

Sports Psychology

Unit – I INTRODUCTION

5. Definition and Meaning of sports psychology, Nature and scope of sports psychology
6. History and Development of Sport and Exercise Psychology in the world and in India.
7. Relationship of sports psychology with other sports sciences
8. Importance of Sport Psychology for Physical Education Teachers, Athletes, Coaches and other related to Sport Setting

Unit – II EMOTION AND MOTIVATION

1. Meaning of Emotions, Definition, Types and Symptoms. Psychological Factor Affected to sports Achievement (Stress, Anxiety, Arousal and Aggression.)
2. Motivation – Definition, meaning of motivation, types of motivation,
3. Theories of motivation (Hierarchy of needs of Need by Maslow, Need Achievement By McClelland ,Weiner Attribution Theory),Measuring motivation, Techniques for developing motivation
4. Concentration and Attention in Sports

Unit – III PERSONALITY, PSYCHOLOGICAL SKILLS

1. Definition and meaning of Personality, Personality theories (Psychoanalysis, Trait and Social Learning theories)
2. Relationship of personality to sport performance, Personality Assessment Test: Self Report, Projective and Behavioral Assessment
3. Psychological skills training in sports, relaxation strategies in sports

Unit – IV MOTOR LEARNING

1. Concept of learning, Theories of learning
2. Concept of motor learning, stages of Motor Learning
3. Factor influence motor learning, transfer of Learning
4. Motor Development, Phases of Motor Development

REFERENCE

1. Berger, B.G., Pargman, D., & Weinberg, R.S. (2002) *Foundations of Exercise Psychology*. Morgantown, WV: Fitness Information Technology.
2. Burton , Damon , Thomas D. Raedeke (2008) *Sport Psychology For Coaches* Human Kinetics Publishers, Chaampaign Illinois.
3. Cox, Richard H (2006) *Sport Psychology Concept and Application*, 3rd ed Wm.C. Brown Publishers.

4. Gill, Diana L (1986) *Psychological Dynamics of Sport*. Human Kinetics Publishers, Inc Champaign IL.
5. Horn, Thelma (2008) *Advances in Sport Psychology* Human Kinetics Publishers, Inc Champaign IL.
6. Kamlesh, M.L.(2001) *Psychology in Physical Education and Sport*, 3rd ed. Metropolitan Book Co.Pvt.Ltd Delhi.
7. Singer, R.N., Hausenblas, H. A., & Janelle, C.M.(2001).*Handbook of Sport Psychology*(2nd ed).New York:Wiley.
8. Williams, Jean M.(1993) *Applied Sport Psychology, Personal Growth in Peak Performance*.WM.C.Brown Publishers.
9. Weinberg, R.S & Gould, Daniel (2007) *Foundations of Sport and Exercise Psychology* Human Kinetics Publishers, Inc Champaign IL.

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section ‘A’ and 2 questions from section ‘B’ answering about (150- 200) words and only one questions from section ‘C’ answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section ‘A’ and 04 questions from section ‘B’ answering about (150- 200) words and two one questions from section ‘C’ answering about (300- 350 words)

Objectives

The objective of this course is to learn the theories, concepts, and intervention techniques of sport psychology. Topics covered will include motivation theory applied to sport, team dynamics, psychological skills training, the psychology of sport injury, and burnout in sport

Exercise Physiology

Unit-I Introduction

1. Definition ,and Meaning of physiology and exercise physiology
2. Importance of exercise physiology in the field of physical education
3. Structure and Function of Skeletal Muscles
4. Female specific problem

Unit-II Physiological Basis

1. Effect of exercise to the heart and circulatory system
2. Effect of exercise on Respiratory system
3. Effect of exercise on endocrine and nervous system
4. Physiological aspects of development of various physical fitness components

UNIT -III Physiological of Exercise

1. Oxygen and performance
2. Energy transfer in body
3. Human exercise expenditure at rest and exercise
4. Effect of high altitude on physical performance and altitude acclimatization

UNIT-IV Doping

1. Meaning and effect of doping on health
2. Methods of Doping
3. Drugs used for doping: Anabolic steroids, Narcotic analgesic , Diuretics, Amines and Beta blockers
4. Role and importance of WADA, NADA

Books Recommended:

1. Guyton, Arthur C. "Text Book of Medical Physiology" (Philadelphia W.B. Saunder Company 1976)
2. Morehouse, LE and Miller, A.T. "Physiology of Exercice" (Saint Louis) Mousby Company 1976.
3. Karpovich, P.V. and sinning, Wayne E. "Physiology of Muscular Activity" (Philadelphia: W.B. Saunders Company, 1971) 7th Edition.
4. Bourne, Geoffery H. "The Structure and Function of Muscles" (London Academic Press) - 1973.
5. Astrand, P.O. and Rodahl; Karre. "Text Book of work Physiology" (Tokyo Mc Graw. Hill Xogakusha, Ltd. 1979)
6. Mathew. D.K. and Fox, E.L. "Physiological Basis of Physical Education and Athletics" (Philadelphia W.B. Saunder Company 1976)

7. Wilmore H. Jack and Costill L.Pavid, "Physiology of Sports and Exercise" (Human Kinetics, 2004).
8. Roberys A. Robert and Robert O. Scott. "Fundamental Principles of Exercise Physiology" (Mc. Grew Hill Companies, Inc. 2000).
9. Adams M. Gene Exercise Physiology: Laboratory Manual, (WCB Mc Grew-Hill Companies, Inc, 1988).
10. Katch L. Victor, Katch I. Frank and Mcardle D. William, "Exercise Physiology" (Williams & Wilkins, A Waverty Company, 1966).
11. Mooren C. Frank and Volker Kalas "Molecular and cellular exercise Physiology" (Human Kintics, Devidion of sports distributor Nz Ltd, 2005).
12. Tiwari Sendhya "Exercise Physiology" (Sports publication Ashok Vihar, Delhi) 1999.

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section 'A' and 2 questions from section 'B' answering about (150- 200) words and only one questions from section 'C' answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section 'A' and 04 questions from section 'B' answering about (150- 200) words and two one questions from section 'C' answering about (300- 350 words)

Objectives

The objective of this course is to impart the knowledge of underlying principles and concepts of Exercise and Sport Science, which includes Human Physiology, Anatomy, Functional Anatomy, Exercise Physiology, Motor Learning and Control, Exercise Metabolism and Nutrition

Sports Medicine, Athletic Care and Rehabilitation

Unit-I Introduction

1. Meaning ,Aim and objective of sports medicine
2. Brief history of sports medicine in India and Abroad.
3. Concept of sports medicine and its need
4. Role of physician, athlete trainer and coaches

Unit-II Common sports injuries: prevention and management

1. Common sports injuries and immediate treatment of sprain, strain, laceration, Haematoma, contusion, abrasion, dislocation and fracture
2. Common regional injuries and their management: head, neck, face, thorax, abdomen , pelvis, upper and lower limbs
3. Factors responsible for sports injuries
4. General guidelines for their prevention, management of acute and chronic injuries

UNIT-III Therapeutic Modalities and rehabilitation

1. Hydro therapy:
2. Cryotherapy:
3. T.E.N.S
4. Thermotherapy:

UNIT-IV Massage

1. Introduction of massage
2. Brief history of massage and remedial exercises.
3. Effect of massage on major Body systems
4. Type of massage

Book Recommended:

1. Reider Bruce, "Sport Medicine" (W.B. Saunders Company: A division of Hurcourt Brace & Company, Philadelphia 1996).
2. Million B. Morris "Office sports Medicine" (Hanley & Belfins Inc. Philadelphia, 1996).
3. Scuderi R. Giles and Mc. Cann D. Peter "Sports Medicine a comprehensive approach" (Elsevier Mosby, Burtis Center, Philadelphia, 2005).
4. Scuderi R. Giles, Mc. Cann D. Peter and Brun J. Peter "Sports Medicine: Principles of Primary Cure" (Mosby A Harcourt Health Science Company St. Louis, 1997).
5. Uprrian Werier "Physical Therapy for sports" (W.B. Saunders Company. A. Division of Harcourts Brace & Company, Curtis Centres Philadelphia, 1995

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section 'A' and 2 questions from section 'B' answering about (150- 200) words and only one questions from section 'C' answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section 'A' and 04 questions from section 'B' answering about (150- 200) words and two one questions from section 'C' answering about (300- 350 words)

Objectives

The objective of the course is to impart knowledge about the sports injuries, preventions and rehabilitations of the athletes.

Sports Sociology

Unit – I INTRODUCTION

1. Nature, Scope & Methods of Sport Sociology.
2. Sport as a social phenomenon.
3. Sociological analysis of sport and sport sociology as an academic discipline.
4. Concept of socialization, Socialization via games and sport.

Unit-II SPORT AND MICRO SOCIAL SYSTEMS

1. Study of sport groups.
2. Group interaction, competition & cooperation.
3. Behavior, characteristics, qualities and role of sport leaders.
4. Sports and cultures.

Unit-III SPORT AND MACROSOCIAL SYSTEMS

1. Relationship between sport and socializing institutions (family, school and educational systems).
2. Inter-relationship between and regulating institutions (politics and economy).
3. Sport and cultural institutions (religion and art).
4. Socialization via games and sport.

Unit-IV SOCIAL GAMES CONCERNING SPORT IN SOCIETY

1. Social stratification in sport, sport as a stratification system.
2. Discrimination and democratization in sport with Special reference to socio-economic classes and women.
3. Sport and aggression, violence in sport.
4. Problem regarding professionalization and children in sport.

REFERENCE:-

1. Loy, John, W. Kenyan, Gerald S, & Mc Pherson, Barry D, “**Sports Culture and Society**” (Philadelphia Lea & Febiger, 1981).
2. Ball, Donald W. and Low John W “**Sport and Social order contribution to the sociology of sport**” (London, Addison wesely publishing co, Inc, 1975)
3. Loy John W. Mc Pherson, Barry D, and Kenyan Gerald, “**Sport and Social System**” (London, Addison wesely publishing company Inc, 1978)
4. Edward Larry “**Sociology of Sport**” (Ilihois: The Dorsey Press, 1973).
5. Carry, Brayant J. “**Social Dimension of Physical Activity**” New Jersey: Englewood Cliffs, Prentice Hall In. 1967)
6. Singh Kanwaljeet and singh Inderjit “**Sports Sociology**” (Friends Publications India, 2000).
7. Walkley Jay “**Sports in Society**” (Mc Graw Hill, Companies, Inc. 2001).

8. Bhushan Vidya, Sachdeva R.D. “**An Introduction Sociology**” (Kitab Mahal, Allahabad, 2005)
9. Singh Bhupinder Sports Sociology, “**An Indian perspective**” (friends publications, India, 2004)
10. Jain Rachna “**Sports Sociology**” (Khel Sahitya Kendra Ashok vihar Delhi 2004).

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section ‘A’ and 2 questions from section ‘B’ answering about (150- 200) words and only one questions from section ‘C’ answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section ‘A’ and 04 questions from section ‘B’ answering about (150- 200) words and two one questions from section ‘C’ answering about (300- 350 words)

Objectives

The objective of this course is to develop a sociological and historical perspective about sports and physical activity, and use of critical thinking in order to understand the sports and physical activities in the context of society, beyond performance, results, and competition

Dissertation

- 1. Dissertation can be opted by the students who have secured at least 60% marks in aggregate in 1st and 2nd semesters taken together.**
- 2. Those students who wish to opt for dissertation in the 4th semester have to start the work in 3rd semester so it will completed by the end of 4th semester.**
- 3. The Dissertation shall be carried out under the supervision of concern teacher of the department.**
- 4. Approval of topic, allotment of supervisor, progress of research work and evaluation shall be monitor by Department Research committee.**
- 5. Introduction and Review part of the thesis shall be completed in 3rd semester.**
- 6. The dissertation shall be evaluated by presentation of work in viva-voce. 60% marks shall be allotted for dissertation report and 40% for viva-voce and presentation.**

Objectives

The objective of this course is to provide opportunity for students to synthesize knowledge and skills gained during their master program by designing, conducting, and writing the dissertation under the supervision of teachers and committee.

Yoga & Health

Unit I Introduction to Yoga

1. Meaning and Definition of Yoga ,Nature & Scope of Yoga
2. Needs & Importance of Yoga
3. Effect of Yogasana on health of individual
4. Need of yoga in present day life

Unit II Aasnas & Pranayam

1. Aasnas in sitting posture, Aasnas in standing position (Five asanas each)
2. Aasnas in Prone position, Aasnas in Spine position (Five asanas each)
3. Meaning and types of Pranayam,Benifits of pranayam
4. Yogic diet.

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section 'A' and 2 questions from section 'B' answering about (150- 200) words and only one questions from section 'C' answering about (300- 350 words)

Sports coaching

Unit-I Introduction

1. Meaning and concept of teaching, coaching and sports training
2. Principles and characteristics of coaching
3. Qualities and qualification of a good coach
4. Duties of coach and officials

Unit-II coaching of games

1. Basic and advance skills of Football and volleyball
2. Official rules of Football and volleyball
3. Basic and advance skills of Cricket and hockey
4. Official rules of cricket and hockey

Books Recommended:

1. Cratty, S. "Perceptual & Motor Development in infants and children" Prentice Hall 1979.
2. Dick, F.T. "Sports training Principles" Lepus, London, 1980.
3. Jenson, C.R., Fisher A.G. "Scientific basis of Athletics conditioning" Lea & Febiger, Philadelphia: 1972.
4. Matveyew, L.P. "Fundamentals of Sports Training" (Translation from Russian) Mr. Publisher, Moscow, 1981.
5. Singh, H. "Sport Training, General Theory and Methods" N.I.S. Patiala, 1984.
6. Singh Hardyal "Science of Sports Training" New Delhi: DVS Publications, 1985.
7. Willmore, U.M. "Athletic Training and Physical fitness" Allynand Bacon, Inc. Sydney, 1977
8. Bumpa, T, (2010) "Perodization" Human Kinetics Publishers, Inc Champaign IL.

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section 'A' and 2 questions from section 'B' answering about (150- 200) words and only one questions from section 'C' answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section 'A' and 04 questions from section 'B' answering about (150- 200) words and two one questions from section 'C' answering about (300- 350 words)

Objective

This course is framed for student of other departments. The objective of this course is to learn/ improve skill in the discipline of Football, Hockey Volley Ball and Cricket.

Kinesiology

Unit-I Introduction to Kinesiology

1. Meaning, importance of Kinesiology
2. Scope of Kinesiology in Physical Education.
3. Types of movements in different axis and planes
4. Introduction to Kinetics & Kinematics

Unit-II Muscles

1. Classification of muscles.
2. Neuro- muscular basis of human movement.
3. Motor unit, Receptors, Proprioceptors.
4. Reflex movement, extensor thrust reflex, flexor reflex, crossed extensor reflex, proprioceptive reflex, stretch reflex.

Unit-III Joints of Upper Extremity

1. Shoulder joint - Structure and muscle reinforcement, movement.
2. Elbow joint - Structure, muscle reinforcement, movement.
3. Wrist Joint- Structure , muscle reinforcement, movement
4. Muscles of upper extremity: Deltoid, latissimus dorsi, pectoralis major and minor, bicep, tricep.

Unit-IV Joints of Lower Extremity

1. Hip Joint - Structure, muscle reinforcement, movement.
2. Knee joint – Structure, muscle reinforcement, movement.
3. Ankle joint- Structure, muscles reinforcement, movement
4. Muscles of lower extremity: Hamstrings group, Quadriceps group & Gastrocnemius.

Books recommended:

1. Gowitzke, B.A and Milner, M (1988). Scientific Basis of Human Movement (3rd. ed.) Baltimore : Williams and Wilkins.
2. Groves, R and Camaine, D. (1983) . Concepts in Kinesiology .(2nd.ed) Philadelphia: Saunders College Publishing.
3. Hay, J.& Reid, J (1982). The Anatomical and Mechanical Basis of Human Motion. Englewood Cliffs: Prentice – Hall

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section 'A' and 2 questions from section 'B' answering about (150- 200) words and only one questions from section 'C' answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section 'A' and 04 questions from section 'B' answering about (150- 200) words and two one questions from section 'C' answering about (300- 350 words)

Objectivise:-

The objectivise of this course is to introduce concept of kinesiology, its application in enhancing sports performance, rehabilitation of muscles, physiological characteristics and development of muscles, joints , tendons and ligaments.

Management in Physical Education & Sports

Unit-I Introduction to Sports and Physical Education Management

1. Concept, definitions and Meaning of management in physical education and sports.
2. Importance, Objectives and functions of Management.
3. Basic Principles of Management in Physical Education & Sports.
4. Theories of Management. (Three theories only)

Unit-II Program Planning

1. Meaning, Steps in program planning.
2. Principles of planning a Physical Education Program.
3. Types of Physical Education Program. Program development facility management.
4. How to build a school program of Physical Education.

Unit-III Public Relation

1. Definition and Need of public relation in physical education.
2. Principles of public relationship in physical education.
3. Techniques of media of relation with public parent –pupils and other agencies.
4. How to organize sports meet and sports days.

Unit-IV Management Functions

1. H.R. Management & Supervision.
2. Program development and facility management.
3. Finance management, purchase, care of equipment.
4. Management of the athletic training program

Books recommended

1. Chakraborty, S. Sports management Delhi, sports publication, 1998.
2. Kamlesh, M.L Management concept in Physical Education and sport, NEW Delhi metropolitan book co.pvt.ltd,2000.
3. Roy, s.s sports management Delhi, Friends Publication, 1995.
4. Sivia, G.S.Sports management in universities, New Delhi: A.I.U.Deen Dayal upadhyaya marg, 1991.
5. Bucher C.A –“ Administration of Physical Education and Athletic progress education.
6. Thomas J.P. “rganization of Physical Education”, Chandro days press, Madras.
7. Joseph P.M. “Organization of Physical Education old students Ab Bombay.

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section ‘A’ and 2 questions from section ‘B’ answering about (150- 200) words and only one questions from section ‘C’ answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section ‘A’ and 04 questions from section ‘B’ answering about (150- 200) words and two one questions from section ‘C’ answering about (300- 350 words)

Objectives

The objective of course is to make student competent for the conduct of tournaments/ completions at various level. Officiating, Management of sport infrastructure like sports fields, equipments etc.

Sports Biomechanics

Unit-I Introduction

1. Meaning and historical development of Biomechanics.
2. Need and importance of biomechanics in physical education.
3. Types of motion, force, inertia, Momentum, Mass and Weight.
4. Distance, Displacement, Speed, velocity and acceleration in linear and angular motion

Unit-II Kinetics

1. Newton's laws of motion as applicable to linear and angular motion.
2. Centrifugal and centripetal forces.
3. Lever and its types and its application in sports for mechanical efficiency.
4. Impact and elasticity

Unit-III Kinematics

1. Equilibrium and its type, principles of equilibrium in and its application in sports.
2. Projectiles and its type and their implication in sports.
3. Fluid mechanics, Air resistance and water resistance.
4. Spin and Magnus effect

Unit-IV Mechanical analysis

1. Biomechanics of walking and running
2. Biomechanics of high hurdle (approach run, hurdle clearance and landing)
3. Biomechanics of throws (shot put, discus throw and javelin throw)
4. Biomechanics of jumps(Broad and long jump)

Books Recommended:

1. Gowitzke, B.A and Milner, M (1988). Scientific Basis of Human Movement. (3rd. ed.) Baltimore : Williams and Wilkins.
2. Groves, R and Camaine, D.(1983) . Concepts in Kinesiology.(2nd.ed.) Philadelphia: Saunders College Publishing.
3. Hay, J & Reid, J (1982) . The Anatomical and Mechanical Bases of Human Motion. Englewood Cliffs : Prentice – Hall
4. Luttegens, Kathryn, Deutsch, Helga, Hamilton, Nancy. Kinesiology – Scientific Basis of Human Motion. 8th.Ed., Brown & Bench mark.
5. Rasch, P.(1989). Kinesiology and Applied Anatomy. Philadelphia : Lea & Febiger.
6. Thompson, C.(1985). Manual of Structural Kinesiology. (10th. ed.) St. Louis : Times Mirror/ Mosby College Publishing

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section 'A' and 2 questions from section 'B' answering about (150- 200) words and only one questions from section 'C' answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section 'A' and 04 questions from section 'B' answering about (150- 200) words and two one questions from section 'C' answering about (300- 350 words)

Objectives

The objective of this course is to introduce students to understand the concepts of mechanics as they apply to human movement, particularly those pertaining to exercise, sport, and physical activity

Martial Arts & Self Defence

Unit-I Martial Art & Self Defence

1. History of Martial Arts, Meaning, Principles and Characteristics of Martial Arts
2. Concept of Training and Coaching in Martial Arts,
3. Qualities and responsibilities of a coach/trainer
4. Meaning and Importance of self-defense in present day life, Principles of self-defense Training

Unit-II Skills & Techniques

1. Basic stance and meditation, Basic Blocks, Basic Hand Techniques, basic kicking techniques, effective warm-up Stretching techniques, basic controlled sparing (optional), Basic self-defense, Learn Two Katas
2. Advance stances & Blocks, Advanced hand techniques, kicking and punching.
3. Advance self-defense, advanced throws and falls
4. Need & Importance of Women self-defense, Self-defense techniques for women

Books Recommended:

1. Martial Arts: Behind the Myths by Phil Pierce, kindle edition.
2. Essential of Martial art: frontier technology India Delhi

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section 'A' and 2 questions from section 'B' answering about (150- 200) words and only one questions from section 'C' answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section 'A' and 04 questions from section 'B' answering about (150- 200) words and two one questions from section 'C' answering about (300- 350 words)

Objectives

The objective of this course is to impart knowledge, skills, proficiency and teaching techniques necessary for teaching of **Self-Defense..**

Leisure & Recreation

Unit-I Introduction

1. Meaning and concept of Leisure and recreation
2. Types of recreation – Indoor, Outdoor, active, passive, commercial;
3. Qualities and qualifications of good recreation Leader.
4. Needs of recreational leaders

Unit – II Recreation activities

1. Rural recreation and social games;
2. Various agencies which provide recreation in India
3. Objectives of recreation.
4. Recreation Games (five recreation games)

References

- Fitzarlad, Gerald Leadership in Recreation Education B.A.S. Barnet & Co.
- Dheer S and Sareen R.S. Developmental games and re creational activities, Friends Publications, Delhi, 1988
- Shivers S. Jay Administration, Friends Publication, Delhi – 1997

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section 'A' and 2 questions from section 'B' answering about (150- 200) words and only one questions from section 'C' answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section 'A' and 04 questions from section 'B' answering about (150- 200) words and two one questions from section 'C' answering about (300- 350 words)

Objectives

The objective of this course is to equip students with essential knowledge and skills for designing, leading and managing recreational activities and exercise programmes for people in various settings. It also enables students to grasp the most updated trends in the above areas

Statistics in Physical Education

Unit – I Introduction to statistics

1. Meaning, concept and Importance of Statistics in physical education.
2. Organization of ungrouped data to grouped data through frequency table
3. Graphical representation of Data (Histogram, Frequency Polygon, Frequency Curve, Ogive and Pie Diagram)
4. Meaning and Property of Normal Probability Curve.

Unit – II Descriptive Statistics

1. Measures of Central Tendency (Mean Median and Mode).
2. Measures of Variability (Range, Average deviation, Quartile Deviation, Standard deviation)
3. Skewness & Kurtosis.
4. Z score, Conversion of raw score into z score.

Unit – III Parametric statistics

1. Assumptions of Parametric Statistics.
2. Application of Parametric Statistics in Physical Education.
3. Computation of correlated & uncorrelated t test, ANOVA.
4. Computation of Pearson's Correlation & Regression analysis.

Unit – IV Non-Parametric Statistics

1. Assumption of Non-parametric Statistics.
2. Application of Non Parametric statistic in Physical Education.
3. Advantage and disadvantage of Non Parametric Statistics.
4. Computation of Non-Parametric tests (Chi square, Rank Order Correlation and Biserial Correlation)

Books recommended:

1. Clarke H.W "Application on Measurement to Health and Physical Education, Published by Prentice Hall Inc., 961.
2. Clarke Harison H. "Research Process in Physical Education, Health Education and Recreation, New jerry, Practice Hall inc. 1979.
3. Fruederick, L." **The Elements of Research**" New York, Prentic Hall, Californi 1950.
4. Garret E. Harry and Woodworth, N.S. **Statistics in Psychology and Education** Bombay Allied Publications Private Ltd 1958.
5. Joseph Weir, William J. Vincent "Statistics in Kinesiology" Human Kinetics Publishers (2012)
6. Neilson N.P. "An Elementary course in Statistics Test and Measurements in Physical Tests. Polo Alto, California 1960.
7. Shiv Ram Krishna S. "Statistics for physical Education", New Delhi, Friends Publication.

8. Thomas Jerry R., Nelson Jack K., “**Research Methods in Physical Activity**”, Human Kinetics, U.S.A. 1996.
9. Verma P J. “**Statistical Methods for Sports and Physical Education**, Tata McGraw Hill Education Private Limited, 2011
10. Verma Prakash J. “**A Text Book on Sports Statistics**” Gwalior, Venus publication, 2004.

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section ‘A’ and 2 questions from section ‘B’ answering about (150- 200) words and only one questions from section ‘C’ answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section ‘A’ and 04 questions from section ‘B’ answering about (150- 200) words and two one questions from section ‘C’ answering about (300- 350 words)

Objectives:-

The objective of this course is to introduce students the statistical knowledge and techniques used to evaluate performance, predictions and statistical analyses relating to sport

Yoga & Health

Unit I Introduction to Yoga

1. Meaning and Definition of Yoga ,Nature & Scope of Yoga
2. Needs & Importance of Yoga
3. Effect of Yogasana on health of individual
4. Need of yoga in present day life

Unit II Aasnas & Pranayam

1. Aasnas in sitting posture, Aasnas in standing position (Five asanas each)
2. Aasnas in Prone position, Aasnas in Spine position (Five asanas each)
3. Meaning and types of Pranayam,Benifits of pranayam
4. Yogic diet.

Note for Paper Setter:-

Examination with max. Mark= 25 (Duration=60 minutes)

Section A: Question carrying one mark each- 08 objective questions=08 marks

Section B: questions carrying 04 marks each –two questions=08 marks.

Section C= Question carrying 09 marks each. Two questions only one to be attempted=09 marks

Examination with Max. marks=50 (duration=120 marks)

Section A: Question carrying one mark each- 16 objective questions=16 marks

Section B: questions carrying 04 marks each –04questions=16 marks.

Section C= Question carrying 09 marks each. Four questions only two to be attempted=18 marks

Instructions for candidates:-

Examination with max. Mark= 25 (Duration=60 minutes)

The candidate shall have to attempt all objective questions from section ‘A’ and 2 questions from section ‘B’ answering about (150- 200) words and only one questions from section ‘C’ answering about (300- 350 words)

Examination with Max. marks=50 (Duration=120 marks)

The candidate shall have to attempt all objective questions from section 'A' and 04 questions from section 'B' answering about (150- 200) words and two one questions from section 'C' answering about (300- 350 words)

Objectives

The purpose of this course is to create awareness among everyone about this old Indian tradition that helps in transforming body and mind and promoting well being of the society.