HNBGU, Srinagar Garhwal
(Uttarakhand)

SYLLABUS

Master of Physical Education

(M.P.Ed.)

(Two Year Programme)

DEPARTMENT OF PHYSICAL EDUCATION

SCHOOL OF EDUCATION
Semester-I

Part- A Theoretical Course						
Course Code	Title of the papers	Total Hours	Credits	Internal Marks	External marks	Total
Core Course						
SOE/PE/ C-501	Research Process in Physical Education	4	4	30	70	100
SOE/PE/ C -502	Physiology of Exercise	4	4	30	70	100
SOE/PE/ C -503	Evaluation in Physical Education	4	4	30	70	100
Elective course(Anyone)						
SOE/PE/ E-501	Yogic Science	4	4	30	70	100
SOE/PE/ E -502	Sports Technology					
Part – B Practical Course						
SOE/PE/ P -501	Game Specialization **I** - Individual Skill	6	4	30	70	100
SOE/PE/ P -502	Game Specialization **I** Theory	6	4	30	70	100
SOE/PE/ P -503	Lab Practical (Sports Psychology & Biomechanics)	6	4	30	70	100
Part – C Teaching Practices						
SOE/PE/ T -501	Game Specialization **I** - Teaching Lesson (5 Lesson)	6	4	30	70	100
	Total	40	32	240	560	800

Semester-II

Part- A Theoretical Course						
Course Code	Title of the papers	Total Hours	Credits	Internal Marks	External marks	Total
Core Course						
SOE/PE/ C -601	Applied Statistics in Physical Education	4	4	30	70	100
SOE/PE/ C -602	Sports Biomechanics and Kinesiology	4	4	30	70	100
SOE/PE/ C-603	Athletic care and Rehabilitation	4	4	30	70	100
Elective course (Anyone)						
SOE/PE/ E-601	Sports Journalism and Mass Media	4	4	30	70	100
SOE/PE/ E -602	Sports Management and Curriculum design in Physical education					
Part – B Practical Course						
SOE/PE/ P -601	Games Specialization **I** Theory (Skill & Technique)	6	4	30	70	100
SOE/PE/ P -602	Game Specialization **I** – Game proficiency	6	4	30	70	100
Part – C Teaching Practices (Coaching Lesson)						
SOE/PE/ T -601	Game Specialization **I** Coaching Lesson (5 Lesson)	6	4	30	70	100
SOE/PE/ T -602	Theory teaching on subjects of Ist & IInd Semester and Game Specialization **II** (5 Lesson)	6	4	30	70	100
	Total	40	32	240	560	800

Semester-III

Part- A Theoretical Course						
Course Code	Title of the papers	Total Hours	Credits	Internal Marks	External marks	Total
Core Course						
SOE/PE/ C-701	Scientific Principles of Sports Training	4	4	30	70	100
SOE/PE/ C -702	Sports Medicine	4	4	30	70	100
SOE/PE/ C -703	Health Education and Sports Nutrition	4	4	30	70	100
Elective Course (Anyone)						
SOE/PE/ E-701	Value and Environment Education	4	4	30	70	100
SOE/PE/ E-702	Physical Fitness and Wellness					
Part – B Practical Course						
SOE/PE/ P -701	Game Specialization **II** - Individual Skill	6	4	30	70	100
SOE/PE/ P-702	Game Specialization **II** Theory	6	4	30	70	100
SOE/PE/ P -703	Lab Practical Anthropometry & Test and Measurement)	6	4	30	70	100
Part – C Teaching Practices						
SOE/PE/ T -701	Game Specialization **II** - Teaching Lesson (5 Lesson)	6	4	30	70	100
	Total	40	32	240	560	800

Semester-IV

Part- A Theoretical Course						
Course Code	Title of the papers	Total Hours	Credits	Internal Marks	External marks	Total
Core Course						
SOE/PE/ C-801	Information and Communication Technology in Physical education	4	4	30	70	100
SOE/PE/ C-802	Sports psychology	4	4	30	70	100
SOE/PE/ C-803	Education technology in physical education	4	4	30	70	100
Elective Course (Anyone)						
SOE/PE/ E-801	Dissertation	4	4	30	70	100
SOE/PE/ E-802	Sports Engineering					
Part – B Practical Course						
SOE/PE/ P -801	Games Specialization **II** Theory (Skill & Technique)	6	4	30	70	100
SOE/PE/ P -802	Game Specialization **II** – Game proficiency	6	4	30	70	100
Part – C Teaching Practices (Coaching Lesson)						
SOE/PE/ T-801	Game Specialization **II** Coaching Lesson (5 Lesson)	6	4	30	70	100
SOE/PE/ T-802	Theory teaching on subjects of IIIrd & IVth Semester and Game Specialization **II** (5 Lesson)	6	4	30	70	100
	Total	40	32	240	560	800

SEMESTER I
THEORY COURSES

SOE/PE/C-501 RESEARCH PROCESS IN PHYSICAL EDUCATION

UNIT I – Introduction

Meaning and Definition of Research – Need, Nature and Scope of research in Physical Education. Classification of Research, Location of Research Problem, Criteria for selection of a problem, Qualities of a good researcher.

UNIT II – Methods of Research

Descriptive Methods of Research; Survey Study, Case study, Introduction of Historical Research, Steps in Historical Research, Sources of Historical Research: Primary Data and Secondary Data, Historical Criticism: Internal Criticism and External Criticism.

UNIT III – Experimental Research

Experimental Research – Meaning, Nature and Importance, Meaning of Variable, Types of Variables. Experimental Design - Single Group Design, Reverse Group Design, Repeated Measure Design, Static Group Comparison Design, Equated Group Design, Factorial Design.

UNIT IV – Sampling

Meaning and Definition of Sample and Population.Types of Sampling; Probability Methods; Systematic Sampling, Cluster sampling, Stratified Sampling.Area Sampling – Multistage Sampling.Non- Probability Methods; Convenience Sample, Judgement Sampling, Quota Sampling.

UNIT V – Research Proposal and Report

Chapterization of Thesis / Dissertation, Front Materials, Body of Thesis – Back materials. Method of Writing Research proposal, Thesis / Dissertation; Method of writing abstract and full paper for presenting in a conference and to publish in journals ,Mechanics of writing Research Report, Footnote and Bibliography writing.

Reference:

Best J. W (1971) Research in Education, New Jersey; Prentice Hall, Inc
Clarke David. H & Clarke H, Harrison (1984) Research processes in Physical Education, New Jersey; Prentice Hall Inc.
Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illinois; Human Kinetics;
Kamlesh, M. L. (1999) Research Methodology in Physical Education and Sports
Rothstain, A (1985) Research Design and Statistics for Physical Education, Englewood Cliffs: Prentice Hall, Inc
Subramanian, R, Thirumalai Kumar S & Arumugam C (2010) Research Methods in Health, Physical Education and Sports, New Delhi; Friends Publication

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Research Process in Physical Education (SOE/PE/C-501)

Course Outcome:

- The students will learn about the meaning, types and scope of Research in Physical Education.
- The students will understand about formulation of Hypothesis and further actions in Research.
- The students will explained about various types of Research Methods prevalent in Physical Education.
- The students will know about How to write Research Proposal and Research Report.

Program Outcome:

The program content will enable the student to understand the meaning, significance and areas of Research in Physical Education. They will also understand about various types of Research Methodologies and related terms used in it.

Program Specific Outcome:

The program will provide opportunities to the students to learn about nuances of Research and basic steps in location and formulation of a Research Problem. They will also get the idea of various types of Researches and their methodological implications.

SOE/PE/C -502 PHYSIOLOGY OF EXERCISE

UNIT I – Skeletal Muscles and Exercise

Macro & Micro Structure of the Skeletal Muscle, Chemical Composition. Sliding Filament theory of Muscular Contraction. Types of Muscle fibre.Muscle Tone, Chemistry of Muscular Contraction – Heat Production in the Muscle, Effect of exercises and training on the muscular system.

UNIT II – Cardiovascular System and Exercise

Heart Valves and Direction of the Blood Flow – Conduction System of the Heart – Blood Supply to the Heart – Cardiac Cycle – Stroke Volume – Cardiac Output – Heart Rate – Factors Affecting Heart Rate – Cardiac Hypertrophy – Effect of exercises and training on the Cardio vascular system.

UNIT III – Respiratory System and Exercise

Mechanics of Breathing – Respiratory Muscles, Minute Ventilation – Ventilation at Rest and During Exercise.Diffusion of Gases – Exchange of Gases in the Lungs –Exchange of Gases in the Tissues – Control of Ventilation – Ventilation and the Anaerobic Threshold.Oxygen Debt – Lung Volumes and Capacities – Effect of exercises and training on the respiratory system.

UNIT IV – Metabolism and Energy Transfer

Metabolism – ATP – PC or Phosphagen System – Anaerobic Metabolism – Aerobic Metabolism – Aerobic and Anaerobic Systems during Rest and Exercise. Short Duration High Intensity Exercises – High Intensity Exercise Lasting Several Minutes – Long Duration Exercises.

UNIT V – Climatic conditions and sports performance and ergogenic aids

Variation in Temperature and Humidity – Thermoregulation – Sports performance in hot climate, Cool Climate, high altitude. Influence of: Amphetamine, Anabolic steroids, Androstenedione, Beta Blocker, Choline, Creatine, Human growth hormone on sports performance. Narcotic, Stimulants: Amphetamines, Caffeine, Ephedrine, Sympathomimetic amines. Stimulants and sports performance.

Reference:

Amrit Kumar, R, Moses. (1995). Introduction to Exercise Physiology. Madras: PoompugarPathipagam.
BeotraAlka, (2000) Drug Education Handbook on Drug Abuse in Sports: Sports Authority of India Delhi.
Clarke, D.H. (1975). Exercise Physiology. New Jersey: Prentice Hall Inc., Englewood Cliffs.
David, L Costill. (2004). Physiology of Sports and Exercise.Human Kinetics.
Fox, E.L., and Mathews, D.K. (1981).The Physiological Basis of Physical Education and Athletics. Philadelphia: Sanders College Publishing.
Guyton, A.C. (1976). Textbook of Medical Physiology. Philadelphia: W.B. Sanders co. Richard, W. Bowers. (1989). Sports Physiology. WMC: Brown Publishers.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Physiology of Exercises (SOE/PE/C-502)

Course Outcome:

- The students will know about the meaning and significance of exercise physiology to Physical Education Teacher.
- The students will learn about the structural and functional unit of Skeletal Muscle and Sliding Filament Theory.
- The students will understand the process of energy liberation and its utilization in physical exercise in Human body.
- The students will be able to learn functioning of heart and important related terms like: Cardiac Output, Stroke Volume, Cardiac Hypertrophy etc.
- The students will learn about the impact of climatic conditions on Human body and its performance and effects of Ergogenic aids.

Program Outcome:

The program will provide the detailed knowledge about functions of skeletal muscles, Heart, Respiratory Mechanism and Bioenergetics. The students will get acquired with the various internal and external factors affecting Human Physiology.

Program Specific Outcome:

The Program will enable the students to know about Human Physiology implications and impact of exercises/ training programs upon it.

SOE/PE/C-503 EVALUATION IN PHYSICAL EDUCATION

UNIT I – Introduction

Meaning and Definition of Test, Measurement and Evaluation. Need and Importance of Measurement and Evaluation. Criteria for Test Selection – Scientific Authenticity. Meaning, definition and establishing Validity, Reliability, Objectivity. Norms – Administrative Considerations.

UNIT II – Motor Fitness Tests

Meaning and Definition of Motor Fitness. Test for Motor Fitness; Indiana Motor Fitness Test (for elementary and high school boys, girls and College Men) Oregon Motor Fitness Test
(Separately for boys and girls) - JCR test. Motor Ability; Barrow Motor Ability Test – Newton Motor Ability Test – Muscular Fitness – Kraus Weber Minimum Muscular Fitness Test.

UNIT III – Physical Fitness Tests

Physical Fitness Test: AAHPERD Health Related Fitness Battery (revised in 1984), ACSM Health Related Physical Fitness Test, Roger's physical fitness Index. Cardio vascular test; Harvard step test, 12 minutes run / walk test, Multi-stage fitness test (Beep test)

UNIT IV – Anthropometric and Aerobic-Anaerobic Tests

Physiological Testing: Aerobic Capacity: The Bruce Treadmill Test Protocol, 1.5 Mile Run test for college age males and females. Anaerobic Capacity: Margaria-Kalamen test, Wingate Anaerobic Test, Anthropometric Measurements: Method of Measuring Height: Standing Height, Sitting Height. Method of measuring Circumference: Arm, Waist, Hip, Thigh. Method of Measuring Skin folds: Triceps, Sub scapular, Suprailiac.

UNIT V – Skill Tests

Specific Spots Skill Test: Badminton: Miller Wall Volley Test. Basketball: Johnson Basketball Test, Harrison Basketball Ability Test. Cricket: Sutcliff Cricket test. Hockey: Friendel Field Hockey Test, Harban's Hockey Test, Volleyball, Russel Lange Volleyball Test, Brady Volleyball Test. Football: Mor-Christian General Soccer Ability Skill Test Battery, Johnson Soccer Test, Mc-Donald Volley Soccer Test. Tennis: Dyer Tennis Test.

References:

Cureton T.K. (1947) Physical Fitness Appraisal and Guidance, St. Louis: The C. Mosby Company
Jenson, Clayne R and Cynt ha, C. Hirst (1980) Measurement in Physical Education and Athletics, New York, Macmillan Publishing Co. Inc
Kansal D.K. (1996), "Test and Measurement in Sports and Physical Education, New Delhi: DVS Publications
Krishnamurthy (2007) Evaluation in Physical Education and Sports, New Delhi; Ajay Verma Publication
Vivian H. Heyward (2005) Advance Fitness Assessment and Exercise Prescription, 3rd Edition, Dallas TX: The Cooper Institute for Aerobics Research
Wilmore JH and Costill DL. (2005) Physiology of Sport and Exercise: 3rd Edition. Champaigm IL: Human Kinetic

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Evaluation in Physical Education (SOE/PE/C-503)

Course Outcome:

- The students will learn about meaning and significance of Test, Measurement and Evaluation in Physical Education.
- The students will know about various technical aspects of Test like: Reliability, Validity, Objectivity and Norms.
- The students will be able to understand about the procedure of various motor fitness tests.
- The students will be able to know about Anthropometric and Aerobic-Anaerobic tests and their procedures.
- The students will know about the procedure and application of various skill tests related to popular sports.

Program Outcome:

The program content will enable the students to learn about test, measurement and evaluation, their application for various achieving purposes in Physical Education.

Program Specific Outcome:

The students will learn about various types of tests like: Motor Fitness, Anthropometric and Skill tests prevalent in the field of Physical Education and their significance.

SOE/PE/E-501 Yogic Sciences

Unit I – Introduction

Meaning and Definition of Yoga.Astanga Yoga: Yama, Niyama, Aasna, Pranayama, Prathyahara, Dharana, Dhyana, Samadhi, Concept of Yogic Practices; Principles of Breathing– Awareness – Relaxation, Sequence – Counter pose – Time – Place – Clothes – Bathing – Emptying the bowels – Stomach – Diet – No Straining – Age – Contra- Indication – Inverted asana – Sunbathing.

Unit II – Aasanas and Pranayam

Loosening exercise: Techniques and benefits.Asanas: Types- Techniques and Benefits, Surya Namaskar: Methods and benefits. Pranayama: Types- Methods and benefits. Nadis: Meaning, methods and benefits, Chakras: Major Chakaras- Benefits of clearing and balancing Chakras.

Unit III – Kriyas

Shat Kriyas- Meaning, Techniques and Benefits of Neti – Dhati – Kapalapathi- Trataka – Nauli – Basti, Bandhas: Meaning, Techniques and Benefits of JalendraBandha, JihvaBandha, UddiyanaBandha, MulaBandha.

Unit IV – Mudras

Meaning, Techniques and Benefits of Hasta Mudras, Asamyuktahastam, Samyuktahastam , Mana Mudra, Kaya Mudra, Banda Mudra, Adhara Mudra. Meditation: Meaning, Techiques and Benefits of Meditation – Passive and active, Saguna Meditation and Nirguna Meditation.

Unit V – Yoga and Sports

Yoga Supplemental Exercise – Yoga Compensation Exercise – Yoga Regeneration Exercise-Power Yoga. Role of Yoga in Psychological Preparation of athelete: Mental Welbeing, Anxiety, Depression Concentration, Self Actualization. Effect of Yoga on Physiological System: Circulatory, Skeletal, Digestive, Nervous, Respiratory, Excretory Syste.

Reference:

Gore, (1990), Anatomy and Physiology of Yogac Practices.Lonavata: Kanchan
Iyengar, B.K.S. (2000), Light on Yoga. New Delhi: Harper Collins Publishers.
Karbelkar N.V.(1993) PatanjalYogasutraBhashya (Marathi Edition) Amravati: Hanuman VyayamPrasarakMandal
Kenghe.C.T. (1976). Yoga as Depth-Psychology and para-Psychology (Vol-I): Historical Background, Varanasi: BharataManishai.
Kuvalyananada Swami & S.L. Vinekar, (1963), Yogic Therapy – Basic Principles and Methods. New Delhi: Govt. of India, Central Health Education and Bureau.
Swami Kuvalayanda, (1998), Asanas. Lonavala: Kaivalyadhama.
Swami SatyananadaSarasvati. (1989), Asana Pranayama Mudra Bandha.Munger: Bihar School of Yoga.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Yogic Sciences (SOE/PE/E-501)

Course Outcome:

- The students will learn about Yoga, its parts, indications and contra indications of various Yogic practices.
- The students will know about the correct procedure of doing various Asanas and Pranayams.
- The students will be able to understand the techniques and benefits of various Kriyas.
- The students will know about various types of Mudras and their benefits.
- The students will be able to understand the significance of Yogic practice to the Sports.

Program Outcome:

The program will enable the students to learn about Ashtang Yoga, its stages, various Asanas and Kriyas, their impact on Human health and performance.

Program Specific Outcome:

The students will be able to know about the Role and Significance of Yogic practice to various systems of Human body and Sports performance.

SOE/PE/E/502 SPORTS TECHNOLOGY

Unit I – Sports Technology

Meaning, definition, purpose, advantages and applications, General Principles and purpose of instrumentation in sports, Workflow of instrumentation and business aspects, Technological impacts on sports.

Unit II – Science of Sports Materials

Adhesives- Nano glue, nanomoulding technology, Nano turf.Foot wear production, Factors and application in sports, constraints. Foams- Polyurethane, Polystyrene, Styrofoam, closed-cell and open-cell foams, Neoprene, Foam. Smart Materials – Shape Memory Alloy (SMA), Thermo chromic film, High-density modelling foam.

Unit III – Surfaces of Playfields

Modern surfaces for playfields, construction and installation of sports surfaces.Types of materials – synthetic, wood, polyurethane Artificial turf. Modern technology in the construction of indoor and outdoor facilities. Technology in manufacture of modern play equipments. Use of computer and software in Match Analysis and Coaching.

Unit IV – Modern equipment

Playing Equipments: Balls: Types, Materials and Advantages, Bat/Stick/ Racquets: Types, Materials

and Advantages. Clothing and shoes: Types, Materials and Advantages. Measuring equipments: Throwing and Jumping Events. Protective equipments: Types, Materials and Advantages. Sports equipment with nano technology, Advantages.

Unit V – Training Gadgets

Basketball: Ball Feeder, Mechanism and Advantages. Cricket: Bowling Machine, Mechanism and Advantages, Tennis: Serving Machine, Mechanism and Advantages, Volleyball: Serving Machine Mechanism and Advantages. Lighting Facilities: Method of erecting Flood Light and measuring luminous. Video Coverage: Types, Size, Capacity, Place and Position of Camera in Live coverage of sporting events.

References:

Charles J.A. Crane, F.A.A. and Furness, J.A.G. (1987) "Selection of Engineering Materials" UK: Butterworth Heiremann.
Finn, R.A. and Trojan P.K. (1999) "Engineering Materials and their Applications" UK: Jaico Publisher.
John Mongilo, (2001) "Nano Technology 101 "New York: Green wood publishing.
Walia, J.S. Principles and Methods of Education (Paul Publishers, Jullandhar), 1999.
Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jullandhar, Sterling Publishers Pvt. Ltd.), 1982

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Sports Technology (SOE/PE/E-502)

Course Outcome:

- The students will be able to know about meaning and application of Technology to Sports world.
- The students will learn about various terms related to science and technology like: Nanotechnology.
- The students will understand about the use of various types of technology to playfields and equipments in Sports.
- The students will know about latest training gadgets and their impact on Sports performance.

Program Outcome:

The Program content is designed to educate the students about technological advancements in the field of Sports and Physical Education. The students will learn about latest technologies like: Nanotechnology applied for better performance output.

Program Specific Outcome:

The students will be provided an opportunity to get acquaint with scientific terms and technologies being the part of Sports equipments, apparel and playfield and how it is improving the qualities of products of modern world and human performance

SEMESTER II

SOE/PE/C-601 APPLIED STATICTICS IN PHYSICAL EDUCATION

UNIT I – Introduction

Meaning and Definition of Statistics. Function, need and importance of Statistics. Types of Statistics. Meaning of the terms, Population, Sample, Data, types of data. Variables; Discrete, Continuous. Parametric and non-parametric statistics.

UNIT II – Data Classification, Tabulation and Measures of Central Tendency

Meaning, uses and construction of frequency table. Meaning, Purpose, Calculation and advantages of Measures of central tendency – Mean, median and mode.

UNIT III – Measures of Dispersions and Scales

Meaning, Purpose, Calculation and advances of Quartile, Deviation, Mean Deviation, Standard Deviation, Probable Error. Meaning, Purpose, Calculation and advantages of scoring scales; Sigma scale, Z Scale, Hull scale, T scale.

UNIT IV – Probability Distributions and Graphs

Normal Curve. Meaning of probability- Principles of normal curve – Properties of normal curve. Divergence form normality – Skewness and Kurtosis. Graphical Representation in Statistics; Line diagram, Bar diagram, Histogram, Frequency Polygon, Ogive Curve.

UNIT V – Inferential and Comparative Statistics

Tests of significance; Independent "t" test, Dependent "t" test – chi – square test, level of confidence and interpretation of data. Meaning of correlation – co-efficient of correlation – calculation of co-efficient of correlation by the product moment method and rank difference method. Concept of ANOVA and ANCOVA.

References:

Best J. W (1971) Research in Education, New Jersey; Prentice Hall, Inc
Clark D.H. (1999) Research Problem in Physical Education 2nd edition, Eaglewood Cliffs, Prentice Hall, Inc.
Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illinois; Human Kinetics;
Kamlesh, M. L. (1999) Research Methodology in Physical Education and Sports, New Delhi
Rothstain A (1985) Research Design and Statistics for Physical Education, Englewood Cliffs:Prentice Hall, Inc
Sivaramakrishnan. S. (2006) Statistics for Physical Education, Delhi; Friends Publication

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Applied Statistics in Physical Education (SOE/PE/C-601)

Course Outcome:

- The students will know about meaning, application and significance of Statistics in Physical Education Teaching and Research.
- The students will understand about the use and types of data and various descriptive statistical techniques like: Measure of Central Tendencies and Measure of Variabilities.
- The students will be explained about Probability Distributions and various types of Graphs and their use in Physical Education.
- The students will learn about Inferential Statistics techniques like: 't' test, chi square test, ANOVA, ANCOVA.

Program Outcome:

The program will enable the students to know about statistics and its scope in field of Physical Education by use of different descriptive and inferential statistical techniques.

Program Specific Outcome:

The students will enable to understand about use of Data, its statistical treatment and interpretation as per the need of the study in the field of Physical Education.

SOE/PE/C-602 SPORTS BIOMECHANICS AND KINSESIOLOGY

UNIT I – Introduction

Meaning, nature, role and scope of applied kinesiology and Sports Biomechanics. Meaning of Axis and Planes, Dynamics, Kinematics, Kinetics, Statics Centre of gravity -Line of gravity plane of the body and axis of motion, Vectors and Scalars.

UNIT II – Muscle Action

Origin, Insertion and action of muscles: Pectoralis major and minor, Deltoid, Biceps, Triceps (Anterior and Posterior), Trapezius, serratus, Sartorius, Rectus femoris, Abdominis, Quadriceps, Hamstring, Gastrocnemius.

UNIT III – Motion and Force

Meaning and definition of Motion. Types of Motion: Linear motion, angular motion, circular motion, uniform motion. Principals related to the law of Inertia, Law of acceleration, and law of counter force. Meaning and definition of force- Sources of force - Force components. Force applied at an angle - pressure -friction -Buoyancy, Spin - Centripetal force - Centrifugal force.

UNIT IV – Projectile and Lever

Freely falling bodies - Projectiles -Equation of projectiles stability Factors influencing equilibrium - Guiding principles for stability -static and dynamic stability. Meaning of work, power, energy, kinetic energy and potential energy. Leverage -classes of lever - practical application. Water resistance - Air resistance -Aerodynamics.

UNIT V – Movement Analysis

Analysis of Movement: Types of analysis: Kinesiological, Biomechanical. Cinematographic. Methods of analysis – Qualitative, Quantitative, Predictive

References:

Deshpande S.H. (2002). ManavKriyaVigyan – Kinesiology (Hindi Edition) Amravati :HanumanVyayamPrasarakMandal.
Hoffman S.J. Introduction to Kinesiology (Human Kinesiology publication Inc. 2005
Thomas. (2001). Manual of structural Kinesiology, New York: McGraw Hill.
Uppal, A (2004), Kinesiology in Physical Education and Exercise Science, Delhi Friends publications.
Williams M (1982) Biomechanics of Human Motion, Philadelphia; Saunders Co.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Sports Biomechanics and Kinesiology (SOE/PE/C-602)

Course Outcome:

- The students will be able to know about meaning and concept of Biomechanics and its importance in movement analysis.
- The student will understand about origin and insertion of important skeletal muscles and their movement pattern.
- The student will acquire knowledge about Motion-Cause and descriptions and factors affecting it.

- The student will get understanding of levers and projectile and their application in Physical Education and Sports.
- The student will enable to analyse various types of movements by adopting different method of analysis.

Program Outcome:

The program content will provide the students an opportunity to know about the Human motion, different factors affecting it and application of Scientific principles to improve the Sports Performance.

Program Specific Outcome:

The students will learn about the application of Kinesiological and Biomechanical knowledge and principles to sports setting and achieve the positive result out of it.

SOE/PE/C-603 ATHLETIC CARE AND REHABILITATION

Unit I – Corrective Physical Education

Definition and objectives of corrective physical Education. Posture and body mechanics, Standards of Standing Posture. Value of good posture, Drawbacks and causes of bed posture. Posture test – Examination of the spine.

Unit II – Posture

Normal curve of the spine and its utility, Deviations in posture: Kyphosis, lordosis, flat back, Scoliosis,

round shoulders, Knock Knee, Bow leg, Flat foot. Causes for deviations and treatment including exercises.

Unit III – Rehabilitation Exercises

Passive, Active, Assisted
Resisted exercise for Rehabilitation
Stretching, PNF techniques and principles.

Unit IV – Massage

Brief history of massage – Massage as an aid for relaxation – Points to be considered in giving massage – Physiological , Chemical, Psychological effects of massage – Indication / Contra indication of Massage – Classification of the manipulation used massage and their specific uses in the human body – Stroking manipulation: Effleurage – Pressure manipulation: Petrissage Kneading (Finger, Kneading, Circular) ironing Skin Rolling – Percussion manipulation: Tapotement, Hacking, Clapping, Beating, Pounding, Slapping, Cupping, Poking, Shaking Manipulation, Deep massage.

Unit V – Sports Injuries Care, Treatment and Support

Principles pertaining to the prevention of Sports injuries – care and treatment of exposed and unexposed injuries in sports – Principles of apply cold and heat, infrared rays – Ultrasonic, Therapy – Short wave diathermy therapy. Principles and techniques of Strapping and Bandages.

References:

Dohenty. J. Meno.Wetb, Moder D (2000) Track & Field, Englewood Cliffs, Prentice Hal Inc.
Lace, M. V. (1951) Massage and Medical Gymnastics, London: J & A Churchill Ltd.
McOoyand Young (1954) Tests and Measurement, New York: Appleton Century.
Naro, C. L. (1967) Manual of Massage and, Movement, London: Febra and Febra Ltd.
Rathbome, J.l. (1965) Corrective Physical education, London: W.B. Saunders & Co.
Stafford and Kelly, (1968) Preventive and Corrective Physical Education, New York.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Athlete's Care and Rehabilitation (SOE/PE/C-603)

Course Outcome:

- The students will understand the meaning and use of corrective Physical Education.
- The student will be explained about Posture (Good and Bad), Posture Deformities, its adverse effects and remedial measures.

- The students will know about history and types of Massage, various massage strokes and their benefits.
- The students will be enabled to get knowledge of common sports injuries, its treatment and rehabilitation program.

Program Outcome:

The program will enable the students to get knowledge about various issues like: Posture, Massage, rehabilitation exercises and injury management essential for care of a Sports person and for effective rehabilitation.

Program specific Outcome:

The students will be provided the knowledge of corrective Physical Education and Rehabilitation program to make Sports person more productive and injury free career.

SOE/PE/E-601 SPORTS JOURNALISM AND MASS MEDIA

UNIT I Introduction

Meaning and Definition of Journalism, Ethics of Journalism – Canons of journalism- Sports Ethics and Sportsmanship – Reporting Sports Events. National and International Sports News Agencies.

UNIT II Sports Bulletin

Concept of Sports Bulletin: Journalism and sports education – Structure of sports bulletin – Compiling a bulletin – Types of bulletin – Role of Journalism in the Field of Physical Education: Sports as an integral part of Physical Education – Sports organization and sports journalism – General news reporting and sports reporting.

UNIT III Mass Media

Mass Media in Journalism: Radio and T.V. Commentary – Running commentary on the radio – Sports expert's comments. Role of Advertisement in Journalism. Sports Photography: Equipment- Editing – Publishing.

UNIT IV Report Writing on Sports

Brief review of Olympic Games, Asian Games, Common Wealth Games World Cup, National Games and Indian Traditional Games. Preparing report of an Annual Sports Meet for Publication in Newspaper.Organization of Press Meet.

UNIT –V Journalism

Sports organization and Sports Journalism – General news reporting and sports reporting. Methods of editing a Sports report. Evaluation of Reported News.Interview with and elite Player and Coach.

Reference:

Ahiya B.N. (1988) Theory and Practice of Journalism: Set to Indian context Ed3. Delhi :Surjeet Publications
Ahiya B.N. Chobra S.S.A. (1990) Concise Course in Reporting. New Delhi: Surjeet Publication
Bhatt S.C. (1993) Broadcast Journalism Basic Principles. New Delhi. Haranand Publication
Dhananjay Joshi (2010) Value Education in Global Perspective. New Delhi: Lotus Press.
MohitChakrabarti (2008): Value Education: Changing Perspective, New Delhi: Kanishka Publication.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Sports Journalism and Mass Media (SOE/PE/E-601)

Course Outcome:

- The students will understand about Meaning and Significance of Journalism in the Field of Sports.
- The students will be able to know about Role of Journalism in the field of Physical Education.
- The students will be explained about concept of Sports Bulletin and Sports Education.
- The students will know about Reporting of Sports Events, Publication of Sports Meet and organizing Press Meet.

Program Outcome:

The program will provide knowledge to the student about Journalism, Sports Journalism and its Scope on the field of Physical Education.

Program specific Outcome:

The students will acquire knowledge about scope of Journalism in Sports world and Physical Education qualities and qualifications for Professional Sports Journalist.

SOE/PE/E-602 SPORTS MANAGEMENT AND CURRICULUM DESIGN IN PHYSICAL EDUCATION

UNIT I – Introduction to Sports Management

Definition, Importance. Basic Principles and Procedures of Sports Management. Functions of Sports Management. Personal Management: Objectives of Personal Management, Personal Policies, Role of Personal Manager in an organization, Personnel recruitment and selection.

UNIT II – Program Management

Importance of Programme development and the role of management, Factors influencing programme development. Steps in programme development, Competitive Sports Programs, Benefits, Management Guidelines for School, Colleges Sports Programs, Management Problems in instruction programme, Community Based Physical Education and Sports program.

UNIT III – Equipments and Public Relation

Purchase and Care of Supplies of Equipment, Guidelines for selection of Equipments and Supplies, Purchase of equipments and supplies, Equipment Room, Equipment and supply Manager. Guidelines for checking, storing, issuing, care and maintenance of supplies and equipments. Public Relations in Sports: Planning the Public Relation Program – Principles of Public Relation – Public Relations in School and Communities – Public Relation and the Media.

UNIT IV – Curriculum

Meaning and Definition of Curriculum. Principles of Curriculum Construction: Students centred, Activity centred, Community centred, Forward looking principle, Principles of integration, Theories of curriculum development, Conservative (Preservation of Culture), Relevance, flexibility, quality, contextually and plurality. Approaches to Curriculum; Subject centred, Learner centred and Community centred, Curriculum Framework.

UNIT V – Curriculum Sources

Factors that affecting curriculum: Sources of Curriculum materials – text books – Journals – Dictionaries, Encyclopedias, Magazines, Internet. Integration of Physical Education with other Sports Sciences – Curriculum research, Objectives of Curriculum research – Importance of Curriculum research. Evaluation of Curriculum, Methods of evaluation.

Reference:

Aggarwal, J.C (1990). Curriculum Reform in India – World overviews, Doaba World Education Series – 3 Delhi: Doaba House, Book seller and Publisher.
Carl, E, Willgoose. (1982. Curriculum in Physical Education, London: Prentice Hall. Chakraborthy & Samiran. (1998) .Sports Management. New Delhi: Sports Publication.
John, E, Nixon & Ann, E, Jewett. (1964). Physical Education Curriculum, New York: The Ronald Press Company.
McKernan, James (2007) Curriculum and Imagination: Process, Theory, Pedagogy and Action

Research,. U.K. Routledge
NCERT (2000). National Curriculum Framework for School Education, New Delhi: NCERT.
NCERT (2005). National Curriculum Framework-2005, New Delhi: NCERT.
Williams, J.F. (2003). Principles of Physical Education. Meerut: College Book House.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Sports Management & Curriculum Design in Physical Education (SOE/PE/E-602)

Course Outcome:

- The students will know about the concept of Sports Management, its principles and functions in Physical Education.
- The students will be able to learn about Program development colleges Sports program and community based Physical Education.
- The students will be explained about Curriculum, its principles, theories of Curriculum Development.
- The students will know about factors affecting Curriculum. Sources of Curriculum materials and latest avenues of information in the field of Physical Education.

Program Outcome:

The program will enable to understand the meaning, principles and functions of Sports management. It will also enable to learn about Curriculum development and its various sources.

Program specific Outcome:

The students will learn about the Management; Sports Management, Office Management, Personnel Management and Program Management, which will allow them to become a successful Professional in the field of Physical Education.

SEMESTER III

SOE/PE/C-701 SCIENTIFIC PRINCIPLES OF SPORTS TRAINING

UNIT I – Introduction

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

UNIT II – Components of Physical Fitness

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

UNIT III – Flexibility and Coordinative abilities

Flexibility: Methods to Improve the Flexibility- Stretch and Hold Method, Ballistic Method, Special Type Training: Plyometric Training. Training for Coordinative abilities: Methods to improve Coordinative abilities: Sensory Method, Variation in Movement Execution Method, Variation in External Condition Method, Combination of Movement Method, Types of Stretching Exercises.

UNIT IV – Training Plan

Training Plan: Macro Cycle, Meso-Cycle. Short Term Plan and Long Term Plans - Periodisation: Meaning, Single, Double and Multiple Periodisation, Preparatory Period, Competition Period and Transition Period.

UNIT V – Doping

Definition of Doping – Side effects of drugs – Dietary supplements – IOC list of doping classes and methods. Blood Doping – The use of erythropoietin in blood boosting – Blood doping control – The testing programmes – Problems in drug detection – Blood testing in doping control – Problems with the supply of medicines Subject to IOC regulations : over-the- counter drugs (OTC) – prescription only medicines (POMs) – Controlled drugs (CDs). Reporting test results – Education

References:

Bunn, J.N. (1998) Scientific Principles of Coaching, New Jersey Engle Wood Cliffs, Prentice Hall Inc.
Cart, E. Klafs&Daniel, D. Arnheim (1999) Modern Principles of Athletic Training St. Louis C. V. Mosphy Company

Daniel, D. Arnheim (1991) Principles of Athletic Traning, St. Luis, Mosby Year Book
David R. Mottram (1996) Drugs in Sport, School of Pharmacy, Liverpool: John Moore University
Hardayal Singh (1991) Science of Sports Training, New Delhi, DVS Publications
Jensen, C.R. & Fisher A.G. (2000) Scientific Basic of Athletic Conditioning, Philadelphia

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Scientific Principles of Sports Training (SOE/PE/C-701)

Course Outcome:

- The students will learn about Meaning and Principles of Sports Training.
- The students will know about various important terms of Sports Training like: Load, Adaptation, Supercompensation and Overload to make it more effective and meaningful.
- The students will be explained about various training methods for improving Motor abilities of Sportspersons.
- The students will acquire knowledge of Training plans and principles of Periodization for achieving Top form for an athlete.

Program Outcome:

The program content will allow the students to know about Sports Training and its formulation for highest Sports performance for the Sportsperson. It will also make aware them about Doping and banned substances.

Program specific Outcome:

The students will be able to get knowledge about scientific method of Sports Training and other relevant issue pertaining to it. They will be explained about various methods of Doping and its ill effects to Sportsperson's health.

SOE/PE/C-702 SPORTS MEDICINE

UNIT I – Introduction

Meaning, definition and importance of Sports Medicine, Definition and Principles of therapeutic exercises. Coordination exercise, Balance training exercise, Strengthening exercise, Mobilization exercise, Gait training, Gym ball exercise Injuries: acute, sub-acute, chronic. Advantages and Disadvantages of PRICE, PRINCE therapy, Aquatic therapy.

UNIT II – Basic Rehabilitation

Basic Rehabilitation: Strapping/Tapping: Definition, Principles Precautions Contraindications. Proprioceptive neuromuscular facilitation: Definition hold, relax, repeated contractions. Show reversal technique exercises. Isotonic, Isokinetic, isometric stretching. Definition.Types of stretching, Advantages, dangers of stretching, Manual muscle grading.

UNIT III – Spine Injuries and Exercise

Head, Neck and Spine injuries: Causes, Presentational of Spinal anomalies, Flexion, Compression, Hyperextension, Rotation injuries. Spinal range of motion. Free hand exercises, stretching and strengthening exercise for head neck, spine. Supporting and aiding techniques and equipment for Head, Neck and Spine injuries.

UNIT IV – Upper Extremity Injuries and Exercise

Upper Limb and Thorax Injuries: Shoulder: Sprain, Strain, Dislocation, and Strapping. Elbow: Sprain, Strain, Strapping. Wrist and Fingers: Sprain Strain, Strapping. Thorax, Rib fracture. Breathing exercises, Relaxation techniques, Free hand exercise, Stretching and strengthening exercise for shoulder, Elbow, Wrist and Hand. Supporting and aiding techniques and equipment for Upper Limb and Thorax Injuries.

UNIT V – Lower Extremity Injuries and Exercise

Lower Limb and Abdomen Injuries: Hip: Adductor strain, Dislocation, Strapping. Knee: Sprain, Strain, Strain, Strapping. Ankle: Sprain, Strain, Strapping. Abdomen: Abdominal wall, Contusion, Abdominal muscle strain. Free exercises – Stretching and strengthening exercise for Hip, knee, ankle and Foot. Supporting and aiding techniques and equipment for Lower limb and Abdomen injures.

References:

Christopher M. Norris. (1993). Sports Injures Diagnosis and Management for Physiotherapists. East Kilbride: Thomson Litho Ltd.

James, A. Gould & George J. Davies.(1985). Physical Physical Therapy. Toronto: C.V. Mosby Company.
Morris B. Million (1984) Sports Injuries and Athletic Problem. New Delhi: Surjeet Publication.
Pande.(1998). Sports Medicine. New Delhi: Khel Shitya Kendra
The Encyclopedia of Sports Medicine. (1998). The Olympic Book of Sports Medicine, Australia: Tittel Blackwell Scientific publications.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Sports Medicine (SOE/PE/C-702)

Course Outcome:

- The students will know about the meaning and importance of Sports Medicine for Physical Education field.
- The students will understand about various types of Therapeutic exercises, their procedures and advantages.
- The students will be explained about proper Rehabilitation program for Sportsperson.
- The students will acquire the knowledge about injuries common to lower and upper extremities of human body and its treatment.
- The students will learn about tapping and strapping of injured body part.

Program Outcome:

The program will enable the students to have understanding about the causes, prevention and management of Sports Injuries and use of therapeutic modalities for rehabilitation program.

Program specific Outcome:

The students will know about the use of Sports Medicine for Injury free Sports participation and Rehabilitation program for recovery from any Sports Injury.

SOE/PE/C-703 HEALTH EDUCATION AND SPORTS NURTITION

Unit - I Health Education

Concept, Dimensions, Spectrum and Determinants of Health
Definition of Health, Health Education, Health Instruction, Health Supervision, Aim, objective and Principles of Health Education
Health Service and guidance instruction in personal hygiene

Unit - II Health Problems in India

Communicable and Non Communicable Diseases
Obesity, Malnutrition, Adulteration in food, Environmental sanitation, Explosive, Population,
Personal and Environmental Hygiene for schools
Objective of school health service, Role of health education in schools
Health Services - Care of skin, Nails, Eye health service, Nutritional service, Health appraisal, Health record, Healthful school environment, first- aid and emergency care etc.

Unit- III – Hygiene and Health

Meaning of Hygiene, Type of Hygiene, dental Hygiene, Effect of Alcohol on Health, Effect of Tobacco on Health, Life Style Management, Management of Hypertension, Management of Obesity, Management of Stress

Unit – IV- Introduction to Sports Nutrition

Meaning and Definition of Sports Nutrition, Role of nutrition in sports, Basic Nutrition guidelines, Nutrients: Ingestion to energy metabolism (Carbohydrate, Protein and Fat), Role of carbohydrates, Fat and protein during exercise.

Unit – V Nutrition and Weight Management

Concept of BMI (Body mass index), Obesity and its hazard, Dieting versus exercise for weight control Maintaining a Healthy Lifestyle, Weight management program for sporty child, Role of diet and exercise in weight management, Design diet plan and exercise schedule for weight gain and loss.

References:

Bucher, Charles A. "Administration of Health and Physical Education Programme". Delbert, Oberteuffer, et. al." The School Health Education".
Ghosh, B.N. "Treaties of Hygiene and Public Health".
Hanlon, John J. "Principles of Public Health Administration" 2003.
Moss "Health Education" (National Education Association of U.T.A.)Nemir A. 'The School Health Education" (Harber and Brothers, New York). Nutrition Encyclopedia, edited by Delores C.S. James, The Gale Group, Inc.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Health Education and Sports Nutrition (SOE/PE/C-703)

Course Outcome:

- The students will know about the concept, Dimensions and Spectrum of Health.
- The students will be able to understand about principles of Health Education and various School Health Services.
- The students will be explained about meaning and Significance of Hygiene for Healthy life.
- The students will know about Sports Nutrition and its impact on Human Performance.
- The students will be able to learn about Obesity and its hazards and weight management plans.

Program Outcome:

The program content will enable to understand about the role and significance and Health and Nutrition to human life and Sports Performance. They will also know about ill effect of Obesity.

Program specific Outcome:

The students will know about Health Education and its application for better quality of Human life and performance through Nutritious and Balance Diet.

SOE/PE/E-701 VALUE AND ENVIRONMENTAL EDUCATION

UNIT I – Introduction to Value Education.

Values: Meaning, Definition, Concepts of Values. Value Education: Need, Importance and Objectives. Moral Values: Need and Theories of Values. Classification of Values: Basic Values of Religion, Classification of Values.

UNIT II – Value Systems

Meaning and Definition, Personal and Communal Values, Consistency, Internally consistent, internally inconsistent, Judging Value System, Commitment, Commitment to values.

Unit- III – Environmental Education

Definition, Scope, Need and Importance of environmental studies., Concept of environmental education, Historical background of environmental education, Celebration of various days in relation with environment, Plastic recycling & prohibition of plastic bag / cover, Role of school in environmental conservation and sustainable development, Pollution free eco-system.

Unit - IV Rural Sanitation and Urban Health

Rural Health Problems, Causes of Rural Health Problems, Points to be kept in Mind for improvement of Rural Sanitation, Urban Health Problems, Process of Urban Health, Services of Urban Area, Suggested Education Activity, Services on Urban Slum Area, Sanitation at Fairs & Festivals, Mass Education.

Unit - V Natural Resources and related environmental issues:

Water resources, food resources and Land resources, Definition, effects and control measures of: Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution Management of environment and Govt. policies, Role of pollution control board.

Reference:

Miller T.G. Jr., Environmental Science (Wadsworth Publishing Co.) Odum, E.P. Fundamentals of Ecology (U.S.A.: W.B. Saunders Co.) 1971.
Rao, M.N. & Datta, A.K. Waste Water Treatment (Oxford & IBH Publication Co. Pvt. Ltd.) 1987.
Townsend C. and others, Essentials of Ecology (Black well Science).
Miller T.G. Jr., Environmental Science (Wadsworth Publishing Co.).

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Value and Environmental Education (SOE/PE/E-701)

Course Outcome:

- The students will know about the meaning and concepts of Value Education and its significance in Modern Education System.
- The students will acquire knowledge about need and importance of Environmental Education.
- The students will be able to understand the issues of rural health problems, its causes and sanitation.
- The students will know about various natural resources and effect of pollution on it.

Program specific Outcome:

Program will allow the students to have understanding of Value and Environmental Education to modern day youth and preventive measure to curtail the hazards of various types of pollution.

Program specific Outcome:

The students will be enable to know about need and importance of Value Education to Physical Education professional and will also learn about important issue of pollution and its impact on human life.

SOE/PE/E-702 PHYSICAL FITNESS AND WELLNESS

Unit I – Introduction

Meaning and Definition" of Physical Fitness, Physical Fitness Concepts and Techniques, Principles of physical fitness, Physiological principles involved in human movement. Components of Physical Fitness.
Leisure time physical activity and identify opportunities in the community to participate in this activity. Current trends in fitness and conditioning, components of total health fitness and the relationship between physical activity and lifelong wellness.

Unit II – Nutrition

Nutrients; Nutrition labelling information, Food Choices, Food Guide Pyramid, Influences on food choices-social, economic, cultural, food sources, Comparison of food values. Weight Management-proper practices to maintain, lose and gain. Eating Disorders, Proper hydration, the effects of performance enhancement drugs

Unit III – Aerobic Exercise

Cardio respiratory Endurance Training; proper movement forms, i.e., correct stride, arm movements, body alignment; proper warm-up, cool down, and stretching, monitoring heart rates during activity. Assessment of cardio respiratory fitness and set goals to maintain or improve fitness levels. Cardio respiratory activities including i.e. power walking, pacer test, interval training, incline running, distance running, aerobics and circuits.

Unit IV – Anaerobic Exercise

Resistance Training for Muscular Strength and Endurance; principles of resistance training, Safety

techniques (spotting, proper body alignment, lifting techniques, spatial, awareness. and proper breathing techniques). Weight training principles and concepts; basic resistance exercises (including free hand exercise, free weight exercise, weight machines, exercise bands and tubing. medicine balls, fit balls) Advanced techniques of weight training

Unit V – Flexibility Exercise

Flexibility Training, Relaxation Techniques and Core Training.Safety techniques (stretching protocol; breathing and relaxation techniques) types of flexibility exercises (i.e. dynamic, static), Develop basic competency in relaxation and breathing techniques. Pilates, Yoga.

Reference:

David K. Miller & T. Earl Allen, Fitness, A life time commitment, Surjeet Publication Delhi 1989.
Dificore Judy, the complete guide to the postnatal fitness, A & C Black Publishers Ltd. 35 Bedford row, London 1998.
Warner W.K. Oeger& Sharon A. Hoeger, Fitness and Wellness, Morton Publishing Company, 1990.
Elizabeth & Ken day, Sports fitness for women, B.T. Batsford Ltd, London, 1986.
Emily R. Foster, KarynHartiger& Katherine A. Smith, Fitness Fun, Human Kinetics Publishers 2002.
Lawrence, Debbie, Exercise to Music. A & C Black Publishers Ltd. 37, Sohe Square, London 1999.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Physical Fitness and Wellness (SOE/PE/E-702)

Course Outcome:

- The students will be able to learn about the concept of Physical Fitness and its principles involved in human movement.
- The students will know about Food sources and choices and food values.
- The students will be explained about various cardio respiratory activities and their benefits.
- The students will be able to learn about various types of Flexibility exercises, Pilates and Yoga.

Program specific Outcome:

Program content will be enabled to know about meaning and concept of Physical Fitness and Wellness for Physical Education Teachers and Coaches.

Program specific Outcome:

The students will be acquainted with the concept of Nutrition, exercises, health & fitness and its advantages for Sportsperson and Physical Educationist.

SEMESTER IV

SOE/PE/C-801 INFORMATION AND COMMUNICATION TECHNOLOGY IN PHYSICAL EDUCATION

Unit I – Communication & Classroom Interaction

Concept, Elements, Process & Types of Communication, Communication Barriers & Facilitators of communication
Importance of ICT Need of ICT in Education
Scope of ICT: Teaching Learning Process, Publication Evaluation, Research and Administration, Challenges in Integrating ICT in Physical Education

Unit II – Fundamentals of Computers

Characteristics, Types & Applications of Computers Hardware of Computer: Input, Output & Storage Devices Software of Computer: Concept & Types
Computer Memory: Concept & Types Viruses & its Management
Concept, Types & Functions of Computer Networks Internet and its Applications Web Browsers & Search Engines Legal & Ethical Issues

Unit III – MS Office Applications

MS Word: Main Features & its Uses in Physical Education
MS Excel: Main Features & its Applications in Physical Education MS Access: Creating a Database, Creating a Table, Queries, Forms & Reports on Tables and its Uses in Physical

Education
MS Power Point: Preparation of Slides with Multimedia Effects MS Publisher: Newsletter & Brochure

Unit IV – ICT Integration in Teaching Learning Process

Approaches to Integrating ICT in Teaching Learning Process
Project Based Learning (PBL)
Co-Operative Learning
Collaborative Learning
ICT and Constructivism: A Pedagogical Dimension

Unit V – E-Learning & Web Based Learning

E-Learning
Web Based Learning
Visual Classroom

References:

Douglas E. Comer, The Internet Book, Purdue University, West Lafayette in 2005.
Heidi Steel Low price Edition, Microsoft Office Word 2003- 2004.
Pradeep K. Sinha&Priti; Sinha, Foundations computing BPB Publications -2006. Rebecca Bridges Altman Peach pit Press, Power point for window, 1999.
Sanjay Saxena, Vikas Publication House, Pvt. Ltd. Microsoft Office for ever one, Second Edition-2006.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Information and Communication Technology in Physical Education (SOE/PE/C-801)

Course Outcome:

- The students will learn about the concept, elements, process and types of communication.
- The students will be able to understand the need and importance of ICT in Education and Physical Education.
- The students will be explained about MS Word, MS Excel, MS Power Point, its application in Physical Education.
- The students will acquire knowledge about E-learning and its significance in Physical Education.

Program Outcome:

The program content is designed to make students aware about ICT, its various aspects and usage in the field of Physical Education to make learning more effective.

Program specific Outcome:

The students will be able to get knowledge of various ICT tools like MS Word, MS Excel, MS Power Point, their application for more meaningful and productive teaching.

SOE/PE/C-802 SPORTS PSYCHOLOGY

UNIT I – Introduction

Meaning, Definition, History, Need and Importance of Sports Psychology. Present Status of Sports Psychology in India. Motor Learning: Basic Considerations in Motor Learning– Motor Perception – Factors Affecting Perception – Perceptual Mechanism. Personality: Meaning, Definition, Structure – Measuring Personality Traits. Effects of Personality on Sports Performance.

UNIT II – Motivation

Meaning and Definition, Types of Motivation: Intrinsic, Extrinsic. Achievement Motivation: Meaning, Measuring of Achievement Motivation. Anxiety: Meaning and Definition, Nature, Causes, Method of Measuring Anxiety. Competitive Anxiety and Sports Performance. Stress: Meaning and Definition, Causes. Stress and Sports Performance. Aggression: Meaning and Definition, Method of Measurement. Aggression and Sports Performance. Self-Concept: Meaning and Definition, Method of Measurement.

UNIT III – Goal Setting

Meaning and Definition, Process of Goal Setting in Physical Education and Sports. Relaxation: Meaning

and Definition, types and methods of psychological relaxation. Psychological Tests: Types of Psychological Test: Instrument based tests: Pass-along test – Tachistoscope – Reaction timer – Finger dexterity board – Depth perception box – Kinesthesiometer board. Questionnaire: Sports Achievement Motivation, Sports Competition Anxiety.

UNIT IV – Sports Sociology

Meaning and Definition – Sports and Socialization of Individual Sports as Social Institution.National Integration through Sports. Fans and Spectators: Meaning and definition, Advantages and disadvantages on Sports Performance. Leadership: Meaning, Definition, types. Leadership and Sports Performance.

UNIT V – Group Cohesion

Group: Definition and Meaning, Group Size, Groups on Composition, Group Cohesion, Group Interaction, Group Dynamics. Current Problems in Sports and Future Directions – Sports Social Crisis Management – Women in Sports: Sports Women in our Society, Participation pattern among Women, Gender inequalities in Sports.

References:

Jain. (2002), Sports Sociology, Heal SahetyKendre Publishers.
Jay Coakley. (2001) Sports in Society – Issues and Controversies in International Education, Mc-Craw Seventh Edn.
John D Lauther (2000) Psychology of Coaching.NerJersy: Prenticce Hall Inc.
John D. Lauther (1998) Sports Psychology. Englewood, Prentice Hall Inc.
MiroslawVauks& Bryant Cratty (1999).Psychology and the Superior Athlete. London: The Macmillan Co.
Richard, J. Crisp. (2000). Essential Social Psychology.Sage Publications.
Robert N. Singer (2001). Motor Learning and Human Performance. New York: The Macmillan Co

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Sports Psychology (SOE/PE/C-802)

Course Outcome:

- The students will be able to know about need and importance of Sports Psychology for Physical Education teachers and Coaches.
- The students will learn about Motor Learning and Perceptual Mechanism and its significance in Sports Activities.
- The students will understand meaning, theories, types and application of Motivation in Sports and Physical Education.

- The students will be explained about different Relaxation techniques and procedures for Stress reduction in Sports.
- The students will know about Sports as Socialisation tool and role of various Social Institutes.

Program Outcome:

The program content is designed to make students to understand about Sports Psychology and various Psychology methods applied in the field of Physical Education and Sports.

Program specific Outcome:

The students will learn about Practical application of Psychological principles and techniques to making teaching learning more meaningful. They will also understand the significance of Sports as Socialising act in the human society.

SOE/PE/C-803 EDUCATION TECHNOLOGY IN PHYSICAL EDUCATION

Unit I – Nature and Scope

Educational technology-concept, Nature and Scope. Forms of educational technology: teaching technology, instructional technology, and behaviour technology; Transactional usage of educational technology: integrated, complementary, supplementary stand-alone (independent); programmed learning stage; media application stage and computer application stage.

Unit II – Systems Approach to Physical Education and Communication

Systems Approach to Education and its Components: Goal Setting, Task Analysis, Content Analysis, Context Analysis and Evaluation Strategies; Instructional Strategies and Media for Instruction. Effectiveness of Communication in instructional system; Communication - Modes, Barriers and Process of Communication.

Unit III- Instructional Design

Instructional Design: Concept, Views. Process and stages of Development of Instructional Design. Overview of Models of Instructional Design; Instructional Design for Competency Based Teaching: Models for Development of Self Learning Material.

Unit IV – Audio Visual Media in Physical Education

Audio-visual media - meaning, importance and various forms Audio/Radio: Broadcast and audio recordings - strengths and Limitations, criteria for selection of instructional units, script writing, pre-production, post-production process and practices, Audio Conferencing and Interactive Radio Conference. Video/Educational Television: Telecast and Video recordings Strengths and limitations, Use of Television and CCTV in instruction and Training, Video Conferencing, SITE experiment, countrywide classroom project and Satellite based instructions. Use of animation films for the development of children's imagination.

Unit V – New Horizons of Educational Technology

Recent innovations in the area of ET interactive video - Hypertext, video-texts, optical fiber technology - laser disk, computer conferencing.etc. Procedure and organization of Teleconferencing/Interactive video-experiences of institutions, schools and universities. Recent experiments in the third world countries and pointers for, India with reference to Physical education. Recent trends of Research in Educational Technology and its future with reference to education.

Reference:

Amita Bhardwaj, New Media of Educational Planning".Sarup of Sons, New Delhi-2003 Bhatia and Bhatia. The Principles and Methods of Teaching (New Delhi :Doaba House),1959.
K. Sampath, A. Pannirselvam and S. Santhanam. Introduction to Educational Technology (New Delhi: Sterling Publishers Pvt. Ltd.): 1981.
Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jalandhar, Sterling Publishers Pvt. Ltd.), 1982
Kozman, Cassidy and kJackson. Methods in Physical Education (W.B. Saunders Company,Philadelphia and London), 1952.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Educational Technology in Physical Education (SOE/PE/C-803)

Course Outcome:

- The students will learn about the Nature and Scope of Education Technology in Physical Education.

- The students will be able to understand about task analysis, content analysis, and context analysis and its relevance in Physical Education teaching.
- The students will be explained about various forms of Audio-Visual media and their utilization/ application in the field of Physical Education.
- The students will acquire knowledge about recent innovations in the area of Education Technology and its significance in Learning.

Program Outcome:

The program will enable the students to learn about recent advancements and technological upgradation in teaching in Physical Education.

Program specific Outcome:

The students will be able to know about the scope and applications of various Education Technology tools for innovative learning in Physical Education curriculum.

SOE/PE/E-801 DISSERTATION

1. A candidate shall have dissertation for M.P.Ed. – IV Semester and must submit his/her Synopsis and get it approved by the Head of Department on the recommendation of D.R.C. (Departmental Research Committee).

2. A candidate selecting dissertation must submit his/her dissertation not less than one week before the beginning of the IVth Semester Examination.
3. The candidate has to face the Viva-Voce conducted by DRC.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Dissertation (SOE/PE/E-801)

Course Outcome:

- The students will learn to prepare the Research Proposal by application of selection of a Research Program.
- The students will understand about various steps used in conducting a Research study.
- The students will learn to conduct a study by following Research Methodology in the field of Physical Education.

Program Outcome:

The program will enable the students to locate a Research Problem, formulate hypotheses, preparing a research proposal and writing a detail research report on the basis of.....

Program specific Outcome:

The students will learn about research work to be done systematically by application of standard procedure laid down for it.

SOE/PE/E-802 SPORTS ENGINEERING

Unit - I Introduction to sports engineering and Technology

Meaning of sports engineering, human motion detection and recording, human performance, assessment, equipment and facility designing and sports related instrumentation and measurement.

Unit - II Mechanics of engineering materials

Concept of internal force, axial force, shear force, bending movement, torsion, energy method to find

displacement of structure, strain energy. Biomechanics of daily and common activities –Gait, Posture, Body levers, ergonomics, Mechanical principles in movements such as lifting, walking, running, throwing, jumping, pulling, pushing etc

Unit- III Sports Dynamics

Introduction to Dynamics, Kinematics to particles – rectilinear and plane curvilinear motion coordinate system.
Kinetics of particles – Newton's laws of Motion, Work, Energy, Impulse and momentum.

Unit- IV Building and Maintenance:

Sports Infrastructure- Gymnasium, Pavilion, Swimming Pool, Indoor Stadium, Out-door Stadium, Play Park, Academic Block, Administrative Block, Research Block, Library, Sports Hostels, etc.
Requirements: Air ventilation, Day light, Lighting arrangement, Galleries, Store rooms, Office, Toilet Blocks (M/F), Drinking Water, Sewage and Waste Water disposal system, Changing Rooms (M/F), Sound System (echo-free), Internal arrangement according to need and nature of activity to be performed, Corridors and Gates for free movement of people, Emergency provisions of lighting, fire and exits, Eco-friendly outer surrounding. Maintenance staff, financial consideration.
Building process:- design phase (including brief documentation), construction phase functional (occupational) life, Re-evaluation, refurnish, demolish.
Maintenance policy, preventive maintenance, corrective maintenance, record and register for maintenance.

Unit – V Facility life cycle costing

Basics of theoretical analysis of cost
Total life cost concepts, maintenance costs, energy cost, capital cost and taxation

Reference:

Franz K. F. et. al., Editor, Routledge Handbook of Sports Technology and Engineering (Routledge, 2013).
Steve Hake, Editor, The Engineering of Sport (CRC Press, 1996)
Franz K. F. et. al., Editor The Impact of Technology on Sports II (CRC Press, 2007)
Helge N., Sports Aerodynamics (Springer Science & Business Media, 2009)
Youlin Hong, Editor Routledge Handbook of Ergonomics in Sport and Exercise
(Routledge, 2013)
Eric C. et al., Editor Sports Facility Operations Management (Routledge, 2010)

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Sports Engineering (SOE/PE/E-802)

Course Outcome:

- The students will be able to know about meaning of Sports Engineering and its applications.
- The students will be explained about mechanics of engineering materials.
- The students will learn about Dynamics and its use in Sports.
- The students will acquire knowledge of science related to Sports Infrastructure.
- The students will learn about maintenance of various Infrastructural facilities in Sports and Physical Education.

Program Outcome:

The program content will enable the students to know about basic science involved in Sports Engineering used in the field of Sports and Physical Education. In form of equipments, apparels and infrastructural facilities.

Program specific Outcome:

The student will be enabled to get knowledge of various scientific terms and principles involved in Engineering for construction and maintenance of Sports facilities.

SOE/PE/P-502/702 GAMES SPECIALIZATION THEORY

(SKILL AND TECHNIQUE)

TRACK & FIELD

Unit-I

- Introduction of Track & Field Athletics and Historical Development of events with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at national and International level (governing Bodies)
- Measurement and Markings of 400m standard track and different events.
- Facilities and Equipment of different events

Unit-III

- Rules and their interpretation of different events.
- Duties and responsibilities of the Technical Officials

Unit-IV

Track Event

- Starting Techniques
- Standing Start, Crouch Start and its variations.
- Finishing Techniques
- Run Through, Shoulder Shrug, Forward Lunge (Dip).
- Technique of Relay Race
- Various methods of baton exchange

Field Events

- Technique of Long Jump (Sail Technique, Hang Technique)
- Technique of Shop Put (O' Brien Technique)
- Technique of Discus Throw
- Technique of High Jump (Straddle Roll)

Unit-V

Fundamental Skills

- Technique of Hurdle events.
- Technique of Race Walking.
- Technique of Triple Jump
- Technique of Javelin Throw
- Technique of Hammer Throw

REFERENCES

- Bosen, K.O. Track and Field Fundamental Technique (Patiala: N.I.S. Publication).
- Brar T.S., Track and Field (New Delhi: Friends Publications) 2004.
- Daniel, Arnhiem, William and Frentice Athletic training (Boston: McGraw Hill) 2000.
- Doderty, J. Memmeth, Modern Track and Field (Englewood Cliffs: N.J. Prentice Hall, Inc.)
- Dybon, Geoffrey, G.H., The Mechanics of Athletics, (London: University of London Press Ltd.) 1962.

FOOTBALL

Unit-I

- Introduction of Football and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at national and International level (governing Bodies)
- Measurement and Markings of the field
- Facilities and Equipment

Unit-III

- Rules and their interpretation of the Game.
- Duties and responsibilities of the Technical Officials

Unit-IV

Fundamental Skills

- Kicks-Kicking with the outer instep of the foot Lofted kick
- Trapping-Trapping rolling ball-with the inside, sole and instep of the foot. Trapping bouncing ball with the sole
- Dribbling- With combination of inner instep & outer instep
- Heading
- Throw-in
- Feinting- With the upper part of the body
- Tackling-Slide tackling
- Goal Keeping-Collection of balls, Ball clearance - Kicking, throwing and deflecting

Unit-V

- Advanced Kicks –Chip, In-swing and out-swing, Volley (low drive & high drive)& Half Volley
- Ball reception and control-Receiving rolling ball with inside and outside of the foot and changing direction, Trapping the bouncing ball with the abdomen, Receiving the bouncing ball with the inside and outside of the foot and changing direction, Receiving a arial ball with inside, instep thigh, chest and head.
- Dribbling-Controlled dribbling, Dribbling around/between obstacle

REFERENCES

- ❖ Allen Wade (1967), The F.A. Guide to Training and Coaching, ISBN: 0434835501.
- ❖ Árpàd Csanàdi (1972) Soccer: Technique, Tactics, Coaching, Corvina Press.
- ❖ Bill Beswick (2010) Focused for Soccer, 2nd Edition Human Kinetics, ISBN-13: 9780736090261.
- ❖ Bobby Moffat (1985) The Basic Soccer Guide, Collier Books, ISBN-13: 978-0020287803.
- ❖ Thomas Reilly and A. Mark Williams (2003) Science and Soccer, Routledge London, ISBN : 0-203-41755-0.

VOLLEYBALL

Unit-I

- Introduction of Volleyball and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at national and International level (governing Bodies)
- Measurement and Markings of Court
- Facilities and Equipment

Unit-III

- Rules and their interpretation of the Game.
- Duties and responsibilities of the Technical Officials

Unit-IV

Fundamental Skills

- Player’s stance- Receiving the ball & passing to the team mates.

- The Volley (Over head pass)-The Dig (Under hand pass).
- Service-Under Arm Service & Tennis Service.
- Spike-Straight Arm Spike& Round Arm Spike.
- Block-Single & Double Block.
- Straight Arm Spike-Forward Dive, Side Word Roll Block & Correction of Faults

Unit-V

Advanced Skills-

- Pass- Back Pass, Back Roll Volley, Back Roll Dig, Jump and Pass, Side Roll Dig.
- Service-Side Arm Floater, Overhead Floater,
- Spike-Spiking cross court & spiking down the line.
- Block-Double Block & Triple Block
- Dive- Dive combined with dig (Two handed &one Handed)

REFERENCES

- ❖ Anthony, Don. Success in Volleyball. London: John Murary Publishers Ltd. 1978.
- ❖ Leveag, Robert E. How to Improve your Volleyball Chicago: The Athletic Institute, 1968.
- ❖ Ranganathan P.P. Volleyball (Friends Publications Delhi 2000.
- ❖ Saggar S.K. Play Better Volleyball (Delhi: Lokesh Thani Sports Publication)1994.
- ❖ Soudhu, G.S. Volleyball, Basic & Advanced. The Sports. People, Chandigarh.

CRICKET

Unit-I

- Introduction of Cricket and Historical Development of the game with special reference to India & world.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Measurement and Markings of Field.
- Facilities and Equipment

Unit-III

- Laws of Cricket and their interpretations.
- Duties and responsibilities of the technical Officials

Unit-IV

- Batting skills and techniques- Basics of Batting, Grip, Stance,
- Taking guard & Back lift
- Vertical Bat Strokes-Front foot defense, Back foot defense,
- Cover drive, Off drive & On drive
- Horizontal Bat Strokes- Pull shot, Square cut, Sweep shot
- Fielding -Fielding positions, attacking fielding & Defensive fielding
- Running between the Wickets-Calling & Running

Unit-V

- Bowling Skills and Techniques
- Essentials of Bowling-Grip, Run-up, Delivery, Follow through
- Medium Pace and Fast Bowling- Outswing bowling & Inswing bowling
- Spin Bowling –Leg spin, Off spin & their variation.
- Catching and Throwing Techniques :Catching, Close catching & Deep catching
- Throwing-Over arm throw, Under arm throw, Crow hop and throw

REFERENCES

- ❖ Aneja, O.P. How to Play Cricket, Prerna Prakashan, 2012.
- ❖ Arora, Monika. Cricket Coaching Manual, Sports Publication, 2005.
- ❖ Bharadwaj, Arun. Coaching Batting Skills, Royal Colour Cartons, 2008.
- ❖ Kutty, Suresh. Fielding Drills in Cricket, Sports Publication, 2003.
- ❖ Rachna. Play Better Cricket, Sports Publication, 2001.
- ❖ Srivastava, Vijay Kumar. Analysis of Cricket Skills, Sports Publication, 2007.

HOCKEY

Unit-I

- Introduction of Hockey and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Measurement and Markings of Field.
- Facilities and Equipment

Unit-III

- Rules of the game and their interpretations.
- Duties and responsibilities of the Technical Officials

UNIT-IV

- Grips and shifting of grip.
- Skills - Rolling, Push, Stop, Hit, Flick, Scoop, Dribble.
- Definition of Pass, Types and Maxims of Passing.
- Shooting- shot and its variations

UNIT-V

- Steps of Skill Training.
- Ball reception and control-Receiving rolling ball and changing direction. Stopping the ball, Receiving the ball, Receiving a arial ball.
- Dribbling-Controlled dribbling, Dribbling around/between obstacle
- Defense -Individual defense, Guarding the man with the ball & Guarding the man without the ball

REFERENCES

- ❖ Ahmed Khan, Eraj, Hockey for Boys and Girls, Scientific Book Company, Patna, 1976.
- ❖ D. Jain, Hockey Skills & Rules Khel Sahitya Kendra, 2003.
- ❖ Dilip K. Dureha & Akhil Mehrotra, Teaching and Coaching Hockey, Janvani Prakashan (P) Ltd., 2003.
- ❖ Flint, Rachael, H. Women's Hockey London : Pelham Books Ltd., 1976.
- ❖ Ian Taylor with David V., Taylor on Hockey, Macdonald Queen Anne press, 1988.

BASKETBALL

Unit-I

- Introduction of Basketball and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Measurement and Markings of the Court.
- Facilities and Equipment

Unit-III

- Rules of the game and their interpretations.
- Duties and responsibilities of the Technical Officials

Unit-IV

Fundamental skills:

- Players stance and ball handling
- Passing techniques-Two hand chest pass, Two hand bounce pass & One hand base ball pass
- Receiving techniques-Two hand receiving, One hand receiving & Receiving in stationary position
- Dribbling-How to start dribble, How to stop dribble & Low dribble & High dribble
- Shooting-Lay-up shot and its variations, One hand set shot, One hand jump shot
- Rebounding-Defensive rebound &Offensive rebound
- Defense -Individual defense, Guarding the man with the ball & Guarding the man without the ball

Unit-V

Fundamental skills:

- Passing techniques-Side arms pass & Overhead pass
- Receiving techniques-Receiving while running, Receiving while jumping, Receiving throw in
- Dribbling techniques-Cross-over dribble, Reverse dribble & Rolling dribble
- Shooting techniques-Hook shot, Free throw, There point shot
- Rebounding techniques-Box out, Rebound organization, Pivoting
- Screen & Roll-Side screen, Back screen & Front screen

REFERENCES

- ❖ Abraham C.C., Basketball for Men and Women, Madras, Y.M.C.A. Publishing House, 1956.
- ❖ Cotherk A.L., Modern Basketball - A Fundamental Analysis of Skills and Tactics. London : Nicholas Kaya, 1966.
- ❖ Jeery V. Krasue, Ed. D., Basketball Skills and Drills, The Marine Sports Publishing Division 2000.
- ❖ Julian, Alvin F., Bread & Butter Basketball, London Prentice Hall, Inc., 1960.

KHO-KHO

Unit-I

- Introduction of Kho-Kho and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Measurement and Markings of the Court.
- Facilities and Equipment

Unit-III

- Rules of the game and their interpretations.
- Duties and responsibilities of the Technical Officials

Unit-IV

Fundamental Skills

- Offensive skills- Sitting in the square, giving Kho (Simple, Judgment, Late, Advance, Proximal and Cross Step method Kho),
- Turning at the pole, Tapping, Covering (Biped and Quadruped method),
- Dive (Sitting, Running, Pole and Side dive).

Unit-V

- Defensive Skills-Entering the field of play,
- Positioning on the post,
- Running skills (Single chain, Double chain and Three six-up),
- Ring (Short Medium and Long Ring).

REFERENCES

❖ Gouric Kho-Kho AVALOKAN (New Delhi Khel Sahitya Kendra) 2005.
❖ Kho-Kho, The game of chase and Trill, Bombay Maharashtra Kho-Kho Association.
❖ Yogesh Yadav. Kho-Kho, Maharashtra Kho-Kho Association, 1969.

KABADDI

Unit-I

- Introduction of Kabaddi and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Measurement and Markings of Court.
- Facilities and Equipment

Unit-III

- Rules of the game and their interpretations.
- Duties and responsibilities of the technical Officials

Unit-IV

Fundamental Skills

- Skills in raiding-Touching with hand.
- Various kicks.
- Crossing of Baulk line.
- Crossing of Bonus line.
- Luring the opponent to Catch.
- Skills of holding the raider-Various formations, Catching from particular position,
- Different catches.

Unit-V

Additional skills in raiding-

- Bringing the Antis in to particular position.
- Escaping from various holds.
- Techniques of escaping from chain formation.
- Combined formations in offence.
- Combined formations in defence.

REFERENCES

- E. Prasad Rao, Modern Coaches in Kabaddi, D.V.S. Publications (New Delhi)-1994
- Meenu Syal, Teach yourself Kabadi, Prema Prakashan-2004
- Rao, C. V. Kabaddi, Patials, N.I.S. Publications, 1971.
- Reddy, B. A. Scientific Kabaddi, Madrad ; Raman's Printing Press, 1974.

TABLE TENNIS

Unit-I

- Introduction of Table- Tennis and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Measurement and Markings of the table tennis.
- Facilities and Equipment

Unit-III

- Rules of the game and their interpretations.
- Duties and responsibilities of the Technical Officials

Unit-IV

Fundamental Skills:

- Basic Techniques: Grip, Stance (offensive & defensive), Push, Counter Attack, Service & Receive, Drive, Block, Chop,
- The Grip- Hammer Grip, Shake hand Grip & Pen hold grip
- Stance and Ready position and foot work.
- Service -Fore hand (Counter & Back Spin), Back hand (Counter & Back Spin) & Side Spin (Forehand & Backhand)

Unit-V

Advanced techniques:

- Footwork, Service Variations, Drive Variations, Flick, Smash.
- Strokes (From both forehand and backhand)
- Push, Counter, Drive (with top spin),Smash , Flat and Loop drive

REFERENCES

- A. Kumar, DPH Sports Series Table Tennis, Discovery Publishing House, N.D. 1999.
- D.Jain, Table Tennis Skills & Rules, Khel Sahitya Kendra, New Delhi, 2003.
- Donal Parker & David Hewitt, Play the Game Table Tennis, Blandford, 2003.
- Earna Victor, Your Book of Table Tennis, London: Faber and Faber Ltd. 3, Queen Square, 1971.
- Leslie Woallard, Table Tennis, Foyles Handbooks London.

BADMINTON

Unit-I

- Introduction of Badminton and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Arjuna and Dhronacharya Awardees related to the game.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Measurement and Markings of the Court.
- Facilities and Equipment

Unit-III

- Rules of the game and their interpretations.
- Duties and responsibilities of the Technical Officials

UNIT-IV

Fundamental Techniques

- Grips (Forehand, Backhand, Multipurpose, Pan Handle, Short and Long), shuttle grips
- Services (Short, Long or High Service, Drive and Flick Service)

Unit-V

Advance skills

- Strokes- Underhand (clear& drop), Forehand, Backhand,
- Overhead (clear, drop & smash) , Over-arm, Round the head,
- Foot work

REFERENCES

- Downey, Jake & Brodie, D, (1980) Get Fit For Badminton A Practical Guide to Training for Players and Coaches
- Downey, Jake (1993) Winning Badminton Doubles How to coach BADMINTON Published by Jake Downey © Jake Downey 1990

- ❖ Downey, Jake (1982) "*Better Badminton for All'.* Pelham Books .
- ❖ Downey, Jake (1993) Excelling at Badminton (Beyond the Basics) Teach Yourself Books.
- ❖ Downey, Jake (2007) 'Tactics in Badminton Singles, ebook,

HANDBALL

Unit-I

- Introduction of Handball and Historical Development of the game with special reference to India.
- Important Tournaments held at National and International Levels.
- Awardees related to the game.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Measurement and Markings of the Court.
- Facilities and Equipment

Unit-III

- Rules of the game and their interpretations.
- Duties and responsibilities of the Technical Officials

Unit-IV

Fundamental Skills-

- Passing techniques- over head pass, under hand pass, side arm pass, vertical jump pass, Catching, Throwing, Ball Control, Goal Throws.
- Dribbling-How to start dribble, How to stop dribble & Low dribble & High dribble
- Shooting- Jump Shot, Centre Shot, Dive Shot, Reverse Shot,
- Attack and Counter Attack, Simple Counter Attack, Counter Attack from two wings and centre, Blocking, Goal keeping,
- Receiving techniques-Two hand receiving, One hand receiving & Receiving in stationary position

Unit-V

Fundamental skills:

- A Players Movement in Offence and Defence- Individual defence elements, Individual defence
- Technical elements , Screening the Opponent without a Ball, Screening with a Ball Defense players stance and ball handling
- Goalkeeper- posture and footwork, defending with legs and hands, passing to initiate fast attack, speed of reaction

REFERENCES

- www.ihf.info/upload/pdf-download/rules_english.pdf
- ebook.eurohandball.com/BasicHandball1/html/13.html

Yoga

Unit-I

- Introduction of Yoga and Historical Development of the Yoga with special reference to India.
- Important competition held at National and International Levels.
- Famous personalities related to Yoga.

Unit-II

- Organizational set-up at National and International level (governing Bodies)
- Facilities and Equipment

Unit-III

- Rules of the Yoga and their interpretations.
- Duties and responsibilities of the Technical Officials

Unit-IV

Asanas

- Surya Namaskar
- Meditative: Sukhasan, Swastikasan, Padmasan, Vajrasan and Siddhasan etc.
- Cultural:Bhujangasan,Ardha-Shalabhasana,Dhanurasana, Naukasana,Padhastasana, Halasan, Naukasan, Matsyasan, Vakrasan, Chakrasan, Lateral bend Tadasan, Utkatasana, Vrikshasan, Parvatasan, Shavasan, Makrasan.

Unit-V

- Pranayam: Anuloma- Viloma and Ujjai (both without Kumbhak).
- Bandha: Uddiyan, Agnisar
- Mudra: Viparutakarani
- Kriya: Kapalabhati, Jala Neti, Sutra Neti.

REFERENCES

- B.K.S. Yengar, "Light and Yog. Yoga Deepika", George Allen of Unwin Ltd., London, 1981.
- Braj Bilari Nigam, Yoga Power "The path of personal achievement" Domen and Publishers, New Delhi, 2001.
- Goswami, S.S. Hathayoga, Fowler, London.
- Indira Devi, "Yoga for You", Gibbs, Smith Publishers, Salt Lake City, Domen and Publishers, New Delhi - 2001.
- Jack Peter, "Yoga Master the Yogic Powers", Abhishek Publications, Chandigarh, 2004.

SOE/PE/P-601/801 GAMES SPECIALIZATION THEORY

(TRAINING AND TACTICS)

Unit-I

- Training load, Overload, Adaptation,
- Training volume, Frequency, intensity and super-compensation
- Means and Methods of development of motor abilities with reference to games specialization.

Unit-II

- Systematization of training process for performance of sports persons at beginner, intermediate and high performance level.
- Basic concepts of preparation of training schedules

Unit-III

- Planning- Short term and long term training plan.
- Periodization-(Preparatory, competition and transition)
- Coaching camp and build up competition

Unit-IV

- Tactics- Description of tactics and strategy
- Different tactical concepts- Offensive, defensive, Individual and team.

Unit-V

- Tactical drills (with passive opponent and active opponent)
- System of play and its developments
- Tactical training- Individual and Group

REFERENCES

Books related to specific games and sports specialization will be suggested by teacher incharge.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

Paper: Game Specialisation I & II (Theory) (SOE/PE/P-502/601/702/801)

Course Outcome:

- The students will learn about the historical development important tournaments and awards at National and International level in their Game Specialisation.
- The students will be explained about organisational set-up at National and International level of their Game Specialisation.
- The students will be able to know about important Rules and their interpretation (as per game situation) in their Game Specialisation.
- The students will acquire knowledge of basic and advance skills of their Game Specialisation and methods of training for it.

Program Outcome:

The content of Program will enable the students to learn about all important aspects of their Game Specialisation.

Program specific Outcome:

The students will understand in detail about historical evolution, Governing bodies, important tournaments and rules-regulations of their Game Specialisation. It will enable them to do their training and officiating in their respective game.

SOE/PE/P-503 LAB PRACTICALS

Biomechanics

1. Determination of centre of Gravity, Centre of gravity, line of gravity
2. Anatomical standing position and fundamental standing position
3. Planes and types of planes, Axis and types of axis
4. Movements on sagittal plane about frontal axis
5. Movements on frontal plane about sagittal axis
6. Movements on horizontal plane with vertical axis

Sports Psychology

To administer the following tests, process and interpret their data.

1. personality questionnaire
2. Sport competitive anxiety test
3. Inventory for factors influencing sports.
4. Sociometry Questionnaire

Measurement and Evaluation

1. Assessment of endurance through-twelve minute run/walk test; six hundred yards run walk test; Harvard step test.
2. Assessment of resting physiological parameters- Heart rate, respiratory rate.
3. Anthropometric measurement
4. Somatotyping, somatocharts & indices
5. Basketball (Johnson basketball ability test)
6. Volleyball (Braddy volleyball test and Russel & lounge volleyball test)
7. Hockey (French hockey test, Friedal hockey test)
8. Football (mc Donald soccer test)

9. Badminton (Lockhart & McPhearson badminton skill)

Paper: Lab Practicals

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

(Sports Biomechanics) (SOE/PE/P-503)

Course Outcome:

- The students will learn about determination of C.G. correct Anatomical and Fundamental Standing position.
- The students will be explained about various plans and axis and movements taking place around them.

Program Outcome:

The program content is designed to give practical experience of Mechanical aspect of Physics involved in human movements.

Program specific Outcome:

The students will be enabled to apply the knowledge of Physics and Mechanics to practical settings for getting better human performance.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

(Sports Psychology) (SOE/PE/P-503)

Course Outcome:

- The students will be able to learn about application of various Psychological questionnaires for collection of Data.
- The students will be able to understand the process of developing questionnaire as per requirement of the study.

Program Outcome:

The program content will educate the students about use and benefits of various questionnaires for collection of Data.

Program specific Outcome:

The program will make students to get practical knowledge of Psychological tools for research and education purpose.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

(Measurement and Evaluation) (SOE/PE/P-703)

Course Outcome:

- The students will be able to learn about various types of measurement techniques for data collection in Physical Education.
- The students will understand to use various skill test for selection and evaluation of subject on performance.

Program Outcome:

The Program content will enable to utilize practical knowledge for Education and Research purpose.

Program specific Outcome:

The Program will enable the students to get various types of data be application of different testing procedures and devices.

SOE/PE/P -703 LAB PRACTICALS

Sports Psychology

To administer the following tests, process and interpret their data.

1. General teaching competency scale.
2. Superstitious Belief Scale.
3. Emotional Intelligence Inventory.
4. Well being scale
5. Sociometry Questionnaire

Measurement and Evaluation

1. Assessment of Strength through Grip Dynamometer.
2. Assessment of Strength through Leg Dynamometer.
3. Assessment of Strength through Back Dynamometer.
4. Anthropometric measurement: Height, Weight Ratio and Ponderal index

Sports Medicine

1. Paraffin bath
2. Contrast bath
3. Infrared
4. Hot pack
5. Cryothearpy

Physiological Parameters

1. Blood pressure through sphygmomanometer.
2. Spirometer
3. Peak flow meter
4. Lactic acid test.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

(Sports Psychology) (SOE/PE/P-503)

Course Outcome:

- The students will be able to learn about application of various Psychological questionnaires for collection of Data.
- The students will be able to understand the process of developing questionnaire as per requirement of the study.

Program Outcome:

The program content will educate the students about use and benefits of various questionnaires for collection of Data.

Program specific Outcome:

The program will make students to get practical knowledge of Psychological tools for research and education purpose.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

(Measurement and Evaluation) (SOE/PE/P-703)

Course Outcome:

- The students will be able to learn about various types of measurement techniques for data collection in Physical Education.
- The students will understand to use various skill test for selection and evaluation of subject on performance.

Program Outcome:

The Program content will enable to utilize practical knowledge for Education and Research purpose.

Program specific Outcome:

The Program will enable the students to get various types of data be application of different testing procedures and devices.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

(Sports Medicine) (SOE/PE/P-703)

Course Outcome:

- The students will be enabled to learn about use of various therapies for Sports Injury management.
- The students will know about procedure and contra indications of Sports Medicine devices usages.

Program Outcome:

The Program content will educate the students about use of different therapies like: Paraffin Bath, Contrast Bath, Infrared, Hot pack and Cryotherapy for Injury treatment.

Program Specific Outcome:

The students will learn basic treatment of Sports Injuries and Common issued related to it and minimize the damage to human body.

COURSE OUTCOME, PROGRAM OUTCOME & PROGRAM SPECIFIC OUTCOME

(Physiological Parameters) (SOE/PE/P-703)

Course Outcome:

- The students will be able to know about using different apparatuses for collection of data on various Physiological parameters of Human body.
- The students will learn about the functioning of systems and application of Physiological parameter to physical performance.

Program Outcome:

The content of the program is designed to make students aware about method for data collection through application of different gadgets for Education and Research purpose.

Program Specific Outcome:

The students will be able to know about present state of vital organs of human body and impact of training upon it. On the basis of it, effective training program could be developed.