, Fitness, and Wellness. Khel Sahitya Kendra.

SKILL ENHANCEMENT COURSE - 1

Course Name: Exercise and Sports for Elementary Students

Course Code: BAPEDSE101

Course Type: Skill Enhancement (Practical)	Course Details: MDC-1			L-T-P: 0 – 1 – 4	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Objectives:

- Prepare the students to organize exercise & sports for elementary school children.
- Students may develop self-confidence in nurturing elementary students.

Outcomes:

- Students may get jobs in nursery, kindergarten, play school, and elementary school
- Students may start their play school in their area

Unit 1 : Exercise for Elementary Students

- 1.1 Rhymes Exercise
- 1.2 Mimicking Exercise
- 1.3 Partner Exercise

Unit 2 : Recreational Games for Elementary Students

- 2.1 Recreational Games- Individual
- 2.2 Recreational Games- Group
- 2.3 Recreational Games- with Teacher / Parents

Unit 3 : Sports for Elementary Students

- 3.1 Fundamental Movement Sports
- 3.2 Low-Level Individual Sports
- 3.3 Low-Level Group Sports

Reference:

- Pangrazi, R. P., & Beighle, A. (2019). Dynamic Physical Education for Elementary School Children (19th ed.). Human Kinetics.
- Graham, G., Holt/Hale, S. A., & Parker, M. (2013). Children Moving: A Reflective Approach to Teaching Physical Education (9th ed.). McGraw-Hill.
- Siedentop, D., & Taggart, A. (2020). Complete Guide to Sport Education (3rd ed.). Human Kinetics.
- Blaydes, J. (2000). Brain Breaks for the Classroom: Quick and Fun Physical Fitness Activities for Elementary Students. Human Kinetics.
- Pangrazi, R. P. (2003). Physical Education for Elementary School Children (14th ed.). Pearson Education.
- Sharma, O. P. (2007). Physical Education for Elementary School Children. Khel Sahitya Kendra.
- Uppal, A. K. (2014). Health and Physical Education: Teaching Methods for Elementary School Children. Friends Publications India.

SEMESTER- II

MAJOR COURSE - 2

Course Name: Health and Wellness Education

Course Code: BAPEDMJ201

Course Type: Major (Theoretical)	Course Details: MJC-2			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- To educate students about good and bad health habits.
- To prepare students for a well-being and wellness culture.

Outcomes:

- Mental setup would be ready for maintaining good health habits.
- Students may follow wellness guidelines.

Unit 1 : Health and Health Education

- 1.1 Concept, Definition, Spectrum, and Dimension of Health
- 1.2 Definition, aim, objectives, and principles of Health Education
- 1.3 Health Agencies: World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO)
- 1.4 School Health Program: Health Service, Health Instruction, Health Supervision, Health Appraisal and Health Record

Unit 2 : Health Problems in India- Prevention and Control

- 2.1 Communicable Diseases: Malaria, Dengue and COVID-19
- 2.2 Modern life and lifestyle diseases
- 2.3 Lifestyle Diseases (Hypokinetic): Obesity and Diabetes
- 2.4 Lifestyle Diseases (Hyperkinetic): Hypertension, Psychological Disorder

Unit 3 : Nutrition

- 3.1 Concept, Meaning, definition, and role of Nutrition
- 3.2 Macronutrients and micronutrients
- 3.3 Role of macro and micronutrients for exercise
- 3.4 Factors to consider for developing the nutritional plan in sports

Unit 4 : Physical Fitness and Wellness

- 4.1 Concept of Physical Fitness
- 4.2 Components of Health and Performance related Physical Fitness
- 4.3 Concept of Wellness and Modern Lifestyle
- 4.4 Components of Wellness

Guidelines for Evaluation:

- Measurement of Health-related physical fitness.
- Measurement of performance-related physical fitness.

Reference:

- Donatelle, R. J. (2019). Health: The Basics (13th ed.). Pearson.
- Anspaugh, D. J., Hamrick, M. H., & Rosato, F. D. (2011). Wellness: Concepts and Applications (8th ed.). McGraw-Hill.
- Greenberg, J. S., Dintiman, G. B., & Oakes, B. M. (2017). Foundations of Personal Fitness and Wellness (11th ed.). Human Kinetics.
- Payne, W. A., & Hahn, D. B. (2019). Understanding Your Health (15th ed.). McGraw-Hill Education.
- Insel, P. M., & Roth, W. T. (2017). Core Concepts in Health (14th ed.). McGraw-Hill Education.
- Sharma, V. M. (2011). Health and Physical Education. Saraswati House Pvt. Ltd.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.
- Kansal, D. K. (2008). Textbook of Health and Physical Education. Khel Sahitya Kendra.
- Kumar, R. (2010). Health, Fitness, and Wellness. Khel Sahitya Kendra.

MINOR COURSE - 2

Course Name: Introduction to Life Style Management

Course Code: BAPEDMN201

Course Type: Minor (Theoretical)	Course Details: MNC-2			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. Students may understand modern life and its positive management skills.
- ii. Students will be educated about lifestyle diseases.

Outcomes:

- i. Students may repair flaws in their lifestyles and advise others.
- ii. Students may start practicing positive lifestyle skills.

Unit 1 : Introduction

- 1.1 Meaning and Definition of Health and Hygiene, Modern Lifestyle, Lifestyle Management
- 1.2 Healthy Lifestyle Management: Components (Diet, Sleep, Exercise, Emotion Controls, Relaxation, Social Health), Benefits
- 1.3 Life for Environment (LiFE) Movement
- 1.4 Sustainable, Local, Organic, Whole (SLOW) Movement

Unit 2 : Lifestyle and Metabolic Disorders

- 2.1 Obesity: Meaning, Definition, Types, Causes, Diagnosis Method
- 2.2 Obesity Management Through Lifestyle
- 2.3 Diabetes: Meaning, Definition, Types, Causes, Diagnosis Method
- 2.4 Diabetes Management Through Lifestyle

Unit 3 : Lifestyle and Cardio-respiratory Disorders

- 3.1 Hypertension: Meaning, Definition, Types, Causes, Diagnosis Method
- 3.2 Hypertension Management through Lifestyle
- 3.3 Asthma: Meaning, Definition, Types, Causes Diagnosis Method
- 3.4 Asthma Management Through Lifestyle

Unit 4 : Lifestyle and Musculoskeletal Disorder

- 4.1 Postural Disorders: Posture- Meaning, Definition, Types (Dynamic Posture and Static Posture), Normal Posture, Benefits. Postural Disorders- (Spine: Kyphosis, Lordosis, Scoliosis; Leg: Bow leg, Knock knee, Flat foot), Meaning, Definition, Causes
- 4.2 Postural Disorders Management through Lifestyle.
- 4.3 Back pain: Meaning, Definition, Types, Causes, Diagnosis Method
- 4.4 Back Pain Management Through Lifestyle

Reference:

- Fahey, T. D., Insel, P. M., & Roth, W. T. (2017). Fit & Well: Core Concepts and Labs in Physical Fitness and Wellness (13th ed.). McGraw-Hill Education.
- Donatelle, R. J. (2019). Access to Health (16th ed.). Pearson.
- Insel, P. M., & Roth, W. T. (2016). Wellness: Enhancing the Quality of Life (8th ed.). Jones & Bartlett Learning.
- Hales, D. (2017). An Invitation to Health (18th ed.). Cengage Learning.
- Hoeger, W. W. K., & Hoeger, S. A. (2019). Lifetime Physical Fitness and Wellness: A Personalized Program (15th ed.). Cengage Learning.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.
- Kumar, R. (2010). Health, Fitness, and Wellness. Khel Sahitya Kendra.
- Joshi, S. M. (2012). Life Skills and Lifestyle Management. Himalaya Publishing House.
- Bedi, Y. (2015). Lifestyle Management in Health and Social Care. Khel Sahitya Kendra.

MULTIDISCIPLINARY COURSE - 2

Course Name: Yoga-Vyayama

Course Code: MDC220

Course Type: Multidisciplinary (Theoretical)	Course Details: MDC-2			L-T-P: 2 – 1 – 0	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			15		35

Objectives:

- To know the benefits of yoga in daily life.
- To understand the utility of regular scheduled Vyayama.

Outcomes:

- After practicing Yoga-Vyayama students may feel its flavour.
- They may include it in their daily routine.

Unit 1 : Vyayama

- 1.1 Suksma Vyayama: Netra-Sakthi Vikasaka (Eye), Kapola-Sakthi Vikasaka (Cheek), Karna- Sakthi Vikasaka (Ear), Griva-Sakthi Vikasaka (Neck)
- 1.2 Sthula Vyayama: Rekha-Gati, Hrd-Gati, Utkurdana, Urdhva-Gati, Sarvanga-Pusti

Unit 2 : Asanas

- 2.1 Vishramasana (Relaxative Posture): Shavasana, Makarasana
- 2.2 Dhyanasana (Meditative Posture): Sukhasana, Padmasana, Vajrasana, Sastikasana
- 2.3 Swasthyasana(Cutural Posture):
 - 2.3.1. Standing Posture: Ardhashandrasana, Brikshasana, Padahasthasana
 - 2.3.2. Sitting Posture: Ardhakurmasana, Paschimottanasana, Gomukhasana
 - 2.3.3. Supine Posture: Setubandhasana, Halasana, Matsyasana
 - 2.3.4. Prone Posture: Bhujangasana, Salvasana, Dhanurasana

Unit 3 : Pranayama and Meditation

- 3.1 Pranayama
 - 3.1.1. Anulom-Vilom
 - 3.1.2. Bhastrika
 - 3.1.3. Bhramari

- 3.2 Meditation
 - 3.2.1. Sakshi-Bhava
 - 3.2.2. Maitri-Bhava
 - 3.2.3. OM-Meditation

Reference:

- Iyengar, B. K. S. (2005). Light on Yoga. HarperCollins.
- Saraswati, S. (2008). Asana Pranayama Mudra Bandha. Yoga Publications Trust.
- Telles, S., & Naveen, K. V. (2011). Yoga for Rehabilitation: An Integrative Approach. Swami Vivekananda Yoga Prakashana.
- Feuerstein, G. (2011). The Yoga Tradition: Its History, Literature, Philosophy, and Practice (3rd ed.). Hohm Press.
- Gharote, M. L. (2004). Applied Yoga. Kaivalyadhama Ashram.
- Bhole, M. V. (2008). Scientific Foundations of Yoga. Bharatiya Vidya Bhavan.
- Satyananda, S. (1996). Yoga Education for Children. Bihar School of Yoga.
- Desai, P. D. (2008). Yoga and Physical Education (Vyayama Yoga). Khel Sahitya Kendra.
- Tiwari, O. P. (2009). Asanas: Why You Should Not Do Certain Yoga Postures. Kaivalyadhama.
- Kuvalayananda, S. (2000). Pranayama. Kaivalyadhama Ashram.

SKILL ENHANCEMENT COURSE - 2

Course Name: Sports Massage

Course Code: BAPEDSE201

Course Type: Skill Enhancement (Practical)	Course Details: SEC-2			L-T-P: 0 – 1 – 4	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Objectives:

- To prepare the students about basic and advanced massage in Indian style (Mardana) and Western style.
- To educate the students about the special types of sports massage

Outcomes:

- Students may join the massage Parlor, Spa center, and health club.
- Students may be self-employed as masseurs.

Unit 1 : Historical and Scientific Background of Massage (Record Book Preparation)

- 1.1 Massage in Ancient Times in India and Abroad
- 1.2 Relationship of Anatomy and Physiology to massage and bodywork
- 1.3 Physiological changes during massage- muscular, circulatory, lymph-vascular system
- 1.4 Roll of Therapeutic massage in stress and pain

Unit 2 : Techniques of Massage

- 2.1 Superficial Massage- Rubbing, Scrubbing, Wringing, Stoking
- 2.2 Deep Tissue Massage- Rolling, Stretching, Gripping, Kneading
- 2.3 Massage with different oils and aroma
- 2.4 Ayurvedic Massage

Unit 3 : Techniques of Sports Massage

- 3.1 Compression and Broadening
- 3.2 Friction
- 3.3 Effleurage
- 3.4 Petrissage

Reference:

- Goats, G. C. (1994). Massage—The Scientific Basis of an Ancient Art: Part 2. Physiological and Therapeutic Effects. *British Journal of Sports Medicine*, 28(3), 153–156.
- Cash, M. (2012). *Sport and Remedial Massage Therapy* (3rd ed.). Ebury Publishing.
- Smith, D. (2016). *Clinical Sports Medicine: An Introduction to the Sports Medicine Team*. Wolters Kluwer.
- Paine, T. (2015). *The Complete Guide to Sports Massage* (3rd ed.). Bloomsbury Publishing.
- Benjamin, P. J., & Lamp, S. P. (2015). *Understanding Sports Massage* (2nd ed.). Human Kinetics.
- Findley, T. W., & Schleip, R. (2015). *Fascia Research: Basic Science and Implications for Conventional and Complementary Health Care*. Elsevier.
- Chaitanya, C. R. (2010). *Sports Massage: A Complete Manual*. Khel Sahitya Kendra.
- Gupta, S. (2012). *Techniques of Massage Therapy for Sportsmen*. Friends Publications India.
- Singh, A. (2015). *Manual of Massage and Sports Injuries*. Sports Publication.
- Sinha, A. (2014). *Essentials of Therapeutic Massage and Sports Therapy*. Khel Sahitya Kendra.

SEMESTER- III

MAJOR COURSE - 3

Course Name: Anatomy, Physiology and Exercise Physiology

Course Code: BAPEDMJ301

Course Type: Major (Theoretical)	Course Details: MJC-3		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- To gain knowledge about Anatomy, Physiology, and Exercise Physiology.
- To learn about the changes in the physiological system due to exercise and sporting activities.

Outcomes:

- Students will be ready to study the effects of exercise, sports, and its application.
- Capable of application of system concepts behind sports performance.

Unit 1 : Introduction

- 1.1 Meaning and Definition of Anatomy, Physiology, Exercise Physiology and Sports Physiology
- 1.2 Structure and Functions of Human Cells and Tissues.
- 1.3 Structure and Functions of Organs and Systems.
- 1.4 Effect of Exercise and Sports on Human Cells and Tissues.

Unit 2 : Musculo-Skeletal System

- 2.1 Skeletal System: Structure, classification, and functions; Anatomical differences between males and females.
- 2.2 Joints: Concept, and Types. Effect of Exercise and Sports on Skeletal System
- 2.3 Muscular System: Types, Structure, and Functions
- 2.4 Effect of Exercise and Sports on the Muscular System

Unit 3 : Circulatory and Respiratory System

- 3.1 Circulatory System: Structure and Functions; Blood: Composition and Functions
- 3.2 Effect of Exercise and Sports on Circulatory System
- 3.3 Respiratory System: Structure and Functions

3.4 Effect of Exercise and Sports on Respiratory System

Unit 4 : Digestive and Nuro-endocrine System

- 4.1 Digestive System: Structure and Functions
- 4.2 Effect of Exercise and Sports on the Digestive System
- 4.3 Nuro-endocrine System: Structure and Functions
- 4.4 Effect of Exercise and Sports on Nuro-endocrine

Guidelines for Evaluation

Students are expected to prepare a Record Book based on the following data.

1. Diagrams of Cells, Tissues, Organs, Systems in the Human body.
2. Assessment of Body composition: BMI, % Fat, Lean Body Mass.
3. Measurement of Heart Rate and Respiratory Rate in rest, exercise, and after recovery.

Reference:

- Tortora, G. J., & Derrickson, B. (2017). Principles of Anatomy and Physiology (15th ed.). Wiley.
- Marieb, E. N., & Hoehn, K. (2018). Human anatomy & physiology (11th ed.). Pearson.
- Saladin, K. S. (2018). Anatomy & physiology: The unity of form and function* (8th ed.). McGraw-Hill Education.
- Kenney, W. L., Wilmore, J. H., & Costill, D. L. (2015). Physiology of sport and exercise* (6th ed.). Human Kinetics.
- Powers, S. K., & Howley, E. T. (2020). Exercise physiology: Theory and application to fitness and performance* (11th ed.). McGraw-Hill Education.
- Astrand, P. O., & Rodahl, K. (1986). Textbook of work physiology: Physiological bases of exercise* (3rd ed.). McGraw-Hill.
- Bouchard, C., & Shephard, R. J. (1994). Physical activity, fitness, and health: International proceedings and consensus statement*. Human Kinetics.
- Gordon, T., & McLean, M. (2014). Essentials of exercise physiology* (2nd ed.). Springer.
- McArdle, W. D., Katch, F. I., & Katch, V. L. (2014). Exercise physiology: Energy, nutrition, and human performance* (8th ed.). Wolters Kluwer.
- Liguori, G., & American College of Sports Medicine. (2021). ACSM's guidelines for exercise testing and prescription* (11th ed.). Wolters Kluwer.

MAJOR COURSE - 4

Course Name: Track and Field

Course Code: BAPEDMJ302

Course Type: Major (Practical)	Course Details: MJC-4			L-T-P: 0 – 1 – 8	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		60		40	

Objectives:

- i. To get inclusive practical skills for different events in Track and Field.
- ii. Identify safety precautions to avoid injuries when practicing Track and Field.

Outcomes:

- i. The theoretical knowledge of track and field events helps the students to learn various techniques.
- ii. The practical knowledge of track and field events may help the athletes to learn various skills.

Unit 1 : Running Events

- 1.1 Starting Techniques: Standing start, Crouch start (its variations), and use of starting block.
- 1.2 Acceleration with proper running techniques.
- 1.3 Finishing Technique: Run Through, Forward Lunging and Shoulder Shrug.
- 1.4 Relay Race: Starting, Baton Holding/Carrying, Baton Exchange in-between zone, and Finishing.

Unit 2 : Jumping Events

- 2.1 Long Jump: Approach Run, Take-off
- 2.2 Flight in the air (Hang Style/Hitch Kick) and Landing.
- 2.3 High jump: Approach Run, Take-off,
- 2.4 Bar Clearance/Flight and Landing.

Unit 3 : Throwing Events

- 3.1 Shot put: Holding the Shot, Placement, Initial Stance, Delivery
- 3.2 Disco Part and Perry O'Brien Technique
- 3.3 Discus Throw: Holding the Discus, Initial Stance, Primary Swing, Turn, Release, and Recovery (Rotation in the circle).

- 3.4 Javelin throw: Grip, Carry, Release, and Recovery (3/5 Impulse stride).

Unit 4 : Track and Field Preparation

- 4.1 Layout of the Track: 400 mt. & 200 mt.
4.2 Rules, regulations, and Officiating of Track events
4.3 Layout of the Field: Long jump, High jump, Shot Put, Discus, Javelin
4.4 Rule, Regulation, and Officiating of Field Events

Guidelines for Evaluation:

Students are expected to prepare a Record Book based on the following data.

1. Drawing of 400 mt. and 200 mt. Athletic track.
2. Drawing of Long, Triple, and High jump arena.
3. Drawing of Shot Put, Discus, and Javelin throw.

Reference:

- American Sport Education Program (ASEP). (n.d.). Track and field coaching essentials. Human Kinetics.
- Magness, S. (2014). The science of running: How to find your limit and train to maximize your performance. Hachette Books.
- Tyson, P., & Hofman, D. (2012). Complete guide to track and field. Human Kinetics.
- Christensen, S. (2008). The athletics coach: Track and field training. Coaches Choice.
- Joyce, D., & Lewindon, D. (2014). High-performance training for sports. Human Kinetics.
- Anderson, O. (2012). Running science. Human Kinetics.
- Cavanagh, P. R. (2005). The biomechanics of running. University of Texas Press.
- Young, D. C. (1996). The modern Olympics: A struggle for revival. Johns Hopkins University Press.
- Johnson, M. W. (2003). The history of track and field. Greenwood Press.
- Eberle, S. G. (2014). The new power eating. Hachette Books.
- Boyle, M. (2016). Strength training for track and field. Human Kinetics.
- Mack, G., & Casstevens, D. (2001). Mind Gym: An athlete's guide to inner excellence. Hachette Books.
- Afremow, J. (2014). The champion's mind: How great athletes think, train, and thrive*. Per Capita Publishing.

MINOR COURSE - 3

Course Name: Physiology of Exercise and Sports

Course Code: BAPEDMN301

Course Type: Minor (Theoretical)	Course Details: MNC-3			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. To gain knowledge about Anatomy, Physiology, and Exercise Physiology.
- ii. To learn the changes in human body systems due to exercise and sporting activities in an integrated manner.

Outcomes:

- i. Students will be ready to study the effect of exercise and sports in detail and application perspective.
- ii. Capable of application of system concepts behind sports performance.

Unit 1 : Introduction

- 1.1 Concept of Human Anatomy and Physiology
- 1.2 Cell, Tissues, Organs, and Systems
- 1.3 Ayurveda and Vyayama (Exercise) in health and diseases.
- 1.4 Difference types of Vyayama (Exercise) and Krida (Sports) in Ayurveda.

Unit 2 : Musculo-Skeletal System

- 2.1 Skeletal System: Structure and functions.
- 2.2 Exercise effect on Skeletal system
- 2.3 Muscular System: Structure and functions
- 2.4 Exercise effect on the Muscular system

Unit 3 : Cardio-Respiratory System

- 3.1 Circulatory System: Structure and functions
- 3.2 Exercise effect on Circulatory system
- 3.3 Respiratory System: Structure and functions
- 3.4 Exercise effect on Respiratory system

Unit 4 : Digestive and Nuro-endocrine System

- 4.1 Digestive System: Structure and functions

- 4.2 Exercise effect on the Digestive system
- 4.3 Neuro-endocrine: Structure and functions
- 4.4 Exercise effects on the Neuro-endocrine system

Guidelines for Continuous Assessment (CA)

Students are expected to prepare a Record Book based on the following data.

1. Diagrams of Cells, Tissues, Organs, Systems in the Human body.
2. Assessment of Body composition: BMI, % Fat, Lean Body Mass.
3. Measurement of Heart Rate and Respiratory Rate in rest, exercise, and after recovery.

Reference:

- Tortora, G. J., & Derrickson, B. (2017). Principles of Anatomy and Physiology (15th ed.). Wiley.
- Marieb, E. N., & Hoehn, K. (2018). Human anatomy & physiology (11th ed.). Pearson.
- Saladin, K. S. (2018). Anatomy & physiology: The unity of form and function* (8th ed.). McGraw-Hill Education.
- Kenney, W. L., Wilmore, J. H., & Costill, D. L. (2015). Physiology of sport and exercise* (6th ed.). Human Kinetics.
- Powers, S. K., & Howley, E. T. (2020). Exercise physiology: Theory and application to fitness and performance* (11th ed.). McGraw-Hill Education.
- Astrand, P. O., & Rodahl, K. (1986). Textbook of work physiology: Physiological bases of exercise* (3rd ed.). McGraw-Hill.
- Bouchard, C., & Shephard, R. J. (1994). Physical activity, fitness, and health: International proceedings and consensus statement*. Human Kinetics.
- Gordon, T., & McLean, M. (2014). Essentials of exercise physiology* (2nd ed.). Springer.
- McArdle, W. D., Katch, F. I., & Katch, V. L. (2014). Exercise physiology: Energy, nutrition, and human performance* (8th ed.). Wolters Kluwer.
- Liguori, G., & American College of Sports Medicine. (2021). ACSM's guidelines for exercise testing and prescription* (11th ed.). Wolters Kluwer.

MULTIDISCIPLINARY COURSE - 3

Course Name: Indian Medicinal System and Yoga

Course Code: MDC310

Course Type: Multidisciplinary (Theoretical)	Course Details: MDC-3			L-T-P: 2 – 1 – 0	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			15		35

Objectives:

- To give the students a thorough knowledge of Ayurveda (Indian Medicinal System).
- To get an understanding of Yoga and its health benefits.

Outcomes:

- Provide them with a comprehensive understanding of Ayurveda and Yoga.
- Application of Ayurveda and Yoga in health and diseases.

Unit 1 : Ayurveda (Indian Medicinal System) and Health

- 1.1 Ayurveda: From Indian (Bharatiya) History and Concept.
- 1.2 Concept of Human in Ayurveda: Body, Mind and Soul.
- 1.3 Concept of Pancha-mahabhuta
- 1.4 Concept of Tri-dosha and Tri-guna

Unit 2 : Wellness and Illness

- 2.1 Wellness: Components and importance in daily life
- 2.2 Methods for the development of various components of wellness
- 2.3 From Illness to Wellness Ayurvedic Ways: Application of Vyayama (Exercise)
- 2.4 From Illness to Wellness Ayurvedic Ways: Application of Anga Mardan (Massage)

Unit 3 : Yoga: Health and Diseases

- 3.1 Yoga: Indian (Bharatiya) History, Concept
- 3.2 Ashtanga Yoga and Health
- 3.3 Yogic concept of diseases: Adhi and Vyadhi
- 3.4 Panchakosha Theory and Recovery from Diseases

Reference:

- Lad, V. (2002). Ayurveda: The science of self-healing. Lotus Press.
- Sahni, V. (2015). The essential guide to Ayurveda: The most comprehensive guide to Ayurveda and its benefits*. Hachette India.
- Sharma, H., & Chandola, H. M. (2015). Fundamentals of Ayurveda. Chaukhamba Sanskrit Pratishthan.
- Joshi, S. G. (2000). Ayurvedic medicines for the treatment of common diseases. Anmol Publications.
- Frawley, D. (2014). Ayurveda and the mind: The healing of consciousness. Lotus Press.
- Iyengar, B. K. S. (2005). Light on Yoga (30th ed.). Hachette India.
- Satchidananda, S. (1990). The Yoga Sutras of Patanjali. Integral Yoga Publications.
- Tiwari, O. (2018). Yoga: The science of self-realization. Random House India.
- Desikachar, T. K. V. (1995). The heart of yoga: Developing a personal practice. Inner Traditions
- Swami Sivananda. (2010). The practice of yoga: A step-by-step guide. Sivananda Yoga Vedanta Center.
- Kumar, K. (2014). Yoga and its scientific basis. Arya Publishing House.
- Garg, N., & Reddy, A. (2016). Ayurveda and yoga: Complementary approaches to wellness*. Springer.

SEMESTER- IV

MAJOR COURSE - 5

Course Name: Sports Management and Technology

Course Code: BAPEDMJ401

Course Type: Major (Theoretical)	Course Details: MJC-5			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. Students may understand the future perspectives of sports management.
- ii. To educate students about the importance of modern technologies used in exercise and sports.

Outcomes:

- i. Students may be able to organize exercise and sports events efficiently.
- ii. Mental setup would be ready for accepting modern technologies in exercise and sports.

Unit 1 : Concept of Exercise and Sports Management

- 1.1 Concept of Management; Exercise and Sports Management.
- 1.2 Leadership in Exercise and Sports Management: Types, Qualities of an Effective Leader.
- 1.3 Management of Exercise and Sports in School, College, and University.
- 1.4 Management of Exercise and Sports in Clubs, Community Centres, and other Govt. and Non-Govt. Organizations.

Unit 2 : Management of Exercise and Sports Facilities

- 2.1 Indoor facilities (Exercise Hall and Gymnasium): Importance, care, and maintenance. Characteristics of standard exercise hall and gymnasium
- 2.2 Outdoor facilities (Playfields): Importance, care, and maintenance. Characteristics of standard Playfields.
- 2.3 Exercise and Sports Equipment: Care, maintenance, and safety measures.
- 2.4 Lay-out of Play-fields: Football, Volleyball, Basketball, Cricket, and Badminton

Unit 3 : Exercise and Sports Event Management

- 3.1 Competition and Cooperation: Match and Tournaments
- 3.2 Types of Tournaments: Procedure for drawing fixtures of Knock-out, League, and, Combination tournaments.
- 3.3 Organizing Competitions: Play Day, Intramural, Extramural competition, and Annual Sports Meet
- 3.4 Event Planning: Pre-event and post-event plan, Event management, and Budget Preparation

Unit 4 : Technologies in Exercise and Sports

- 4.1 Technology in Exercise and Sports: Concept, Role of Technology in Exercise and Sports
- 4.2 Technology used during Exercise and Sports Training: Smart Watches, Goggles, Sensor-enabled Shoes, Full Body Suits, Helmets, Heart Rate Monitors, Global Positioning System (GPS), Local Positioning System (LPS), Velocity Based Training (VBT), and Sleep Trackers.
- 4.3 Technology used in Live Sports: Bird's Eye View, Edge Detection, Decision Review System (DRS), Wind Gauges, Timing Equipment, Hawk Eye Technology, Goal Line Technology (GLT), Laser technology, Video Assistant Referee (VAR), and Cognitive Training Technology
- 4.4 AI and e-Sports: Concept, Application, Merits and Demerits. Data analytics and its applications in exercise and sports.

Reference:

- Kottler, J. A., & Pappas, J. L. (2020). Sport management: Principles and applications*. Routledge.
- Masteralexis, L. P., Barr, C. A., & Hums, M. A. (2015). Principles and practice of sport management (5th ed.). Jones & Bartlett Learning.
- Smith, A. C. T., & Westerbeek, H. M. (2022). Strategic sport management*. Routledge.
- Weese, W. J. (2019). Managing sport organizations: Responsibilities and practices (3rd ed.). Routledge.
- Pedersen, P. M., & Thibault, L. (2019). Contemporary sport management (6th ed.). Human Kinetics.
- Krebs, M., & McLean, R. (2020). Technology in sports: A comprehensive overview. Springer.
- Hargreaves, T., & Borys, S. (2021). Wearable technology in sports: From theory to practice. Routledge.
- Hughes, M., & Bartlett, R. (2012). Notational analysis of sport: Systems for better coaching and performance in sport (2nd ed.). Routledge.
- Gabbett, T. J., & Domrow, N. (2018). Science and practice of sports training. Human Kinetics.

- Crisp, J., & Heale, R. (2021). The use of analytics in sports: A guide to advanced methods and technologies. Wiley.
- Schwarz, M., & Schwartz, L. (2017). Sports technology and the future: Innovations for enhancing performance. Springer.
- O'Donoghue, P. (2018). Research methods for sports studies (3rd ed.). Routledge.

MAJOR COURSE - 6

Course Name: Indigenous Games

Course Code: BAPEDMJ402

Course Type: Major (Practical)	Course Details: MJC-6			L-T-P: 0 – 1 – 8	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		60		40	

Objectives:

- To get acquainted with indigenous games: Kho-Kho and Kabaddi.
- To improve fitness levels by using low-cost Indigenous games.

Outcomes:

- Students may develop physical and mental strength through Kho-Kho and Kabaddi practices.
- Students may prepare themselves for Pro-Kabaddi and Kho-Kho as players and officials.

Unit 1 : Kho-Kho: Ground Preparation and Rules

- History of Kho-Kho and Controlling Authorities- national and international
- Measurement and Layout of Kho-Kho Court- Sub-Junior and Senior, Pro-Kho-Kho
- Kho-Kho: Playing surface and equipment
- Rules and Officials in Kho-Kho, Pro-Kho-Kho

Unit 2 : Kho-Kho: Skills

- Running Skills: Chain Play and Ring Play.
- Running Skills: Chain & Ring Mixed Play
- Chasing Skills: Sit in the box, Get up from the Box, and Release Kho
- Chasing Skills: Pole turn, Pole dive, Tapping, Hammering, and Rectification of foul

Unit 3 : Kabaddi: Ground Preparation and Rules

- History of Kabaddi and Controlling Authorities- national and international
- Measurement and Layout of Kabaddi Court- Junior and Senior, Pro-Kabaddi
- Kabaddi: Playing surface and equipment
- Rules and Officials in Kabaddi, Pro-Kabaddi

Unit 4 : Unit-4: Kabaddi: Skills

- 4.1 Skill in Raiding: Touching with hands, Use of Leg-toe touch, Squat leg Thrust,
- 4.2 Skill in Raiding: Side kick, Mule Kick, Arrow fly kick, crossing of baulk, and bonus line
- 4.3 Skill of Holding the Raider: Various Formation and catching from positions
- 4.4 Skill of Holding the Raider: Different catches, Catching Formation, and Techniques.

Guidelines for Evaluation:

Students are expected to prepare a Record Book based on the following data.

1. Drawing of sub-junior and senior Kho-Kho court with Officials.
2. Drawing of sub-junior and senior Kabaddi court with Officials.
3. Drawing of Pro-Kho-Kho and Pro-Kabaddi court with Officials.

Reference:

- Desai, A. (2018). Kho-Kho: A traditional Indian sport. Rupa Publications.
- Gupta, R. (2015). Kho-Kho: Techniques and training. Sports Publications.
- Krishnamurthy, S. (2012). The art of Kho-Kho: Skills and drills. Sports India.
- Sharma, P. (2019). ** *Kabaddi: The sport of strength and strategy. Vikas Publishing.
- Reddy, S. (2016). Kabaddi: Techniques, tactics, and training. Prentice Hall.
- Verma, A. (2014). Understanding Kabaddi: A guide to the sport. Sage Publications.
- Kumar, V., & Singh, R. (2017). Traditional Indian games: An overview. Oxford University Press
- Raj, R. (2013). The essence of traditional Indian sports. Cambridge University Press.
- Patel, M. (2020). Indian indigenous games: History, rules, and cultural impact. Routledge.

MINOR COURSE - 4

Course Name: Technology and Management in Exercise and Sports

Course Code: BAPEDMN401

Course Type: Minor (Theoretical)	Course Details: MNC-4			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. Students may understand the application of technology in exercise and sports.
- ii. To educate students about management skills application in exercise and sports.

Outcomes:

- i. Students may be able to efficiently apply technology in exercise and sports.
- ii. Mental setup would be ready for exercise and sports management in service sectors

Unit 1 : Technologies in Exercise and Sports-1

- 1.1 Technology in Exercise and Sports: Concept, Role of Technology in Exercise and Sports
- 1.2 Technology used during Exercise and Sports Training: Smart Watch, Goggles, Sensor-enabled Shoes
- 1.3 Technology used during Exercise and Sports Training: Full Body Suits, Helmets. Heart Rate Monitors, and Sleep Trackers.
- 1.4 Tracking Technology: Global Positioning System (GPS), Local Positioning System (LPS), Velocity Based Training (VBT)

Unit 2 : Technologies in Exercise and Sports-2

- 2.1 Technology used in Live Sports: Bird's Eye View, Edge Detection, Decision Review System (DRS), Wind Gauges, Timing Equipment
- 2.2 Technology used in Live Sports: Hawk Eye Technology, Goal Line Technology (GLT), Laser technology, Video Assistant Referee (VAR), Cognitive Training Technology
- 2.3 AI: Concept, Application, Merits and Demerits. Data analytics and its applications in exercise and sports.
- 2.4 e-Sports: Concept, Application, Merits and Demerits. Data analytics and its applications in exercise and sports.

Unit 3 : Management of Exercise and Sports Facilities

- 3.1 Indoor facilities (Exercise Hall and Gymnasium): Importance, care, and maintenance. Characteristics of standard exercise hall and gymnasium.
- 3.2 Outdoor facilities (Playfields): Importance, care, and maintenance. Characteristics of standard Playfields.
- 3.3 Exercise and Sports Equipment: Care, maintenance, and safety measures.
- 3.4 Lay-out of Play-fields: Football, Volleyball, Basketball, Cricket, and Badminton

Unit 4 : Exercise and Sports Event Management

- 4.1 Competition and Cooperation: Match and Tournaments
- 4.2 Types of Tournaments: Procedure of drawing fixture Knock-out, League, and, Combination tournament.
- 4.3 Organizing Competitions: Play Day, Intramural, Extramural competition, Annual Sports Meet
- 4.4 Event Planning: Pre-event and post-event plan, Event management, Budget preparation

Reference:

- Kottler, J. A., & Pappas, J. L. (2020). Sport management: Principles and applications*. Routledge.
- Masteralexis, L. P., Barr, C. A., & Hums, M. A. (2015). Principles and practice of sport management (5th ed.). Jones & Bartlett Learning.
- Smith, A. C. T., & Westerbeek, H. M. (2022). Strategic sport management*. Routledge.
- Weese, W. J. (2019). Managing sport organizations: Responsibilities and practices (3rd ed.). Routledge.
- Pedersen, P. M., & Thibault, L. (2019). Contemporary sport management (6th ed.). Human Kinetics.
- Krebs, M., & McLean, R. (2020). Technology in sports: A comprehensive overview. Springer.
- Hargreaves, T., & Borys, S. (2021). Wearable technology in sports: From theory to practice. Routledge.
- Hughes, M., & Bartlett, R. (2012). Notational analysis of sport: Systems for better coaching and performance in sport (2nd ed.). Routledge.
- Gabbett, T. J., & Domrow, N. (2018). Science and practice of sports training. Human Kinetics.
- Crisp, J., & Heale, R. (2021). The use of analytics in sports: A guide to advanced methods and technologies. Wiley.
- Schwarz, M., & Schwartz, L. (2017). Sports technology and the future: Innovations for enhancing performance. Springer.
- O'Donoghue, P. (2018). Research methods for sports studies (3rd ed.). Routledge.

SKILL ENHANCEMENT COURSE - 3

Course Name: Gym Exercises and Gymnastics

Course Code: BAPEDSE401

Course Type: Skill Enhancement (Practical)	Course Details: SEC-3			L-T-P: 0 – 0 – 6	
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Objectives:

- i. To get acquainted with gym exercises
- ii. To develop fitness skills with the help of basic gymnastics.

Outcomes:

- i. Students will be able to perform different floor exercises of gymnastics.
- ii. Students will be able to understand the concepts of coordination, balance, center of gravity, etc.

Unit 1 : Gym exercises- 1

- 1.1 Free-hand exercises
- 1.2 Exercise with your own body weight and partner's weight
- 1.3 Indian exercises: Don, Baithak, and Surya namaskar
- 1.4 Exercise with movable and immovable equipment

Unit 2 : Gym Exercises- 2

- 2.1 Exercise with the medicine ball
- 2.2 Exercise with Swiss ball
- 2.3 Exercise with bands and ribbons
- 2.4 Exercise with music

Unit 3 : Basic Gymnastics

- 3.1 Forward roll, Backward roll, Split Forward roll
- 3.2 T-balance and Cartwheel
- 3.3 Handstand and Forward roll- with and without support
- 3.4 Jump and landing techniques

Reference:

- Kraemer, W. J., & Ratamess, N. A. (2012). Fundamentals of resistance training: Progression and exercise prescription. In *Essentials of Strength Training and Conditioning** (4th ed., pp. 379-404). Human Kinetics.
- Thompson, W. R. (Ed.). (2019). *ACSM's guidelines for exercise testing and prescription* (11th ed.). Wolters Kluwer.
- Schoenfeld, B. J. (2016). *Science and development of muscle hypertrophy*. Human Kinetics.
- Morris, J., & Schultz, D. (2018). *The ultimate guide to strength training for sports*. Hachette Books.
- McGill, S. M. (2016). *Low back disorders: Evidence-based prevention and rehabilitation* (3rd ed.). Human Kinetics.
- Graham, G., Holt/Hale, S. A., & Parker, M. (2013). *Children moving: A retooled developmentally based physical education curriculum* (9th ed.). McGraw-Hill Education.
- Kathy, M. (2017). *Gymnastics: Skills, techniques, and coaching*. Sports Publishing.
- Green, T. (2014). *Fundamentals of gymnastics: An introduction*. Routledge.
- Sullivan, R. (2019). *The complete guide to gymnastics training: Tips and techniques for all levels*. Human Kinetics.
- Mitchell, R., & Brown, D. (2015). *Competitive gymnastics: Coaching and training practices*. Springer.
- Hoffman, J. R. (2021). *Norms and measures for physical fitness*. CRC Press.
- Baechle, T. R., & Earle, R. W. (Eds.). (2008). *NSCA's Essentials of Personal Training*. Human Kinetics.

VALUE-ADDED COURSE - 3

Course Name: Integrated Self Defense

Course Code: VAC408

Course Type: Value-added (Practical)	Course Details: VAC-2			L-T-P: 0 – 1 – 6	
Credit: 4	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Objectives:

- i. To prepare students for self-protection.
- ii. Students will learn physical and mental strength endurance.

Outcomes:

- i. Students may motivate themselves for regular self-defense practice.
- ii. Students may take this knowledge and experience to the greater society.

Unit 1 : KARATE

- 1.1 Warming-up: General and Specific, Fundamental Skills: Hand and leg position
- 1.2 Player Stances: Front leaning, Balance, Walking, Side-fighting.
- 1.3 Hand Techniques: Punches (straight punch, reverse punch), Blocks (eight basic)
- 1.4 Leg Techniques: Snap kicks, stretching straight leg, thrust kick, sidekicks, roundhouse.

Unit 2 : TAEKWONDO

- 2.1 Warming-up: General and Specific
- 2.2 Fundamental Skills: Walking, extending walking, L stance, cat stance.
- 2.3 Punches: Sitting stance punch, single punch, double punch, triple punch, front-fist punch, rear-fist punch.
- 2.4 Foot techniques (Balgisul): Standing kick (soseochagi), Front kick (AP chagi), Arc kick (Bandal Chagi), Sidekick (Yeop Chagi), Turning kick (Dollyo Chagi), Back kick (Twit Chagi), Reverse turning kick (Bandae Dollyo Chagi), Jump kick (Twimyo Chagi).

Unit 3 : RAIBENSHE

- 3.1 Hand exercise: One hand, Two hands, Combined hands
- 3.2 Leg exercise: One leg, Two legs, and Combined legs

- 3.3 Whole-body exercise: Front side, Back side, and Combined
- 3.4 Exercise with equipment: Mugur, Lathi, and Ranpa

Reference:

- Funakoshi, G. (2009). Karate-do: My way of life. Kodansha International.
- Nakayama, H. (1999). Best Karate: Comprehensive illustrated guide to basic techniques. Kodansha International.
- Clausen, D. (2017). The complete Karate handbook: Techniques, tactics, and strategies. Tuttle Publishing.
- Lee, H. (2016). Taekwondo: The essential guide. Tuttle Publishing.
- Lee, K. H., & Uhm, H. (2020). Taekwondo: The Korean martial art. Black Belt Books.
- Kwon, B. (2018). Taekwondo: A step-by-step guide. Paladin Press.
- Mohan, R. (2014). Indian martial arts: Traditions and practices. Arya Publishing House.
- Sharma, P. (2015). The art of Indian martial systems: A guide to traditional practices. Vikas Publishing.
- Srinivasan, R. (2017). Traditional Indian martial arts: History and practice. Wisdom Publications.
- Raj, A. (2020). Raibenshe: Techniques and traditions of a forgotten martial art. Lotus Press.
- Verma, S. (2019). Martial arts of India: A comprehensive guide. Penguin India.

SEMESTER- V

MAJOR COURSE – 7

Course Name: Science of Exercise and Sports Training

Course Code: BAPEDMJ501

Course Type: Major (Theoretical)	Course Details: MJC-7			L-T-P: 4 – 1 – 0	
CREDIT: 5	Full Marks 100	CA MARKS		ESE MARKS	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- To enhance knowledge regarding various sports training methods.
- To develop the practical experience in sports training.
- To develop skills for sports performance.

Outcome:

- Understand training as a performance-based science.
- Explain the different means and methods of various training.
- Prepare a training schedule for multiple sports and games.
- Appraise types of periodization for performance development.
- Create various training facilities and plans for novice to advanced performers.

Unit 1 : Foundations Of Exercise And Sports Training

- 1.5 Introduction of Exercise and Sports Training
- 1.6 Biological Basis of Adaptation
- 1.7 Principles of Individualisation, Specialization, and Multilateral Development,
- 1.8 Types of Preparation: Physical, Mental, Social, Technical, and Tactical

Unit 2 : Load, And Recovery In Exercise And Sports Training

- 2.1 Training Variables: Intensity, Density, Complexity, and Volume
- 2.2 Index of Overall Training Demand
- 2.3 Recovery Theories: Fatigue and Overtraining
- 2.4 Periodization and Recovery Modalities

Unit 3 : Planning For Exercises And Sports Training:

- 3.1 Development of strength, endurance, flexibility, Balance, and Coordination
- 3.2 Planning: Microcycle and Macrocycle -Peaking, tapering
- 3.3 Planning for Mental Training
- 3.4 Daily workout planning and session design

Unit 4 : Methods Of Developing Psychophysiological Qualities

- 4.1 Anaerobic Training
- 4.2 Aerobic Training
- 4.3 Stress Management Training
- 4.4 Cognitive Training

SUGGESTED READINGS:

1. Bompa, T.O., & Haff, G.G. (2009). *Periodization: Theory and Methodology of Training* (5th ed.). Human Kinetics.
2. Zatsiorsky, V.M., & Kraemer, W.J. (2006). *Science and Practice of Strength Training* (2nd ed.). Human Kinetics.
3. Wilmore, J.H., Costill, D.L., & Kenney, W.L. (2008). *Physiology of Sport and Exercise* (4th ed.). Human Kinetics.
4. McGuigan, M. (2017). *Monitoring Training and Performance in Athletes*. Human Kinetics.
5. Seiler, S., Tønnessen, E., & Sylta, Ø. (2007). *Intervals, Thresholds, and Long Slow Distance: The Role of Intensity and Duration in Endurance Training*. *Sportscience*, 11, 52–70.
6. Mujika, I., & Padilla, S. (2003). *Scientific Bases for Precompetition Tapering Strategies*. *Medicine & Science in Sports & Exercise*, 35(7), 1182–1187.
7. Issurin, V.B. (2008). *Block Periodization: Breakthrough in Sport Training*. Ultimate Athlete Concepts.
8. Kiely, J. (2012). *Periodization Paradigms in the 21st Century: Evidence-Led or Tradition-Driven?* *International Journal of Sports Physiology and Performance*, 7(3), 242–250.
9. Turner, A. N. (2011). *The Science and Practice of Periodization: A Brief Review*. *Strength and Conditioning Journal*, 33(1), 34–46.
10. NSCA – National Strength and Conditioning Association. (2016). *Essentials of Strength Training and Conditioning* (4th ed.). Human Kinetics.

SEMESTER- V

MAJOR COURSE – 8

Course Name: Ball Games (Football, Volleyball, Handball, and Cricket- any two to be opted at the time of Practical Exam)

Course Code: BAPEDMJ502

Course Type: Major (Practical)	Course Details: MJC-8			L-T-P: 1 – 0 – 8	
CREDIT: 5	Full Marks 100	CA MARKS		ESE MARKS	
		Practical	Theoretical	Practical	Theoretical
		60 (30+30)		40 (20+20)	

Objectives:

The primary objectives of ball games are to develop physical skills, enhance teamwork, and foster social interaction. The secondary objectives are-

- To encourage teamwork and Sportsmanship.
- To promote physical fitness and skill development performance
- To explore scoring procedures or goals.

Learning Outcomes:

- The student would be familiar with the inherited signs and symptoms that make someone suited for excellence in a particular sport.
- Students will get the opportunity to participate in various competitions at different levels.
- Students will understand the importance and professional values of games and sports.

Project-cum-Practical Record Book

1. Introduction of the Sport/Game, Origin and History of Development.
2. Performance status of India and renowned personalities – Indian & International.
3. Fundamental Skills.
4. Rules & regulations with Field/Court diagram.
5. Tournaments & Sports Federations (National & International).
6. Associated terms

FOOTBALL

1. History and development of Football.
2. Rules and their interpretation.
3. Football field and marking
4. Passing: Short Pass, Long Pass, Throw Pass, Overhead Pass, Wall Pass (one, two), Lofted Pass.
5. Receiving: Foot Reception, Thigh Reception, Chest Reception, Instep Reception.

6. Dribbling: Speed Dribbling, Close Control Dribbling, Skill Dribbling (Tricks and Feints), Change of Direction Dribbling
7. Tackling: Block Tackle, Slide Tackle, Poke Tackle (Toe poke), and Hook Tackle
8. Goal Keeping: Handling (Catching), Diving, Footwork, and Punching/Clearing.
9. Game Practice

Practical Guidelines for Continuous Assessment

1. History and development of Football
2. Lay out a Football Field.
3. Rules and their interpretation.

SUGGESTED READINGS:

1. *Norman Barrett, Super Soccer Skills, Dragon Grand Publishers, Glasgow.*
2. *American Football Coaches Association (2002). The Football Coaching Bible. 1st Ed., Human Kinectics, USA.*
3. *Carling, C., Williams, M. and Reilling, T. (2006). Handbook of Soccer Match Analysis : A Systematic Approach to Improving Performance. Routledge Publishers, USA.*
4. *Long, H. and Czarnecki, J. (2007). Football for Dummies. For Dummies Publisher, USA.*

VOLLEYBALL

1. History and development of Volleyball
2. Rules and their interpretation.
3. Volleyball court and marking
4. Serve: Underhand serve and Sidearm serve; Overhead serve, Floating service standing and jumping.
5. Passing: Forearm passing, Overhead passing.
6. Setting: Front set, Back set, and Long set.
7. Spiking: Short ball, Medium ball and High ball (approach, arm and foot movement, and landing).
8. Blocking: Offensive and Defensive with one or more than one blocker (approach, arm and foot movement, and landing).
9. Service reception and Court coverage.
10. Rotation and front-court and back-court players.
11. Game practice

Practical Guidelines for CA

1. History and development of Volleyball
2. Lay out the Volleyball field
3. Rules and their interpretation.

SUGGESTED READINGS:

1. *Saha, A. K. SarirSiksherRitiniti, Rana Publishing House, Kalyani.*
2. *Bandopadhyay, K. Sarir Siksha Parichay, Classic Publishers, Kolkata.*
3. *Sotir, Nicolas, Winning Volleyball London, Stanley Paul,.*
4. *Sandefur Kandy, Volleyball California : Goodyear Publishing Company, Inc.*
5. *Anthony, Don. Succes in Volleyball. London : John Murrary Publishers Ltd. .*
6. *Leveag, Robert E. How to Improve your Volleyball Chicago : The Athletic Institute .*
7. *Soudhu, G.S. Volleyball, Basic & Advanced. The Sports. People, Chandigarh.*

HANDBALL

1. History and development of Handball.
2. Rules and their interpretation
3. Development of the Handball court and marking
4. Catching, Throwing and Ball Control
5. Goal Throws: Jump Shot, Centre Shot, Dive shot, Reverse Shot
6. Dribbling: High and Low
7. Attack and counterattack, simple counterattack, counterattack from two wings and the centre.
8. Shooting: - The standing throw shot. - The side throw shot. - The jump shot. - The reverse shot. - The fall shot
9. Blocking, Goal Keeping and Defensive Skills
10. Goal Keeping- Basic stance, hand and foot movement.
11. Game practice

Practical Guidelines for Continuous Assessment:

1. History and development of Handball
2. Lay out the Handball court
3. Rules and their interpretation.

Suggested Readings:

1. *Naveen Jain, Play and Learn Basketball, Khel Sahitya Kendra, New Delhi.*
2. *Dubey, H. C. Basketball, Discovery Publishing House, New Delhi.*
3. *Rachana Jain, Teach Yourself Basketball, Sports Publication.*

4. Jack Nagle, *Power Pattern Offences for Winning basketball*, Parker Publishing Co., New York.

CRICKET

1. History and development of Cricket
2. Rules and their interpretation.
3. Development of the Cricket Field and Marking
4. Grip and Stance, Back lift and Footwork
5. Batting: Defensive Shot (Forward Defence and Backward Defence), Ground Shot (Straight Drive, Cover Drive, Square Cut, Pull Shot, Leg Glance), Aerial Shot (Lofted Drive, Sweep Shot, Hook Shot, and Slog Shot)
6. Bowling: Fast Bowler (In swing, Out swing, Yorker, Bouncer, Slower Ball), Spin Bowler (Off Spin, Leg Spin, Left-arm Orthodox), Chinaman (Left-arm unorthodox)
7. Fielding: Catching, Throwing, Ground Fielding, Backing up
8. Wicket Keeping: Stance and Positioning, Glove work, Foot work, Diving, and Reflexes
9. Game Practice

Practical Guidelines for Continuous Assessment:

1. History and development of Cricket
2. Lay out of the Cricket field
3. Rules and their interpretation.

Suggested Reading:

1. Bradman, D. (1958). *The art of cricket*. Hodder & Stoughton.
2. Dellor, R., & Kemp, S. (2006). *Cricket: Steps to success*. Human Kinetics.
3. Gill, M. S., & Kamlesh, M. L. (2006). *A handbook of cricket*. Friends Publications.
4. BCCI. (2010). *Cricket coaching manual*. Board of Control for Cricket in India.
5. Marylebone Cricket Club. (2022). *The laws of cricket*. MCC.
<https://www.lords.org/mcc/the-laws-of-cricket>
6. Tyson, F. (1985). *Cricket skills and techniques*. Faber and Faber.
7. Gavaskar, S. (1994). *Cricket simplified*. Macmillan India.
8. National Cricket Academy. (2015). *Essential cricket skills*. BCCI.
9. Pont, I. (2005). *Coaching youth cricket*. Human Kinetics.
10. Davis, M., & Collins, S. (2004). *Play better cricket: Techniques, tactics and training*. Crowood Press.

SEMESTER- V

MAJOR COURSE – 9

Course Name: Pedagogy in Physical Education and Sports

Course Code: BAPEDMJ503

Course Type: Major (Theoretical)	Course Details: MJC-9			L-T-P: 4 – 1 – 0	
CREDIT: 5	Full Marks 100	CA MARKS		ESE MARKS	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objective:

1. To acquaint students with theoretical & practical knowledge of methods of teaching, coaching & officiating in Physical Education & Sports.

Learning Outcome: -

1. Students will understand the use of various methods in teaching & coaching in the field of physical education & sports.
2. They will also learn the officiating in various sports events.

Unit 1 : Nature And Scope Of Physical Education & Sports

- 1.1 Definition and Meaning of Pedagogy in Physical Education and Sports
- 1.2 Importance and scope of Physical Education in the school curriculum
- 1.3 Relationship of Physical Education with General Education.
- 1.4 Role of Physical Education in the all-around development of the child

Unit 2 : Instructional Objectives And Planning In Physical Education And Sports

- 2.1 Instructional and behavioural objectives in psychomotor, cognitive, and affective domains.
- 2.2 Lesson Plan: Meaning, components, principles, and steps
- 2.3 Types of lesson plans: Theory, Practical (General, Specific, Skill), Specimens
- 2.4 Yearly and term-wise planning in school Physical Education and Sports

Unit 3 : Teaching Strategies And Methods In Physical Education And Sport

- 3.1 Teaching methods: Lecture, demonstration, command, reciprocal, problem-solving, project method
- 3.2 Grouping of students and class management
- 3.3 Use of formations and commands in drill and marching
- 3.4 Feedback and evaluation in skill acquisition

Unit 4 : Teaching Aids And Resources In Physical Education And Sports

- 4.1 Print resources: Textbooks, manuals, workbooks
- 4.2 Audio resources: Sports commentary, radio talks, audio coaching
- 4.3 Visual resources: Charts, models, posters, videos, diagrams
- 4.4 Non-projected & projected teaching aids: OHP, LCD projector, multimedia presentations, apps, and technology in teaching Physical Education and Sports.

SUGGESTED READINGS:

1. Kamlesh, M. L. (2006). *Principles and History of Physical Education*. New Delhi: Friends Publications.
2. Bucher, C. A., & Wuest, D. A. (1987). *Foundations of Physical Education and Sport*. St. Louis: Times Mirror/Mosby.
3. Singh, A. (2008). *Essentials of Physical Education*. New Delhi: Kalyani Publishers.
4. Sharma, V. M. (2012). *Teaching Methods in Physical Education*. New Delhi: Sports Publications.
5. NCERT. (2005). *National Curriculum Framework 2005*. New Delhi: NCERT.
6. Mohan, V. M. (2011). *Principles of Physical Education*. Chennai: Rainbow Publishers.
7. Pangrazi, R. P. (2001). *Dynamic Physical Education for Elementary School Children*. Allyn & Bacon.
8. Siedentop, D. (1994). *Introduction to Physical Education, Fitness and Sport*. Mayfield Publishing.
9. Yobu, A. (2010). *Teaching Methodology in Physical Education*. New Delhi: Sports Publications.
10. National Council for Teacher Education (NCTE). (2003). *Teacher Education Curriculum Framework*. New Delhi: NCTE.

SEMESTER- V

MINOR COURSE –

Course Name: Fundamentals of Exercise and Sports Training

Course Code: BAPEDMNC501

Course Type: Minor (Theoretical)	Course Details: MNC-5			L-T-P: 4 – 1 – 0	
Credit: 5	Full	CA MARKS		ESE MARKS	
	Marks	Practical	Theoretical	Practical	Theoretical
	100		30		70

Objectives:

1. To enhance knowledge regarding various exercise and sports training methods.
2. To develop the practical experience in exercise and sports training.
3. To develop skills for exercise and sports performance.

Learning Outcome:

1. Understand training as a performance-based science.
2. Explain the different means and methods of various training.
3. Prepare a training schedule for various exercises, sports, and games.
4. Appraise types of periodization for performance development.
5. Create various training facilities and plans for novice to advanced performers.

Unit 1 : Foundations Of Exercise And Sports Training

- 1.1 Introduction of Exercise & Sports Training
- 1.2 Adaptation Process in Exercise & Sports Training
- 1.3 Types of Training Preparation (Physical, Tactical, Technical, Mental)
- 1.4 Basic Principles: Individualization & Multilateral Development

Unit 2 : Load, And Recovery In Exercise And Sports Training

- 2.1 Training Variables: Volume, Intensity, Density, and Complexity in Exercise & Sports
- 2.2 Index of Overall Training Demand in Exercise & Sports
- 2.3 Fatigue and Overtraining in Exercise & Sports
- 2.4 Recovery Theory and Modalities in Exercise & Sports

Unit 3 : Training Methods And Periodization In Exercise And Sports

- 3.1 Development of Strength, Endurance, Balance, and Flexibility in Exercise & Sports
- 3.2 Peaking, Tapering, and Competition Readiness in Exercise & Sports
- 3.3 Microcycles, Macrocycles, and Annual Training Plan in Exercise & Sports
- 3.4 Development of Periodization for Sportsperson in Exercise & Sports

Unit 4 : Methods Of Developing Exercise And Sports Qualities

- 4.1 Strength and Balance Training
- 4.2 Aerobic and Anaerobic Endurance Training
- 4.3 Flexibility Training
- 4.4 Program Design: Blending Qualities in Weekly Schedules for Sportsperson

SUGGESTED READINGS:

1. *Bompa, T.O. & Haff, G.G. (2009). Periodization: Theory and Methodology of Training.*
2. *Zatsiorsky, V.M. & Kraemer, W.J. (2006). Science and Practice of Strength Training.*
3. *NSCA (2016). Essentials of Strength Training and Conditioning.*
4. *Wilmore, J.H., Costill, D.L., & Kenney, W.L. (2008). Physiology of Sport and Exercise.*
5. *Mujika, I., & Padilla, S. (2003). Scientific Bases for Precompetition Tapering Strategies.*
6. *McGuigan, M. (2017). Monitoring Training and Performance in Athletes.*
7. *Kiely, J. (2012). Periodization Paradigms in the 21st Century.*
8. *Turner, A. (2011). The Science and Practice of Periodization.*
9. *Seiler, S. et al. (2007). Endurance Training Intensity Distribution.*
10. *Issurin, V.B. (2008). Block Periodization.*

SEMESTER- VI

MAJOR COURSE – 10

Course name: Exercise and Sports Psychology

Course Code: BAPEDMJ601

Course Type: Major (Theoretical)	Course Details: MJC-10		L-T-P: 4 – 1 – 0		
CREDIT: 5	Full Marks 100	CA MARKS		ESE MARKS	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objective:

1. Students will acquire the theoretical knowledge of Sports Psychology and understand the importance of Sports Psychology in Physical Education and Sports which will enhance coaching ability in the Sports field.

Course Learning Outcome:

1. Analyse psychological principles influencing athletic and health behavior.
2. Apply mental skill techniques to enhance performance and well-being.
3. Assess personality, stress, and motivation in sport contexts.
4. Demonstrate leadership, ethics, and cultural competence in applied scenarios.

Unit 1 : Foundations Of Exercise And Sports Psychology

- 1.1 Introduction to Exercise and Sport Psychology
- 1.2 Application of Exercise and Sport Psychology in Real-Life Settings
- 1.3 Paradigms and Application in Real-Life Settings
- 1.4 Exercise and Sport Psychology- a Multidisciplinary Integration

Unit 2 : Emotions In Exercise And Sports

- 2.1 Negative & Positive Emotions and Responses to Exercise and Sport Performance
- 2.2 Emotion and Social Process in Exercise and Sports: Group Dynamics, Team Cohesion, and Leadership
- 2.3 Social Influences, Aggression, and Moral Behavior in Exercise and Sports
- 2.4 Inclusion and Adaptation in Exercise and Sports

Unit 3 : Motivation In Exercise And Sports

- 3.1 Behavioral Approaches to Motivation: Goal Setting and Reinforcement
- 3.2 Enjoyment, Commitment, Self-Determination in Exercise and Sports

- 3.3 Achievement Motivation in Exercise and Sports
- 3.4 Promotion of Exercise and Sports as Positive Health

Unit 4 : Cognition In Exercise And Sports

- 4.1 Cognitive Skills in Exercise and Sports: Attention, Focus, Imagery
- 4.2 Self-Perceptions, Confidence, and Identity in Exercise and Sports
- 4.3 Self-Efficacy in Exercise and Sports
- 4.4 Memory and Its Application in Exercise and Sports Performance

Suggested Reading:

- Weinberg, R.S., & Gould, D. (2019). Foundations of Sport and Exercise Psychology (7th ed.). Human Kinetics.
- Cox, R.H. (2012). Sport Psychology: Concepts and Applications (7th ed.). McGraw-Hill.
- Ekkekakis, P. (2013). The Measurement of Affect, Mood, and Emotion in Exercise Psychology. Cambridge University Press.
- Schinke, R.J., McGannon, K.R., & Smith, B. (2016). Routledge International Handbook of Sport Psychology. Routledge.
- APA Division 47. (2019). A Practitioner's Guide to Sport and Exercise Psychology.
- Roberts, G.C., & Treasure, D.C. (2012). Advances in Motivation in Sport and Exercise (3rd ed.). Human Kinetics.

SEMESTER- VI

MAJOR COURSE – 11

Course Name: Evaluation of Fitness and Sports Skills

Course Code: BAPEDMJ602

Course Type: Major (Practical)	Course Details: MJC-11			L-T-P: 0 – 1 – 8	
CREDIT: 5	Full Marks 100	CA MARKS		ESE MARKS	
		Practical	Theoretical	Practical	Theoretical
		60		40	

Objective:

1. Students will acquire the knowledge (theoretical and practical) and importance of Test Measurement & Evaluation in Physical Education and Sports.

Learning Outcome:

1. Students will be able to identify and explain various components of physical, mental, physiological, and social fitness and their role in overall well-being.
2. Students will gain practical skills in conducting standardized fitness assessments, including strength, endurance, flexibility, balance, and skill-specific tests across different age groups.
3. Students will be equipped to advocate and implement health and fitness programs such as the Fit India Movement and age-specific fitness tests to improve quality of life.to engage human subject of all ages, sex, and ability.

Unit 1 : Fitness

- 1.1 Physical Fitness-Strength, Speed, Endurance, Flexibility, Balance, Agility, and Reaction Time
- 1.2 Mental Fitness- Emotion, Memory, Intelligence
- 1.3 Physiological Fitness- Sleep, Digestion, and Stress Management
- 1.4 Social Fitness- Adjustment, Cooperation

Unit 2 : Physio-Physiological Fitness Test

- 2.1 Strength - Maximum Strength and Strength Endurance Test
- 2.2 Balance- Static and Dynamic Test

- 2.3 Flexibility- Concentric and Eccentric Test
- 2.4 Endurance- Muscular and Cardiovascular Test

Unit 3 : Mental And Social Fitness Test

- 3.1 Positive and Negative Emotion Test
- 3.2 Short and Long-term Memory Test
- 3.3 Sleep Test
- 3.4 Adjustment Test

Unit 4 : Sports Skill Tests

- 4.1 Football Skill Test
- 4.2 Volleyball Skill Test
- 4.3 Handball Skill Test
- 4.4 Cricket Skill Test

Guidelines for Continuous Assessment:

- 1 Measurement of Body Mass Index, Heart Rate, Respiratory Rate, Blood Pressure
- 2 Fit India Test for Children, Youth, and Adults.
- 3 Senior Citizen Fitness Test
- 4 Yo-Yo Test, Beep Recovery Agility Test (BRAT), Modified Loughborough Intermittent Shuttle Test (LIST), and 30-15 Intermittent Fitness Test (30-15 IFT for Sportsperson

Suggested Readings:

4. Singh, H. (2012). *Science of sports training*. Friends Publications India.
5. Uppal, A. K. (2004). *Physical fitness: How to develop*. Friends Publications.
6. Sharma, V. M. (2006). *Health and physical education*. Khel Sahitya Kendra.
7. Ministry of Youth Affairs and Sports. (2019). *Fit India Movement guidelines*. Government of India. <https://fitindia.gov.in/>
8. Central Board of Secondary Education. (2018). *Health and physical education manual for classes XI and XII*. CBSE. <http://cbseacademic.nic.in/>
9. Sports Authority of India. (2020). *Khelo India Fitness Assessment guidelines*. <https://kheloindia.gov.in/>
10. Verma, J. P., & Gupta, R. (2016). Relationship of selected physical fitness variables with academic achievement in school children. *Journal of Exercise Science and Physiotherapy*, 12(2), 73–78.
11. Kumar, R., & Thakur, A. (2020). Comparative study on physical fitness between rural and urban students. *International Journal of Physical Education, Sports and Health*, 7(2), 21–24.
12. Das, D., & Bera, T. K. (2013). Assessment of mental health and physical fitness of college students. *Indian Journal of Psychology and Education*, 3(1), 41–47.
13. Reddy, M. S. (2015). *A study on physical and physiological variables among athletes* (Doctoral dissertation, Osmania University). Shodhganga. <https://shodhganga.inflibnet.ac.in/>

SEMESTER- VI

MAJOR COURSE – 12

Course Name: Yoga Education

Course Code: BAPEDMJ603

Course Type: Major (Theoretical + Practical)	Course Details: MJC-12		L-T-P: 3 – 0 – 4	
CREDIT: 5	Full Marks 100	CA MARKS		ESE MARKS
		Practical	Theoretical	Practical Theoretical
		30	15	20 35

Objective:

- 1 Students will acquire the knowledge (theoretical and practical) and importance of Yoga in Physical Education and Sports as well as society

Learning Outcomes:

1. Students will gain the fundamental knowledge of Yoga.
2. The study will give the importance of different scopes of yoga in life.
3. The theoretical and practical approaches will be learned.
4. Students will gain the knowledge of the foundational structure to establish Yoga.

Unit 1 : Introduction Of Yoga And Vyayama

- 1.1 Ayurveda: Vyayama, Yoga, and Krida
- 1.2 Origin and Objectives of Yoga with Special Reference to the Indian Knowledge System
- 1.3 Preparation for Yoga Practice: Place, Time, Food, Dress, and Contraindication.
- 1.4 Benefits of Yoga and Importance of Yoga in Modern Society.

Unit 2 : School Of Yoga And Yogic Practices

- 2.1 School of Yoga: Bhaktiyoga, Karmayoga, Gyanyoga and Rajyoga.
- 2.2 Patanjali Yoga (Rajyoga): Asthanga Yoga
- 2.3 Concept of Yogasana, Pranayama, and Dhyana.
- 2.4 Vyayama: Sukshma and Sthula Vyayama

Unit 3 : Ayush And International Day Of Yoga

- 3.1 AYUSH and its Objective
- 3.2 Common Yoga Practice Protocol referred to by AYUSH

- 3.3 Lifestyle diseases and Yoga-Vyayama
- 3.4 UNO and International Day of Yoga; UNESCO and Yoga as World Intangible Cultural Heritage

Unit 4 : Yogic Kriyas, Yogasana, Pranayama, And Dhayana

- 4.1 Yogic Kriya- Kapalbhati, Trataka, Nauli
- 4.2 Yogasana: For Strength, Balance, Flexibility, Relaxation, and Concentration
- 4.3 Pranayama: Yogic Breathing, Cool and Hot Pranayama, and Balancing Pranayama
- 4.4 Dhayana: Pratyahara and Dharana; Buddhist and Jain style, Prakiti, and Jyoti Dhayana

Guidelines for Continuous Assessment:

- 1. Vyayama
- 2. Suryanamaskar
- 3. Yogic Krida
- 4. Yogasana
- 5. Pranayama
- 6. Dhayana

Suggested Readings:

- 1. Swami Kuvalayananda. *Asana and Pranayama*. Kaivalyadhama Institute.
- 2. Patanjali. *Yoga Sutras of Patanjali (with commentary by Swami Vivekananda)*.
- 3. Taimni, I.K. *The Science of Yoga*. Theosophical Publishing.
- 4. Ministry of AYUSH. *Common Yoga Protocol Handbook*.
- 5. Sivananda Yoga Vedanta Centre. *The Book of Yoga*. Penguin Books.
- 6. Swami Satyananda Saraswati. *Asana, Pranayama, Mudra, Bandha*. Bihar School of Yoga.
- 7. UNESCO *Documentation on Yoga as Intangible Cultural Heritage*.
- 8. WHO *Guidelines on Physical Activity and Yoga Integration (optional reading)*.

SEMESTER- VI

MAJOR COURSE – 13

Course Name: Racket Games- Badminton, Table Tennis (anyone) and Self-Defence Sports: Karate and Taekwondo (anyone).

Course Code: BAPEDMJ604

Course Type: Major (Practical)	Course Details: MJC-13			L-T-P: 0 – 0 – 10	
CREDIT: 5	Full Marks 100	CA MARKS		ESE MARKS	
		Practical	Theoretical	Practical	Theoretical
		60 (30 +30)		40 (20+20)	

Objective:

To develop fundamental skills, techniques, and an understanding of the rules and strategies in selected racquet sports (Badminton or Table Tennis) and combative sports (Karate and Taekwondo), promoting physical fitness, discipline, coordination, and competitive spirit.

Learning Outcome:

After completing this course, the students will be able to

1. Acquire, analyze and interpret basic techniques and skills
2. Appraise the rules and regulations.
3. Demonstrate and assess various techniques of Badminton skills
4. Officiating knowledge and fundamentals of coaching.

Project-cum-Practical Record Book

1. Introduction of the Sport/Game, Origin and History of Development
2. Performance status of India and renowned personalities – Indian & International
3. Fundamental Skills
4. Rules & regulations with Field/Court diagram
5. Tournaments & Sports Federations (National & International). Associated terms

BADMINTON

1. Origin and History of Badminton, Layout of Badminton court, Rules, Regulations and Officiating in Badminton
2. Type of Grips: Forehand Grip and Backhand Grip Neutral Grip Short and Long Grip, flying pan grip
3. Types of service: High lob serve for singles and high serve for doubles, short serve, flick serve, Drive service
4. Forehand Overhead Strokes: clear, smash and drop, Drills to learn the skill
5. Forehand Underarm Strokes: Lob and Net shot
6. Forehand Sidearm Strokes: Parallel/ Drives
7. Overhead Backhand Strokes, Backhand Sidearm Strokes
8. Game practice

Practical Guidelines for Continuous Assessment:

1. Origin and History of Badminton
2. Lay out of the Play field
3. Rules, Regulations and Officiating in Badminton.

TABLE TENNIS

1. Origin and History of Table Tennis, Dimension of Court, Racquet, Ball and Net, Rules, Regulations and Officiating in Table Tennis.
2. Type of Grips, Footwork and Service
3. Different training drills to learn the skill
4. Tennis Forehand, Backhand stroke
5. Tennis Lob, Tennis overhead, Tennis volley
6. Forehand Ground stroke, Backhand ground stroke
7. Overhead smash
8. Game practice

Practical Guidelines for Continuous Assessment:

- 2 Origin and History of Table Tennis
- 3 Lay out of the Play field
- 4 Rules, Regulations and Officiating in Table Tennis.

KARATE

1. History of Karate, Meaning of Karate-do, Concept of Dojo
2. Rules and their interpretations, and the duties of officials.
3. Warming-up: General and Specific.
4. Fundamental Skills: Hand and leg position
5. Player Stances: Front leaning, Balance, Walking, Side-fighting.
6. Hand Techniques: Punches (straight punch, reverse punch), Blocks (eight basic)
7. Leg Techniques: Snap kicks, stretching straight leg, thrust kick, sidekicks, and roundhouse.
8. Game practice

Guidelines for Continuous Assessment:

1. Origin and History of Karate
2. Meaning of Karate-do, Concept of Dojo
3. Rules and their interpretations, and the duties of officials

TAEKWONDO

1. Origin and History of Taekwondo, Concept of Dojo, Rules, Regulations and Officiating in Taekwondo
2. Warming-up: General and Specific
3. Fundamental Skills: Walking, extending walking, L stance, cat stance.
4. Punches: Sitting stance punch, single punch, double punch, triple punch, front-fist punch, rear-fist punch.
5. Foot techniques (Balgisul): Standing kick (soseochagi), Front kick (AP chagi), Arc kick (Bandal Chagi), Sidekick (Yeop Chagi), Turning kick (Dollyo Chagi), Back kick (Twit Chagi), Reverse turning kick (Bandae Dollyo Chagi), Jump kick (Twimyo Chagi).
6. Game practice with the application of Skills and Rules, and Regulations

Guidelines for Continuous Assessment

1. Origin and History of Taekwondo
2. Concept of Dojo
3. Rules, Regulations and Officiating in Taekwondo

SUGGESTED READINGS:

1. Dr. Aneja O P. (2012). *How to play badminton*. Prerna Prakashan.

- 2 Sudhir T S. (2012). *An inspirational biography SaniaNewhal*. Nimby books. 3.
- Brahams. (2010). *Badminton handbook*. Meyer and Meyer sports.
- 3 Kumar S. (2010). *Badminton skills and rules*. Vishalkanishk printers.
- 4 Ken DeHart, (2019) *Master Your Tennis Game: 50 Mental Strategies and Tactics*, Rockridge Press
- 5 Tennis Association, (2006) *Tennis (Know the game)* A and C Black Publishers Ltd
- 6 Marty Smith, (2017), *Absolute Tennis: The Best and Next Way to Play the Game*, New Chapter Press
- 7 Professional Tennis Registry, (2010) *Top Tennis Tips from around the world*, PTR.
- 8 Funakoshi, G. (2009). *Karate-do: My way of life*. Kodansha International.
- 9 Nakayama, H. (1999). *Best Karate: Comprehensive illustrated guide to basic techniques*. Kodansha International.
- 10 Kwon, B. (2018). *Taekwondo: A step-by-step guide*. Paladin Press.
- 11 Mohan, R. (2014). *Indian martial arts: Traditions and practices*. Arya Publishing House.
- 12 Sharma, P. (2015). *The art of Indian martial systems: A guide to traditional practices*. Vikas Publishing.

Internship Syllabus for Undergraduate Students in Physical Education

Name of the Course: Summer Internship (on Yoga, Vyayama, and Krida)

Course Code: BAPEDSI601

Course Type: Summer Internship	Course Details: SIMC-1			L-T-P: 0-0-4	
Credit: 2	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Introduction:

A key aspect of the new UG programme is induction into actual work situations. All students will also undergo internships / Apprenticeships in a firm, industry, or organization or Training in labs with faculty and researchers in their own or other HEIs/research institutions during the summer term.

Students will have opportunities for internships with **their home institutions, colleges, universities, local industry, business organizations, health and allied sectors, local governments (such as panchayats and municipalities), Parliament or elected representatives, media organizations, artists, craftspeople, and a wide range of other organizations.** This will enable students to actively engage with the practical aspects of their learning and, as a result, enhance their employability.

Objective:

- To provide hands-on experience in physical education, sports, and wellness environments.
- To apply theoretical knowledge of kinesiology, training methods, and pedagogy into practice.
- To enhance teamwork, communication, leadership, and professional ethics.

Duration of Internship:

The course will consist of 60 working Hours for 2 Credits. The course may be conducted during the semester or within one month after completion of 6th Theory ESE (End Semester Examinations), including Evaluation.

Internship Domains:

Students may select **ONE** of the following domains based on interest and mentor approval:

Internship Domain	Examples
School/College Internship	Event organization: <i>AYUSH- Common Yoga Protocol</i> Key Tasks: • Assist in planning and conducting yoga sessions based on AYUSH guidelines • Help organize inter-class or inter-school sports or Wellness events Deliverables: • Event plan/report • Feedback from faculty • Photographs of yoga or event sessions UNIT I – Orientation & Planning Theory: Overview of AYUSH Yoga Protocol and its integration into school curricula. Importance of yoga in school wellness programs. Practical: Orientation session with mentor; selection of yoga modules for students; goal setting for school event participation. UNIT II – Event Design & Teaching Practice Theory: Fundamentals of educational event planning, age-appropriate yoga session structuring, and time management. Practical: Assist or lead in organizing a school-based yoga event; teach a segment under mentor observation. UNIT III – Observation & Supervision Theory: Classroom control techniques in yoga, behavior management, instructional cues. Practical: Supervise and observe multiple class sessions; assist teacher in student engagement and corrections. UNIT IV – Documentation & Feedback Theory: Types of evaluation forms, reflective journaling, and school feedback practices. Practical: Compile detailed yoga session report; collect faculty and student feedback; submit session reflections.

Fitness Centre / Gym	Personal training, client fitness tracking, group fitness instruction: <i>Bharatiya Paramparikh Vyayama (Indian exercise)</i> Key Tasks: • Demonstrate and guide Bharatiya Vyayama routines (e.g., Surya Namaskar, Dand-Baithak) • Track client progress (BMI, strength tests) • Conduct group or one-on-one fitness sessions Deliverables: • Daily logbook • Fitness charts/reports • Video/photo documentation of sessions UNIT I – Orientation & Planning Theory: Introduction to Bharatiya Vyayama techniques and differences from modern fitness methods. Practical: Orientation at the fitness center; shadow a trainer working with clients. UNIT II – Program Development Theory: Designing personalized training plans with Dand, Baithak, Surya Namaskar for strength, mobility, and stamina. Practical: Create and trial a weekly Bharatiya Vyayama routine for a mock client. UNIT III – Implementation & Monitoring Theory: Tracking tools like BMI, fitness apps, and manual logs. Practical: Conduct sessions; gather fitness data; modify program based on client progress. UNIT IV – Reporting & Review Theory: Writing structured fitness reports and analyzing client transformation. Practical: Prepare and submit progress charts, logbook summaries, and before/after comparisons.
Sports Coaching Camp	Work with teams/athletes, assist certified coaches, and plan drills: <i>Indian Traditional Sports</i> Key Tasks:

	• Plan and execute drills for games like Kho-Kho, Kabaddi, Mallakhamb • Observe coaching strategies and assist in team management • Help in organizing practice matches Deliverables: • Coaching plans • Drill photos/videos • Mentor evaluation UNIT I – Orientation & Planning Theory: Safety, age-group structuring, and coaching pedagogy in games like Kabaddi, Kho-Kho. Practical: Attend initial camp session; interact with coach and athletes; observe structure. UNIT II – Skill Development Theory: Technical components and biomechanical principles of Indian sports drills. Practical: Assist in warm-ups, skill drills; demonstrate movements with correction points. UNIT III – Tactical Application Theory: Strategy building and performance assessment in game settings. Practical: Plan and conduct a full session or internal game match under coach supervision. UNIT IV – Coaching Review & Feedback Theory: Evaluation formats, use of feedback loops, and reflective coaching. Practical: Submit a coaching journal and video log of one full coaching session.
Rehabilitation / Wellness Centre	Support physiotherapy, yoga therapy, or fitness interventions: <i>Lifestyle Diseases</i> Key Tasks: • Assist physiotherapists or yoga therapists in patient sessions • Help clients manage lifestyle diseases like obesity, diabetes, or hypertension • Maintain records of therapeutic activities and improvements Deliverables: • Case-based reports (anonymous) • Equipment handling log

	• Session reflections UNIT I – Orientation & Planning Theory: Basics of rehabilitation science; understanding chronic illness profiles. Practical: Observe patient consultations and low-impact therapy sessions. UNIT II – Therapeutic Planning Theory: Principles of exercise therapy, contraindications, and disease-specific programing. Practical: Assist therapist in customizing wellness plans (yoga/physio) for patients. UNIT III – Intervention & Assistance Theory: Measuring improvements, documentation of sessions, and role of empathy. Practical: Co-facilitate a therapy session, maintain exercise logs, and track attendance. UNIT IV – Review & Ethical Reporting Theory: Confidentiality protocols and ethical considerations in clinical environments. Practical: Write anonymized reports and reflections based on observations and outcomes.
Government / NGO / Community Program	Community health/sports initiatives, rural fitness outreach: <i>Social Health Initiative</i> Key Tasks: • Organize fitness awareness camps or Fit India Movement drives • Conduct basic fitness tests (e.g., flexibility, endurance) • Design posters/presentations on health, hygiene, and physical activity ✦ Deliverables: • Community engagement report • Photos, testimonials • Feedback from NGO/government mentors UNIT I – Orientation & Planning Theory: Introduction to social health movements and grassroots fitness awareness. Practical: Meet with NGO/Govt. project head; identify key campaign objectives.

	UNIT II – Awareness Campaigns Theory: Crafting messages for behavior change in rural and urban communities. Practical: Participate in or lead a Fit India awareness rally, street play or poster-making. UNIT III – Health Assessments Theory: Methods for community-level health screening (flexibility, endurance, basic vitals). Practical: Conduct simple health checks using community-friendly tools and formats. UNIT IV – Reflection & Community Report Theory: Components of a community report; importance of qualitative and quantitative feedback. Practical: Prepare and present a summary report with photos, testimonials, and self-reflection.
--	---

Note: Each unit time period 15 hours.

Internship Opportunities/ Organisation:

Expected Outcomes:

On completion of this course, students will be able to:

- Demonstrate coaching, officiating, fitness training, or wellness promotion skills in real settings.
- Conduct fitness assessments or training programs for individuals/teams.
- Understand ethical practices in sports and physical education.

Mode: Physical

Suggested Plan

Week	Activity
1	Orientation, goal setting, and mentor interaction
2–4	Active involvement in tasks (teaching, testing, training, observing)
5–6	Data collection, analysis, fitness evaluations or teaching observations

7–8	Report writing, reflection, feedback
9	Presentation preparation
10	Final viva-voce and submission

For Examination/ Evaluation:

- A report within 3000 to 5000 words to be prepared by the intern under the supervision **of a Supervisor from the parent institution** (own college) and **a Mentor from the host Institution**
- Internship Completion Certificate by the Mentors/ Mentor, and Supervisor /Supervisor
- **The self-assessment and feedback form must be submitted by the Intern.**
- CA: 30 Marks will be assessed by the **Supervisor from the parent institution** as a **Continuous assessment in consultation with the Mentor, depending upon the performance and attendance of the intern, and a report.**
- ESE: 20 Marks will be assessed by the External and Internal faculty through seminar presentation and/or viva-voce at the parent institution.
- All Evaluation processes, along with mark capture for the Summer Internship, must be completed by June every year.

Assessment and Evaluation

Component	Criteria	Weightage
Attendance, Mentor/Supervisor Feedback	Punctuality, behavior, effort	20%
Logbook / Daily Activity Report	Completeness and accuracy	20%
Internship Project Report	Clarity, relevance, documentation	30%
Presentation / Viva Voce	Communication, analysis, learning outcomes	30%

Tentative Format of the Report of the Project Work

- **Title:** (e.g., “Four-week Aerobic Training for Long Distance runner at School/ College Students”)
- Introduction & Rationale
- Objectives of Internship
- Activity Description
- Observations
- Key Learning’s / Challenges
- Conclusion & Recommendations
- Certificates / Photographs (if any)

Recommended Tools & Equipment (As Applicable)

- Fitness Tools (e.g., Stair, Cone, Drill drum, Rubber Band)
- Stopwatches, Cones, Exercise Mats
- Whistle, Score Sheets, Event Planning Logs

Resources / Internship Partners (Suggested)

- Khelo India Centres
- Local Sports Authority Offices / Sports Hostels
- Fit India Clubs / NSS / NYKS / Community Fitness Initiatives
- Private Fitness Studios, Sports Coaching Academies
- Rehabilitation Centres / Yoga and Wellness Institutions
- PE Departments in Schools / Colleges

Deliverables:

- **Internship Completion Certificate** from host organization
- **Project Report (Bound or Digital)**
- **Presentation Slides** for final viva

Nodal Officer

Internship Programme will be fully organised, executed and monitored by the R&D cell of Institution through a Nodal Officer, Nodal Officer to be appointed by the Vice Chancellor/ Director/ Principal/ Head of the Institution.

SEMESTER- VII

MAJOR COURSE-14

Course Name: Kinesiology and Biomechanics in Exercise & Sport

Course Code: BAPEDMJ701

Course Type: Major (Theoretical)	Course Details: MJC-14			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- To introduce the fundamental concepts of mechanics and their specific applications to human movement in sports.
- To enable students to analyze sports techniques through linear and angular kinematics and kinetics.
- To cultivate an understanding of the mechanical principles governing stability, force, and energy absorption to prevent injuries.
- To develop skill-analysis competencies for optimizing athletic performance and coaching interventions.

Outcomes:

- Define and describe biological movements using appropriate anatomical terminology, planes, and axes.
- Calculate and interpret foundational kinematic and kinetic variables in athletic movements.
- Apply the laws of physics (Newton's laws, leverage, and torque) to critique and improve specific sports actions.
- Conduct basic biomechanical analysis of locomotion, jumping, striking, and kicking manoeuvres.

Unit 1 : Introduction and Foundational Concepts

- 1.1 Meaning, Definition, Nature, Scope, and Importance of Kinesiology in Exercise and Sports.
- 1.2 Fundamental Concepts of Human Movement: Planes of Movement, Axes of Movement, Anatomical Position, and Terminology of Human Motion.
- 1.3 Skeletal System: Classification and Functions of Bones, Structure of Bone, and Bone Growth and Development.

- 1.4 Joints: Classification of Joints, Structure and Function, Range of Motion, and Joint Stability and Mobility.

Unit 2 : Muscular System and Movement Analysis

- 2.1 Structure and Classification of Skeletal Muscles.
- 2.2 Muscle Actions: Origin and Insertion, Agonist, Antagonist, Synergist, and Fixator.
- 2.3 Types of Muscle Contractions: Isometric, Isotonic (Concentric and Eccentric), and Isokinetic.
- 2.4 Kinesiological Analysis of Fundamental Human Movements: Walking, Running, Jumping, and Throwing.

Unit 3 : Unit - 3: Linear and Angular Kinematics

- 3.1 Definition and Scope of Biomechanics, Spatial and Temporal Characteristics: Position, distance, displacement, speed, and velocity.
- 3.2 Acceleration: Linear acceleration, uniform acceleration, and projectile motion equations.
- 3.3 Rotational Motion: Angular distance, angular displacement, angular velocity, and angular acceleration.
- 3.4 Application in Sports: Individual and Team sports.

Unit 4 : Linear and Angular Kinetics

- 4.1 Linear Kinetics: Forces and Torques; Newton's Laws of Motion applied to sports
- 4.2 Momentum and Impulse: Linear momentum, conservation of momentum, impulse-momentum relationship (e.g., impact absorption in running shoes, landing mechanics)
- 4.3 Levers: human musculoskeletal lever systems (1st, 2nd, and 3rd class levers).
- 4.4 Center of Gravity (CoG): Locating CoG, stability, balance, and its manipulation in sports. Moment of Inertia.

Reference:

- Bartlett, R. Introduction to Sports Biomechanics. Routledge.
- Hall, S. J. Basic Biomechanics. McGraw-Hill Education.
- Hamill, J., Knutzen, K. M., & Derrick, T. R. Biomechanical Basis of Human Movement. Wolters Kluwer.
- Hay, J. G. The Biomechanics of Sports Techniques. Prentice Hall.
- Knudson, D. Fundamentals of Biomechanics. Springer.
- Lippert, L. S. Clinical Kinesiology and Anatomy. F.A. Davis Company.
- McGinnis, P. M. Biomechanics of Sport and Exercise. Human Kinetics.
- Neumann, D. A. Kinesiology of the Musculoskeletal System: Foundations for Rehabilitation. Elsevier.

MAJOR COURSE-15

Course Name: Research Methodology and Statistics in Exercise and Sport

Course Code: BAPEDMJ702

Course Type: Major (Theoretical)	Course Details: MJC-15			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- To provide fundamental knowledge of scientific research in Physical Education and Sports Sciences.
- To develop the ability to identify, formulate, and investigate research problems.
- To familiarize students with research designs, sampling procedures, and methods of data collection.
- To develop competencies in research report writing and interpretation of research findings.

Outcomes:

- Understand the meaning, scope, and significance of research in Physical Education and Sports Sciences.
- Explain different types of research methods and research designs.
- Prepare research proposals and collect scientific data using appropriate techniques.
- Apply research principles in conducting and reporting research studies.

Unit 1 : Introduction to Research and Statistics

- 1.1 Meaning, Nature, Scope, and Importance of Research and Statistics.
- 1.2 Scientific Method: Characteristics and Steps of Scientific Inquiry.
- 1.3 Types of Research: Basic Research, Applied Research, Action Research, and Quantitative & Qualitative Approaches.
- 1.4 Need for Research and Statistics in Exercise and Sports Science.

Unit 2 : Research Problem and Review of Literature

- 2.1 Identification and Selection of Research Problems.
- 2.2 Formulation of Research Objectives and Hypotheses.
- 2.3 Variables in Research: Independent Variable, Dependent Variable, Extraneous Variable, and Control Variable.
- 2.4 Review of Literature: Meaning, Significance, Sources, and Procedures.

Unit 3 : Research Design, Data Collection, and Reporting

- 3.1 Meaning and Classification of Research Design.
- 3.2 Experimental, Descriptive, and Historical Research Designs.
- 3.3 Population, Sample, and Sampling Techniques: Probability Sampling and Non-Probability Sampling.
- 3.4 Methods of Data Collection and Analysis; Tabulation and Graphical Representation of Data; Research Report Writing

Unit 4 : Statistics in Exercise and Sports Science

- 4.1 Concept of descriptive statistics.
- 4.2 Application of Descriptive statistics by using open source software
- 4.3 Concept of inferential statistics.
- 4.4 Application of inferential statistics by using open source software

Reference:

- Ahuja, R. Research Methods. Rawat Publications.
- Best, J. W., & Kahn, J. V. Research in Education. Pearson Education.
- Creswell, J. W. Research Design: Qualitative, Quantitative and Mixed Methods Approaches. Sage Publications.
- Kothari, C. R. Research Methodology: Methods and Techniques. New Age International.
- Kumar, R. Research Methodology: A Step-by-Step Guide for Beginners. Sage Publications.
- Singh, A. K. Tests, Measurements and Research Methods in Behavioural Sciences. Bharati Bhawan.
- Thomas, J. R., Nelson, J. K., & Silverman, S. J. Research Methods in Physical Activity. Human Kinetics.
- Verma, J. P. Statistics and Research Methods in Physical Education and Sports Sciences. McGraw Hill Education.

MAJOR COURSE-16

Course Name: AI in Exercise and Sport

Course Code: BAPEDMJ703

Course Type: Major (Theoretical & Practical)	Course Details: MJC-16			L-T-P: 3 – 0 – 4	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30	15	20	35

Objectives:

- Develop a comprehensive understanding of the fundamental concepts, principles, and applications of Artificial Intelligence in physical education and sports.
- Explain the role of AI technologies in athlete performance analysis, fitness assessment, injury prevention, rehabilitation, and long-term athlete development.
- Examine the application of AI in sports coaching, officiating, sports management, marketing, administration, and decision-making processes.
- Evaluate emerging AI technologies such as Generative AI, Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), and intelligent analytics for sports education, research, and performance enhancement

Outcomes:

- Apply AI-based tools and technologies for athlete performance analysis, fitness monitoring, personalized training, injury prevention, and rehabilitation.
- Utilize AI applications in sports coaching, event management, sports administration, marketing, and fan engagement for effective decision-making.
- Evaluate emerging AI technologies, including Generative AI, VR, AR, MR, predictive analytics, and intelligent sports systems for research and innovation.
- Demonstrate the ability to critically assess future trends, challenges, opportunities, and the responsible implementation of AI in the sports industry.

Unit 1 : Foundations of Artificial Intelligence in Sports

- 1.1 Meaning and Definition of Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL), Data Science, and Sports Analytics.
- 1.2 Evolution, Scope, Objectives, and Applications of AI in Physical Education and Sports.
- 1.3 Types of AI: Narrow AI, General AI, Generative AI, Predictive AI, and Intelligent Decision Support Systems.
- 1.4 Ethical Issues in AI: Privacy, Data Security, Algorithmic Bias, Fair Play, Responsible AI, and AI Governance in Sports.

Unit 2 : AI Applications in Sports Performance

- 2.1 AI in Athlete Performance Analysis: Motion Analysis, Biomechanical Assessment, Video Analytics, and Technique Correction.
- 2.2 AI in Fitness Assessment and Personalized Training Program Design.
- 2.3 AI in Injury Prevention, Rehabilitation, Recovery Monitoring, and Workload Management.
- 2.4 AI-based Talent Identification, Athlete Selection, and Long-Term Athlete Development (LTAD).

Unit 3 : AI in Sports Coaching, Officiating, and Sports Management

- 3.1 AI-assisted Coaching: Virtual Coaching, Smart Feedback Systems, and Decision Support Tools.
- 3.2 AI in Sports Event Management: Scheduling, Ticketing, Crowd Management, and Fan Engagement.
- 3.3 AI in Sports Marketing, Media Analytics, Social Media Intelligence, and Fan Experience.
- 3.4 AI in Sports Administration: Data Management, Performance Dashboards, and Strategic Planning.

Unit 4 : Emerging Technologies and Future Trends in AI for Sports

- 4.1 Introduction to ChatGPT, Gemini, Claude, Perplexity AI and Grok
- 4.2 AI, Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), and Simulation-Based Sports Training.
- 4.3 Generative AI Tools for Sports Education, Research, Coaching, Content Creation, and Learning Management.
- 4.4 Future Trends in AI in Sports: Smart Stadiums, Predictive Analytics, eSports, Sustainable Sports Technology, and Career Opportunities in AI and Sports.

Guidelines for Practical Assessment (CA & ESE):

All the students are expected to prepare and maintain practical record books/portfolios of all the following activities. This practical record books or portfolios along with an interview by the concerned teacher and an external expert will be the method of evaluation of the students' performance in Continuous as well End-Semester Assessment for the Practical part.

- **Applications of ChatGPT:** Lesson plan preparation, Sports training program design, Exercise prescription, and Question paper and quiz generation.
- **Application of Claude:** Literature review, Research proposal writing, Report preparation, and Academic document summarization.
- **Application of Gemini and Meta AI:** Information retrieval, Presentation preparation, Sports event planning, and AI-assisted classroom activities
- **Application of Perplexity AI and Grok:** Evidence-based sports information retrieval, Sports news and trend analysis, AI response comparison and fact-checking, Sports analytics and current developments.

Reference:

- Baca, A. (Ed.). (2015). Computer science in sport: Research and practice. Routledge.
- Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep learning. MIT Press.
- Hawkins, R., & Maguire, K. (2022). Artificial intelligence in sport performance analysis. Routledge.
- James, N., & Bradley, P. S. (Eds.). (2018). Research methods in sports performance analysis. Routledge.
- Marr, B. (2021). Artificial intelligence in practice: How 50 successful companies used AI and machine learning to solve problems (2nd ed.). Wiley.
- Russell, S., & Norvig, P. (2021). Artificial intelligence: A modern approach (4th ed.). Pearson.
- Shum, H. P. H., & Ho, E. S. L. (Eds.). (2023). Artificial intelligence for sports, movement, and health. Springer.
- Sutton, R. S., & Barto, A. G. (2018). Reinforcement learning: An introduction (2nd ed.). MIT Press.
- Winston, P. H. (2020). Artificial intelligence. Pearson.
 1. Witten, I. H., Frank, E., Hall, M. A., & Pal, C. J. (2017). Data mining: Practical machine learning tools and techniques (4th ed.). Morgan Kaufmann.

MAJOR COURSE-17

Course Name: Exercise and Sport Science Laboratory

Course Code: BAPEDMJ704

Course Type: Major (Practical)	Course Details: MJC-17			L-T-P: 0 – 1 – 8	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		60		40	

Objectives:

- To provide practical knowledge and laboratory skills in Exercise Physiology, Sports Psychology, Sports Training, and Sports Biomechanics.
- To develop competency in administering, recording, analyzing, and interpreting laboratory tests related to sports performance.
- To familiarize students with scientific instruments and testing procedures used in Physical Education and Sports Sciences.
- To enable students to apply laboratory findings for performance enhancement, training prescription, and research purposes.

Outcomes:

- Perform physiological, psychological, training, and biomechanical assessments accurately.
- Analyze and interpret laboratory data related to sports performance and health.
- Prepare laboratory records and reports using scientific procedures.
- Apply laboratory findings in coaching, fitness evaluation, research, and sports performance enhancement.

Unit 1 : Exercise and Sport Physiology Laboratory

- 1.1 Basic Anthropometric Equipment: Digital Weighing Scale, Stadiometer, Measuring Tape, Sliding Caliper, Skinfold Caliper.
- 1.2 Cardiovascular Assessment Equipment: Pulse Oximeter, Manual Sphygmomanometer, Digital Blood Pressure Monitor, Electrocardiograph (ECG), Lactate Analyzer, and Glucometer
- 1.3 Respiratory Physiology Equipment: Spirometer, Peak Flow Meter, Metabolic Cart, and Portable Gas Analyzer.
- 1.4 Exercise Performance Assessment Equipment: Motorized Treadmill, Cycle Ergometer, Arm Ergometer, and Electronic Timing Gates

Unit 2 : Exercise and Sports Psychology Laboratory

- 2.1 Cognitive Assessment Equipment: Reaction Time Apparatus, Stroop Test Software, Trail Making Test, and Digit Span Test.
- 2.2 Visual and Performance Assessment Equipment: Eye Tracking Device, Display Monitor Device, and Digital Stopwatch.
- 2.3 Psychological Assessment Materials: Competitive State Anxiety Inventory-2 (CSAI-2), Profile of Mood States (POMS), Exercise Motivation Inventory (EMI-2), Athletic Coping Skills Inventory (ACSI-28)
- 2.4 Analysis Equipment: Using Open Source Software.

Unit 3 : Exercise and Sports Biomechanics Laboratory

- 3.1 Motion Analysis: Linear Motion, Angular Motion, and Video Analysis Techniques using Open Source Software.
- 3.2 Mechanical Analysis in Sports: Force, Momentum, Impulse, and Projectile Motion using Open Source Software.
- 3.3 Biomechanical Analysis of Sports Skills: Running, Jumping, Throwing, Balance, and Stability using Open Source Software.
- 3.4 Data Processing and Software: Kinovea, Dartfish, MATLAB, and OpenSim.

Unit 4 : Exercise and Sports Training Laboratory

- 4.1 Physical Fitness Testing: Smartabase, Polar Flow, Garmin Connect, Fitbod, MyFitnessPal.
- 4.2 Training Load Monitoring: Polar Team Pro, Catapult Sports, WHOOP, and Firstbeat Sports.
- 4.3 Preparation of Training Schedules: TeamBuildr, TrainingPeaks, Final Surge, and CoachMePlus.
- 4.4 Sports Performance Analysis: Dartfish, Hudl, Coach's Eye, LongoMatch.

Guidelines For Evaluation (End-semester):

Students are expected to prepare a Record Book based on the following data.

- Title of Experiment
- Aim and Objective
- Apparatus/Equipment Required
- Procedure
- Observation and Data Collection
- Calculation and Statistical Analysis
- Result and Interpretation
- Conclusion
- Precautions
- References

Reference:

- Baechle, T. R., & Earle, R. W. Essentials of Strength Training and Conditioning. Human Kinetics.
- Bartlett, R. Introduction to Sports Biomechanics. Routledge.
- Bompa, T. O., & Buzzichelli, C. Periodization: Theory and Methodology of Training. Human Kinetics.
- Cox, R. H. Sport Psychology: Concepts and Applications ... McGraw-Hill.
- Hay, J. G. The Biomechanics of Sports Techniques. Prentice Hall.
- Knudson, D. Fundamentals of Biomechanics. Springer.
- Powers, S. K., & Howley, E. T. Exercise Physiology: Theory and Application to Fitness and Performance. McGraw-Hill.
- Thomas, J. R., Nelson, J. K., & Silverman, S. J. Research Methods in Physical Activity. Human Kinetics.
- Weinberg, R. S., & Gould, D. Foundations of Sport and Exercise Psychology. Human Kinetics.
- Wilmore, J. H., Costill, D. L., & Kenney, W. L. Physiology of Sport and Exercise. Human Kinetics.

MINOR COURSE-6

Course Name: Kinesiology and Biomechanics in Sport

Course Code: BAPEDMN701

Course Type: Minor (Theoretical)	Course Details: MNC-6			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- To introduce the fundamental concepts of mechanics and their specific applications to human movement in sports.
- To enable students to analyze sports techniques through linear and angular kinematics and kinetics.
- To cultivate an understanding of the mechanical principles governing stability, force, and energy absorption to prevent injuries.
- To develop skill-analysis competencies for optimizing athletic performance and coaching interventions.

Outcomes:

- Define and describe biological movements using appropriate anatomical terminology, planes, and axes.
- Calculate and interpret foundational kinematic and kinetic variables in athletic movements.
- Apply the laws of physics (Newton's laws, leverage, and torque) to critique and improve specific sports actions.
- Conduct basic biomechanical analysis of locomotion, jumping, striking, and kicking maneuvers.

Unit 1 : Introduction and Foundational Concepts

- 1.1 Meaning, Definition, Nature, Scope, and Importance of Kinesiology in Exercise and Sports.
- 1.2 Fundamental Concepts of Human Movement.
- 1.3 Skeletal System: Classification and Functions of Bones, Structure of Bone, and Bone Growth and Development.
- 1.4 Joints: Classification of Joints, Structure and Function, Range of Motion.

Unit 2 : Muscular System and Movement Analysis

- 2.1 Structure and Classification of Skeletal Muscles.

- 2.2 Muscle Actions: Origin and Insertion, Agonist, Antagonist.
- 2.3 Types of Muscle Contractions: Isometric, Isotonic (Concentric and Eccentric), and Isokinetic.
- 2.4 Kinesiological Analysis of Fundamental Human Movements: Walking, Running, and Throwing.

Unit 3 : Linear and Angular Kinematics

- 3.1 Definition and Scope of Biomechanics, Characteristics: Position, distance, displacement, speed, and velocity.
- 3.2 Acceleration: Linear acceleration, uniform acceleration, and projectile motion equations.
- 3.3 Rotational Motion: Angular distance, angular displacement, angular velocity, and angular acceleration.
- 3.4 Application in Sports: Individual and Team sports.

Unit 4 : Linear and Angular Kinetics

- 4.1 Linear Kinetics: Forces and Torques; Newton's Laws of Motion applied to sports
- 4.2 Momentum and Impulse: Linear momentum, conservation of momentum, impulse-momentum relationship (e.g., impact absorption in running shoes, landing mechanics)
- 4.3 Levers: human musculoskeletal lever systems (1st, 2nd, and 3rd class levers).
- 4.4 Center of Gravity (CoG): Locating CoG, stability, balance, and its manipulation in sports. Moment of Inertia.

Reference:

- Bartlett, R. Introduction to Sports Biomechanics. Routledge.
- Hall, S. J. Basic Biomechanics. McGraw-Hill Education.
- Hamill, J., Knutzen, K. M., & Derrick, T. R. Biomechanical Basis of Human Movement. Wolters Kluwer.
- Hay, J. G. The Biomechanics of Sports Techniques. Prentice Hall.
- Knudson, D. Fundamentals of Biomechanics. Springer.
- Lippert, L. S. Clinical Kinesiology and Anatomy. F.A. Davis Company.
- McGinnis, P. M. Biomechanics of Sport and Exercise. Human Kinetics.
- Neumann, D. A. Kinesiology of the Musculoskeletal System: Foundations for Rehabilitation. Elsevier.

SEMESTER- VIII (4-Year with Hons.)

MAJOR COURSE-18

Course Name: Exercise and Sport Tourism

Course Code: BAPEDMJ801

Course Type: Major (Theoretical)	Course Details: MJC-18			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- Explain the concepts, principles, historical development, and various forms of sports tourism and their relationship with physical education, recreation, and tourism.
- Identify and evaluate natural and man-made sports tourism resources, destinations, and infrastructure at national and international levels.
- Develop the knowledge and skills required to plan, organize, manage, and evaluate sports tourism events by applying principles of event management, marketing, sponsorship, budgeting, and risk management.
- Demonstrate an understanding of adventure, recreation, and outdoor tourism activities while promoting safety, leadership, environmental sustainability, and responsible tourism practices.

Outcomes:

- Describe the concepts, types, scope, and significance of sports tourism and explain its role in promoting sports, recreation, and physical education.
- Assess sports tourism destinations and resources by analyzing infrastructure, facilities, and tourism potential.
- Plan and manage sports tourism events by applying event management, budgeting, sponsorship, marketing, media, and safety principles.
- Design and participate in adventure and recreation tourism programs while demonstrating leadership, environmental responsibility, and professional ethics.

Unit 1 : Introduction to Sports Tourism

- Meaning and definition of tourism, sports tourism, and Historical development of sports tourism.
- Types of Sports Tourism: Active Sports Tourism, Passive Sports Tourism, Leisure Sports Tourism, Adventure Sports Tourism.

- 1.3 Scope and importance of sports tourism
- 1.4 Relationship between sports, recreation, physical education, and tourism

Unit 2 : Sports Tourism Resources and Destinations

- 2.1 Natural resources: Mountains, Rivers, Beaches, and Forests.
- 2.2 Artificial sports facilities: Stadiums, Sports academies, and Indoor and outdoor sports complexes
- 2.3 Destinations of Sports Tourism: National and international sports tourism destinations, and Sports heritage sites.
- 2.4 Role of infrastructure in sports tourism.

Unit 3 : Event Management in Sports Tourism

- 3.1 Planning sports events, Organization of tournaments,
- 3.2 Risk management and Safety measures
- 3.3 Budget Preparation and Sponsorship,
- 3.4 Marketing strategies and Media management.

Unit 4 : Adventure Sports and Recreation Tourism

- 4.1 Adventure tourism: Trekking, Mountaineering, Rock climbing
- 4.2 Self-Tourism: Cycling tourism, Wildlife tourism
- 4.3 Aqua Tourism: Water sports and Winter sports
- 4.4 Recreation Tourism: Leadership Camps and Outdoor Education

Reference:

- Buckley, R. (2006). Adventure tourism. CABI.
- Gammon, S., & Robinson, T. (2003). Sport and tourism: A conceptual framework. *Journal of Sport Tourism*, 8(1), 21-26.
- Gibson, H. J. (Ed.). (1998). Sport tourism: A critical analysis of research. *Sport Management Review*, 1(1), 45-76.
- Gibson, H. J. (2005). Sport tourism: Concepts and theories. Routledge.
- Higham, J., & Hinch, T. (2018). Sport tourism development (3rd ed.). Channel View Publications.
- Hinch, T., & Higham, J. (2011). Sport tourism development (2nd ed.). Channel View Publications.
- Masterman, G. (2014). Strategic sports event management: An international approach (3rd ed.). Routledge.
- Page, S. J. (2022). Tourism management (7th ed.). Routledge.
- Standeven, J., & De Knop, P. (1999). Sport tourism. Human Kinetics.

MAJOR COURSE-19

Course Name: Physiotherapy in Exercise and Sport

Course Code: BAPEDMJ802

Course Type: Major (Theoretical)	Course Details: MJC-19		L-T-P: 4 – 0 – 0		
Credit: 4	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- To prevent and treat sports injuries while also ensuring athletes' overall health and fitness.
- To assist the athlete in safely returning to sporting activities.
- To enhance coordination and balance.
- To regain confidence and psychological well-being.

Outcomes:

- Explain the foundations and scope of physiotherapy in exercise and sports.
- Apply injury prevention strategies and immediate injury care.
- Demonstrate knowledge of cryotherapy and thermotherapy techniques.
- Design basic exercise therapy and rehabilitation programs for common sports injuries.

Unit 1 : Foundation of Physiotherapy

- 1.1 Introduction to physiotherapy: Meaning, definition, aims, objectives, and scope.
- 1.2 Sports injury prevention: Principles of injury prevention, Risk factors for sports injuries, and Injury surveillance and prevention strategies
- 1.3 Immediate care and management of sports injuries: Principles of first aid and PRICE/POLICE protocol
- 1.4 Rehabilitation: Principles and goals of rehabilitation, Phases of rehabilitation, and Role of the physiotherapist in rehabilitation.

Unit 2 : Cold Therapy (Cryotherapy)

- 2.1 Introduction to cryotherapy: Meaning, principles, and Physiological effects of cold.
- 2.2 Indications and contraindications of cryotherapy
- 2.3 Methods of cold application: Ice Pack, Ice Massage, Vapocoolant Spray, and Cryocuff.

- 2.4 Safety precautions and complications during cold therapy

Unit 3 : Hot Therapy (Thermotherapy)

- 3.1 Introduction to thermotherapy: Meaning, principles, and Physiological effects of heat
- 3.2 Indications and contraindications of heat therapy
- 3.3 Methods of heat application: Moist Heat pack, Paraffin Wax Bath, Ultrasound therapy, and Whirlpool Bath
- 3.4 Safety measures and precautions during heat therapy

Unit 4 : Massage and Exercise Therapy

- 4.1 Sports Massage: Meaning, objectives, and Physiological effects of massage
- 4.2 Indications and contraindications of Sports Massage, Types of massage: Effleurage, Petrissage, Friction, and Vibration.
- 4.3 Exercise Therapy: Meaning, objectives, and Physiological effects of Exercise therapy, Types of Exercise Therapy: Active, Active-Assistive, and Passive Exercise.
- 4.4 Safety measures and precautions during Massage & Exercise therapy

Reference:

- Brukner, P., & Khan, K. (2019). Brukner & Khan's clinical sports medicine (5th ed.). McGraw-Hill Education.
- Kisner, C., Colby, L. A., & Borstad, J. (2022). Therapeutic exercise: Foundations and techniques (8th ed.). F.A. Davis.
- Magee, D. J. (2021). Orthopedic physical assessment (7th ed.). Elsevier.
- Prentice, W. E. (2023). Rehabilitation techniques for sports medicine and athletic training (8th ed.). SLACK Incorporated.
- Starkey, C. (2013). Orthopedic and athletic injury examination handbook (3rd ed.). F.A. Davis.
- Hall, C. M., & Brody, L. T. (2018). Therapeutic exercise: Moving toward function (4th ed.). Wolters Kluwer.
- Houghlum, P. A. (2016). Therapeutic exercise for musculoskeletal injuries (4th ed.). Human Kinetics.
- American College of Sports Medicine. (2021). ACSM's guidelines for exercise testing and prescription (11th ed.). Wolters Kluwer.
- Hertling, D., & Kessler, R. M. (2006). Management of common musculoskeletal disorders: Physical therapy principles and methods (4th ed.). Lippincott Williams & Wilkins.
- Andrews, J. R., Harrelson, G. L., & Wilk, K. E. (2012). Physical rehabilitation of the injured athlete (4th ed.). Elsevier.

MAJOR COURSE-20

Course Name: Sport Officiating

Course Code: BAPEDMJ803

Course Type: Major (Practical)	Course Details: MJC-20			L-T-P: 0 – 1 – 6	
Credit: 4	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		60		40	

Objectives:

- To install an understanding of the fundamental concepts, principles, and philosophy of officiating in sports.
- To clarify the professional duties, moral ethics, and required technical qualifications of sports officials.
- To introduce the application of sport psychology and tactical principles during training and live matches.
- To equip students with comprehensive operational expertise regarding rules, official signals, and officiating mechanics across multiple sports.

Outcomes:

- Articulate and enforce general duties (pre-, during-, and post-game) and ethical philosophies of officiating.
- Demonstrate clear understanding of the diverse leadership profiles and psychological strategies.
- Execute standard referee/umpire mechanics and signals for target team sports and individual events.
- Analyze field situations accurately to implement standard game regulations fairly.

Unit 1 : Athletic Officiating (Any Two)

- 1.1 Running Events
- 1.2 Jumping Events
- 1.3 Throwing Events
- 1.4 Combined Events

Unit 2 : Ball Games (Any Two)

- 2.1 Volleyball
- 2.2 Handball
- 2.3 Football
- 2.4 Basketball.

Unit 3 : Racket Sports and Indigenous Sports (Any Two)

- 3.1 Badminton
- 3.2 Table Tennis
- 3.3 Kabaddi
- 3.4 Kho Kho.

Unit 4 : Logistics and Infrastructures (Any Two)

- 4.1 Athletic Track & Field
- 4.2 Gymnasium
- 4.3 Swimming Pool
- 4.4 Shooting Range/Archery Arena

Reference:

- Fédération Internationale de Football Association. (2025). Laws of the game 2025/26. IFAB/FIFA.
- Fédération Internationale de Volleyball. (2025). Official volleyball rules 2025–2028. FIVB.
- G.H (1963) The mechanics of athletics. London: University of London.
- International Association of Athletics Federations. (2024). Competition and technical rules 2024–2025. World Athletics.
- J.W (1968) The art of Officiating Sports. Englewood Cliffs NJ: Prentice Hall.
- Jain, D. (2019). Physical education and sports. Khel Sahitya Kendra.
- Kansal, D. K. (2012). A practical approach to test, measurement and evaluation in physical education. SSS Publications.
- National Council of Educational Research and Training. (2022). Health and physical education (Class XI). NCERT.
- National Council of Educational Research and Training. (2022). Health and physical education (Class XII). NCERT.
- Sports Authority of India. (2020). Manual of physical education and sports. Sports Authority of India.
- Uppal, A. K., & Gautam, G. P. (2018). Health and physical education. Friends Publications.
- World Athletics. (2024). Track and field facilities manual. World Athletics.

MAJOR COURSE-21

Course Name: Sport Tourism Camp

Course Code: BAPEDMJ804

Course Type: Major (Practical)	Course Details: MJC-21			L-T-P: 0 – 1 – 6	
Credit: 4	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		60		40	

Objectives:

- Develop leadership, communication, teamwork, and organizational skills through participation in Sports Tourism Educational Leadership Camps.
- Plan, organize, and manage sports tourism and outdoor educational activities by applying principles of event management, safety, and risk management.
- Demonstrate knowledge of adventure, recreational, and educational tourism activities while promoting environmental awareness and responsible tourism practices.
- Prepare and maintain systematic documentation of camp activities, including a camp diary, record book, field reports, and photo album.

Outcomes:

- Organize and actively participate in Sports Tourism Educational Leadership Camps by demonstrating leadership, cooperation, and problem-solving skills.
- Apply event management, safety measures, first aid, and responsible tourism practices during sports tourism and outdoor educational activities.
- Perform adventure and recreational tourism activities with an understanding of environmental conservation, sustainability, and ethical behavior.
- Prepare and present comprehensive camp documentation, including a camp diary, record book, activity reports, and photographic records, reflecting the complete camp experience.

Educational Leadership Tourism

- The Sports Tourism Educational Leadership Camp shall be organized for 3 to 7 days, either during college working days or during vacation.
- The camp may be conducted within the college campus or outside the campus at a nearby school, sports complex, educational institution, eco-tourism destination, or adventure tourism site.
- Before the commencement of the camp, an orientation program shall be organized.

- Faculty members and invited resource persons may deliver lectures on:
 1. River Tourism
 2. Cycling Tourism
 3. Wildlife Tourism
 4. Sports Heritage Tourism

Students shall actively participate in any one activity and maintain discipline throughout the program.

Each student must prepare and submit:

- Camp Diary
- Record Book
- Daily Activity Log
- Photo Album
- Field Visit Report
- Reflection Report

The documentation should cover the entire program from the inaugural ceremony to the valedictory session.

MINOR COURSE

Course Name: Sport Tourism

Course Code: BAPEDMN801

Course Type: Minor (Theoretical)	Course Details: MNC-7			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. Explain the concepts, principles, historical development, and various forms of sports tourism and their relationship with physical education, recreation, and tourism.
- ii. Identify and evaluate natural and man-made sports tourism resources, destinations, and infrastructure at national and international levels.
- iii. Develop the knowledge and skills required to plan, organize, manage, and evaluate sports tourism events by applying principles of event management, marketing, sponsorship, budgeting, and risk management.
- iv. Demonstrate an understanding of adventure, recreation, and outdoor tourism activities while promoting safety, leadership, environmental sustainability, and responsible tourism practices.

Outcomes:

- i. Describe the concepts, types, scope, and significance of sports tourism and explain its role in promoting sports, recreation, and physical education.
- ii. Assess sports tourism destinations and resources by analyzing infrastructure, facilities, and tourism potential.
- iii. Plan and manage sports tourism events by applying event management, budgeting, sponsorship, marketing, media, and safety principles.
- iv. Design and participate in adventure and recreation tourism programs while demonstrating leadership, environmental responsibility, and professional ethics.

Unit 1 : Introduction to Sports Tourism

- 1.1 Meaning and definition of Sports tourism, and Historical development of sports tourism.
- 1.2 Types of Sports Tourism: Active Sports Tourism, Passive Sports Tourism.
- 1.3 Scope and importance of sports tourism
- 1.4 Relationship between sports and tourism

Unit 2 : Sports Tourism Resources and Destinations

- 2.1 Natural resources: Mountains, Rivers, and Forests.
- 2.2 Artificial sports facilities: Stadiums, Sports academies
- 2.3 Destinations of Sports Tourism: National and international sports tourism destinations.
- 2.4 Role of infrastructure in sports tourism.

Unit 3 : Event Management in Sports Tourism

- 3.1 Organization of tournaments,
- 3.2 Risk management and Safety measures
- 3.3 Budget Preparation and Sponsorship,
- 3.4 Marketing strategies and Media management.

Unit 4 : Adventure Sports and Recreation Tourism

- 4.1 Adventure tourism: Trekking and Mountaineering
- 4.2 Self-Tourism: Cycling tourism, Wildlife tourism
- 4.3 Aqua Tourism: Water sports and Winter sports
- 4.4 Recreation Tourism: Leadership Camps and Outdoor Education

Reference:

- Buckley, R. (2006). Adventure tourism. CABI.
- Gammon, S., & Robinson, T. (2003). Sport and tourism: A conceptual framework. *Journal of Sport Tourism*, 8(1), 21-26.
- Gibson, H. J. (Ed.). (1998). Sport tourism: A critical analysis of research. *Sport Management Review*, 1(1), 45-76.
- Gibson, H. J. (2005). Sport tourism: Concepts and theories. Routledge.
- Higham, J., & Hinch, T. (2018). Sport tourism development (3rd ed.). Channel View Publications.
- Hinch, T., & Higham, J. (2011). Sport tourism development (2nd ed.). Channel View Publications.
- Masterman, G. (2014). Strategic sports event management: An international approach (3rd ed.). Routledge.
- Page, S. J. (2022). Tourism management (7th ed.). Routledge.
- Standeven, J., & De Knop, P. (1999). Sport tourism. Human Kinetics.
- Weed, M., & Bull, C. (2012). Sports tourism: Participants, policy and providers (2nd ed.). Routledge.

SEMESTER- VIII (4-Year Hons. with Research)

MAJOR COURSE-18

Course Name: Exercise and Sport Tourism

Course Code: BAPEDMJ801

Course Type: Major (Theoretical)	Course Details: MJC-18			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- Explain the concepts, principles, historical development, and various forms of sports tourism and their relationship with physical education, recreation, and tourism.
- Identify and evaluate natural and man-made sports tourism resources, destinations, and infrastructure at national and international levels.
- Develop the knowledge and skills required to plan, organize, manage, and evaluate sports tourism events by applying principles of event management, marketing, sponsorship, budgeting, and risk management.
- Demonstrate an understanding of adventure, recreation, and outdoor tourism activities while promoting safety, leadership, environmental sustainability, and responsible tourism practices.

Outcomes:

- Describe the concepts, types, scope, and significance of sports tourism and explain its role in promoting sports, recreation, and physical education.
- Assess sports tourism destinations and resources by analyzing infrastructure, facilities, and tourism potential.
- Plan and manage sports tourism events by applying event management, budgeting, sponsorship, marketing, media, and safety principles.
- Design and participate in adventure and recreation tourism programs while demonstrating leadership, environmental responsibility, and professional ethics.

Unit 1 : Introduction to Sports Tourism

- 1.1 Meaning and definition of tourism, sports tourism, and Historical development of sports tourism.
- 1.2 Types of Sports Tourism: Active Sports Tourism, Passive Sports Tourism, Leisure Sports Tourism, Adventure Sports Tourism.

- 1.3 Scope and importance of sports tourism
- 1.4 Relationship between sports, recreation, physical education, and tourism

Unit 2 : Sports Tourism Resources and Destinations

- 2.1 Natural resources: Mountains, Rivers, Beaches, and Forests.
- 2.2 Artificial sports facilities: Stadiums, Sports academies, and Indoor and outdoor sports complexes
- 2.3 Destinations of Sports Tourism: National and international sports tourism destinations, and Sports heritage sites.
- 2.4 Role of infrastructure in sports tourism.

Unit 3 : Event Management in Sports Tourism

- 3.1 Planning sports events, Organization of tournaments,
- 3.2 Risk management and Safety measures
- 3.3 Budget Preparation and Sponsorship,
- 3.4 Marketing strategies and Media management.

Unit 4 : Adventure Sports and Recreation Tourism

- 4.1 Adventure tourism: Trekking, Mountaineering, Rock climbing
- 4.2 Self-Tourism: Cycling tourism, Wildlife tourism
- 4.3 Aqua Tourism: Water sports and Winter sports
- 4.4 Recreation Tourism: Leadership Camps and Outdoor Education

Reference:

- Buckley, R. (2006). Adventure tourism. CABI.
- Gammon, S., & Robinson, T. (2003). Sport and tourism: A conceptual framework. *Journal of Sport Tourism*, 8(1), 21-26.
- Gibson, H. J. (Ed.). (1998). Sport tourism: A critical analysis of research. *Sport Management Review*, 1(1), 45-76.
- Gibson, H. J. (2005). Sport tourism: Concepts and theories. Routledge.
- Higham, J., & Hinch, T. (2018). Sport tourism development (3rd ed.). Channel View Publications.
- Hinch, T., & Higham, J. (2011). Sport tourism development (2nd ed.). Channel View Publications.
- Masterman, G. (2014). Strategic sports event management: An international approach (3rd ed.). Routledge.
- Page, S. J. (2022). Tourism management (7th ed.). Routledge.
- Standeven, J., & De Knop, P. (1999). Sport tourism. Human Kinetics.

Research Project-I

Course Name: Research Ethics

Course Code: BAPEDRP801

Course Type: RP (Theoretical)	Course Details: RPC-I			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- To develop ethical awareness and responsible conduct in research related to Physical Education and Sports Sciences.
- To familiarize students with research integrity, publication ethics, plagiarism prevention, and scientific misconduct.
- To develop competencies in ethical decision-making involving human participants, sports performance data, and scientific publications.
- To enable students to apply national and international ethical guidelines in conducting and publishing research.

Outcomes:

- Understand ethical principles governing research and publication practices in Physical Education and Sports Sciences.
- Explain scientific misconduct, plagiarism, authorship issues, and publication ethics.
- Apply ethical guidelines while conducting research involving athletes, students, coaches, and human participants.
- Evaluate research quality using indexing databases, citation metrics, and ethical publication standards.

Unit 1 : Philosophy, Ethics and Research Integrity

- 1.1 Meaning, Nature, Scope, and Importance of Ethics in Physical Education and Sports.
- 1.2 Introduction to Philosophy of Research: Meaning and Scope, Branches of Philosophy, and Ethics and Moral Reasoning.
- 1.3 Research Integrity: Intellectual Honesty, Academic Integrity, and Responsible Conduct of Research as per UGC Regulations.
- 1.4 Ethical Principles in Human subject research: Respect for persons, beneficence, informed consent and confidentiality

Unit 2 : Scientific Conduct and Research Misconduct

- 2.1 Ethics with Respect to Scientific Research and Sports Science Investigations.
- 2.2 Scientific Misconduct: Fabrication, Falsification, and Plagiarism (FFP).
- 2.3 Data Management Ethics: Data Collection, Data Storage, Data Sharing, and Data Protection.
- 2.4 Selective Reporting, Misrepresentation of Data, Duplicate Publication, Overlapping Publication, and Salami Slicing.

Unit 3 : Publication Ethics and Academic Writing

- 3.1 Publication Ethics: Definition, Importance, and Ethical Publication Practices.
- 3.2 Authorship and Contributorship: Responsibilities of Authors, Corresponding Author, and Co-Authorship Ethics.
- 3.3 Conflicts of Interest: Financial Conflicts, Personal Conflicts, and Institutional Conflicts.
- 3.4 Predatory Journals and Publishers: Identification, Characteristics, Avoidance Strategies, Committee on Publication Ethics (COPE).

Unit 4 : Open Access, Plagiarism, Databases and Research Metrics

- 4.1 Open Access Publishing: Open Access Journals, Institutional Repositories, Copyright and Self-Archiving Policies.
- 4.2 Plagiarism Detection and Prevention: Types of Plagiarism, Turnitin, DrillBit, and Other Open-Source Plagiarism Tools.
- 4.3 Citation and Indexing Databases: Web of Science, Scopus, Google Scholar, PubMed, and SPORTDiscus.
- 4.4 Research Metrics: Impact Factor, CiteScore, SNIP, SJR, h-index, i10-index, and Altmetrics.

Reference:

- American Psychological Association. Publication Manual of the American Psychological Association (7th Edition).
- COPE (Committee on Publication Ethics) Guidelines and Best Practices.
- Kothari, C. R., & Garg, G. Research Methodology: Methods and Techniques. New Age International.
- Macrina, F. L. Scientific Integrity: Text and Cases in Responsible Conduct of Research. ASM Press.
- Resnik, D. B. The Ethics of Research with Human Subjects. Springer.
- Shamoo, A. E., & Resnik, D. B. Responsible Conduct of Research. Oxford University Press.
- Steneck, N. H. Introduction to the Responsible Conduct of Research. Office of Research Integrity.
- Thomas, J. R., Nelson, J. K., & Silverman, S. J. Research Methods in Physical Activity. Human Kinetics.

RESESARCH PROJECT-2

Course Name: **Dissertation**

Course Code: **BAPEDRP802**

Course Type: RP	Course Details: RPC-2			L-T-P: 0 – 0 – 16	
Credit: 8	Full Marks: 200	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		120		80	

Objectives:

- To develop knowledge of scientific research methods in Physical Education, Sports Science, Health, Fitness, Yoga, and allied disciplines.
- To enable students to identify research problems and formulate objectives, hypotheses, and research questions.
- To develop competence in research design, data collection, statistical analysis, interpretation, and academic writing.
- To promote ethical research practices, originality, and evidence-based problem solving.
- To prepare students for independent research, higher studies, and professional careers in Physical Education and Sports Sciences.

Outcomes:

- Select and formulate an appropriate research problem in Physical Education and Sports Science.
- Conduct a comprehensive review of related literature using scientific databases.
- Design and execute qualitative, quantitative, or mixed-method research.
- Collect, analyze, interpret, and present research findings using appropriate statistical techniques.
- Prepare a dissertation following APA (Seventh Edition) guidelines and defend the research successfully during Viva-Voce.
- v.

Stage 1 : Research Planning And Proposal Development

- 1.1 Identification and selection of research problem.
- 1.2 Review of related literature using books, journals, dissertations, and online databases.
- 1.3 Preparation of research proposal, including objectives, hypotheses, variables, delimitations, limitations, and operational definitions.
- 1.4 Research ethics, plagiarism awareness, informed consent, and proposal seminar presentation.

Stage 2 : Research Methodology And Tool Development

- 2.1 Selection of an appropriate research design.
- 2.2 Selection of population, sampling techniques, and variables.
- 2.3 Pilot testing, validity, and reliability of research instruments.
- 2.4 Preparation of research protocol and ethical approval procedures.

Stage 3 : Data Collection And Statistical Analysis

- 3.1 Field investigation, laboratory testing, surveys, observations, interviews, and experimentation.
- 3.2 Recording, coding, classification, and tabulation of data.
- 3.3 Application of descriptive and inferential statistics using statistical software.
- 3.4 Interpretation of results based on objectives, hypotheses, and previous research.

Stage 4 : Dissertation Writing, Presentation, And Viva-Voce

- 4.1 Preparation of dissertation chapters:
- 4.2 Introduction
- 4.3 Review of Literature
- 4.4 Methodology
- 4.5 Data Analysis and Interpretation
- 4.6 Findings, Conclusions, Recommendations
- 4.7 Plagiarism report and AI Declaration.
- 4.8 Seminar presentation, dissertation submission, and research communication.
- 4.9 Viva-Voce examination, defence of research findings, and future research directions.

Guidelines For Submission

- Hard-bound dissertation (as per university norms).
- Soft copy submission to department/repository.
- APA (7th edition) referencing style.

Students Shall Prepare And Submit A Dissertation Containing The Following:

- Title Page
- Fly Leaf
- Declaration of Candidate
- Dedication
- Acknowledgment
- List of Contents, List of Tables, and List of Figures
- Abstract
- Chapter I: Introduction
- Chapter II: Review of Related Literature
- Chapter III: Methodology

- Chapter IV: Data Analysis & Interpretation
- Chapter V: Findings, Conclusions & Implications
- Bibliography (APA Seventh Edition)
- Appendices
- Plagiarism Report
- AI Declaration

Marks Evaluation Procedures (Nep-Aligned)

- Originality and relevance
- Methodological rigor
- Ethical compliance
- Analytical depth
- Academic writing and referencing
- Presentation and communication skills

Component	Marks
Research Proposal & Seminar	20
Progress Presentation	20
Dissertation Report	80
Viva-Voce Examination	80
Total	200

Reference:

- American Psychological Association. Publication Manual of the American Psychological Association (7th Ed.).
- Best, J. W., & Kahn, J. V. Research in Education.
- Creswell, J. W., & Creswell, J. D. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.
- Field, A. Discovering Statistics Using IBM SPSS Statistics.
- Kothari, C. R., & Garg, G. Research Methodology: Methods and Techniques.
- Kumar, R. Research Methodology: A Step-by-Step Guide for Beginners.
- Singh, A. K. Tests, Measurements and Research Methods in Behavioural Sciences.
- Thomas, J. R., Nelson, J. K., & Silverman, S. J. Research Methods in Physical Activity.
- UGC. Academic Integrity and Promotion of Research Ethics Regulations.
- Verma, J. P. Data Analysis in Management with SPSS Software.

MINOR COURSE

Course Name: Sport Tourism

Course Code: BAPEDMN801

Course Type: Minor (Theoretical)	Course Details: MNC-7			L-T-P: 4 – 1 – 0	
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- Explain the concepts, principles, historical development, and various forms of sports tourism and their relationship with physical education, recreation, and tourism.
- Identify and evaluate natural and man-made sports tourism resources, destinations, and infrastructure at national and international levels.
- Develop the knowledge and skills required to plan, organize, manage, and evaluate sports tourism events by applying principles of event management, marketing, sponsorship, budgeting, and risk management.
- Demonstrate an understanding of adventure, recreation, and outdoor tourism activities while promoting safety, leadership, environmental sustainability, and responsible tourism practices.

Outcomes:

- Describe the concepts, types, scope, and significance of sports tourism and explain its role in promoting sports, recreation, and physical education.
- Assess sports tourism destinations and resources by analyzing infrastructure, facilities, and tourism potential.
- Plan and manage sports tourism events by applying event management, budgeting, sponsorship, marketing, media, and safety principles.
- Design and participate in adventure and recreation tourism programs while demonstrating leadership, environmental responsibility, and professional ethics.

Unit 1 : Introduction to Sports Tourism

- 1.1 Meaning and definition of Sports tourism, and Historical development of sports tourism.
- 1.2 Types of Sports Tourism: Active Sports Tourism, Passive Sports Tourism.
- 1.3 Scope and importance of sports tourism
- 1.4 Relationship between sports and tourism

Unit 2 : Sports Tourism Resources and Destinations

- 3.1 Natural resources: Mountains, Rivers, and Forests.
- 3.2 Artificial sports facilities: Stadiums, Sports academies
- 3.3 Destinations of Sports Tourism: National and international sports tourism destinations.
- 3.4 Role of infrastructure in sports tourism.

Unit 3 : Event Management in Sports Tourism

- 3.1 Organization of tournaments,
- 3.2 Risk management and Safety measures
- 3.3 Budget Preparation and Sponsorship,
- 3.4 Marketing strategies and Media management.

Unit 4 : Adventure Sports and Recreation Tourism

- 4.1 Adventure tourism: Trekking and Mountaineering
- 4.2 Self-Tourism: Cycling tourism, Wildlife tourism
- 4.3 Aqua Tourism: Water sports and Winter sports
- 4.4 Recreation Tourism: Leadership Camps and Outdoor Education

Reference:

- Buckley, R. (2006). Adventure tourism. CABI.
- Gammon, S., & Robinson, T. (2003). Sport and tourism: A conceptual framework. *Journal of Sport Tourism*, 8(1), 21-26.
- Gibson, H. J. (Ed.). (1998). Sport tourism: A critical analysis of research. *Sport Management Review*, 1(1), 45-76.
- Gibson, H. J. (2005). Sport tourism: Concepts and theories. Routledge.
- Higham, J., & Hinch, T. (2018). Sport tourism development (3rd ed.). Channel View Publications.
- Hinch, T., & Higham, J. (2011). Sport tourism development (2nd ed.). Channel View Publications.
- Masterman, G. (2014). Strategic sports event management: An international approach (3rd ed.). Routledge.
- Page, S. J. (2022). Tourism management (7th ed.). Routledge.
- Standeven, J., & De Knop, P. (1999). Sport tourism. Human Kinetics.
- Weed, M., & Bull, C. (2012). Sports tourism: Participants, policy and providers (2nd ed.). Routledge.