Semester I
Theory Courses

MPCC-101 RESEARCH PROCESS IN PHYSICAL EDUCATION AND SPORTS SCIENCES

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
Review of Literature
Qualities of a researcher.

UNIT-II Methods of Research
Descriptive Methods of Research
Survey Study, Methods of Survey, Case study
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.

UNITV- 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 Research Report,
Method of writing abstract,
Understanding Footnote and Bibliography.
Method of writing a paper for presenting in a conference and to publish in journals

References:
S. L. Gupta & Hitesh Gupta (2011), Research Methodology (Text and Cases with SPSS applications), International Book House Pvt. Ltd. Ansari Road, New Delhi.
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.
Craig Williams and Chris Wragg (2006) Data Analysis and Research for Sport and Exercise Science, Londonl Routledge Press
Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illonosis; Human Kinetics;
Kamlesh, M. L. (1999) Reserach Methodology in Physical Education and Sports, New Delhi
Moses, A. K. (1995) Thesis Writing Format, Chennai; Poompugar, Pathippagam.
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.
Moorthy A. M. Research Processes in Physical Education (2010); Friend Publication, New Delhi

Semester I
Theory Courses

MPCC-102 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.

Note: Laboratory Practicals in Physiology be designed and arranged internally.

REFERENCES:

Amrit Kumar, R, Moses. (1995). Introduction to Exercise Physiology. Madras: Poompugar Pathipagam. 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.

Sandhya Tiwaji. (1999). Exercise Physiology.Sports Publishers.

Shaver, L. (1981).Essentials of Exercise Physiology. New Delhi: Subject Publications. Vincent, T. Murche. (2007). Elementary Physiology. Hyderabad: Sports Publication.

William, D. Mc Aradle. (1996). Exercise Physiology, Energy, Nutrition and Human Performance. Philadelphia: Lippincott Williams and Wilkins Company.

Semester I
Theory Courses

MPCC-103 TEST, MEASUREMENT AND 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, Rogers 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.

Note: Practicals of indoors and out-door tests be designed and arranged internally.

REFERENCES :

Authors Guide (2013) ACSM‟s Health Related Physical Fitness Assessment Manual, USA: ACSM Publications

Collins, R.D., & Hodges P.B. (2001) A Comprehensive Guide to Sports Skills Tests and Measurement (2nd edition) Lanham: Scarecrow Press

Cureton T.K. (1947) Physical Fitness Appraisal and Guidance, St. Louis: The C. Mosby Company Getchell B (1979) Physical Fitness A Way of Life, 2nd Edition New York,

John Wiley and Sons, Inc Jenson, Clayne R and Cynt ha, C. Hirst (1980) Measurement in Physical Education and Athletics,New York, Macmillan Publising Co. Inc

Kansal D.K. (1996), "Test and Measurement in Sports and Physical Education, New Delhi: DVSPublications

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 Kinetics

Yobu, A (2010), Test, Measurement and Evaluation in Physical Education in Physical Education and Sports.New Delhi; Friends Publication.

Semester I
Theory Courses

MPEC-101 Yogic Sciences (Elective)

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 – Contra- Indication – Inverted asana – Sunbathing. Effect of yoga on following diseases: asthama, jaundice, blood pressure and stress.

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 ExercisePower 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 System.

***Note: Practicals be designed and arranged internally*.**

REFERENCE:

George Feuerstein, (1975). Text Book of Yoga. London: MotilalBansaridass Publishers (P) Ltd. Gore, (1990), Anatomy and Physiology of Yogac Practices. Lonavata: KanchanPrkashan.

Helen Purperhart (2004), The Yoga Adventure for Children. Netherlands: A Hunter House book. Iyengar, B.K.S. (2000), Light on Yoga. New Delhi: Harper Collins Publishers. KarbelkarN.V.(1993)

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.

Moorthy A.M. &Alagesan. S. (2004) Yoga Therapy. Coimbatore: Teachers Publication House. Patanjal Yogasutra Bhashya (Marathi Edition) Amravati: Hanuman Vyayam Prasarak Mandal Swami Kuvalayanda, (1998), Asanas. Lonavala: Kaivalyadhama.

Swami SatyananadaSarasvati. (1989), Asana Pranayama Mudra Bandha.Munger: Bihar School of Yoga.

Swami SatyanandaSaraswathi. (1984), Kundalini and Tantra, Bihar: Yoga Publications Trust. Swami Sivananda, (1971), The Science of Pranayama. Chennai: A Divine Life Society Publication. Thirumalai Kumar. S and Indira. S (2011) Yoga in Your Life, Chennai: The Parkar Publication. Tiwari O.P. (1998), Asanas-Why and How.Lonavala: Kaivalyadham.

Semester I
Theory Courses

MPEC-102 SPORTS TECHNOLOGY (Elective)

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, closedcell 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 equipment's.Use of computer and software in Match Analysis and Coaching.

UNIT IV – Modern equipment

Playing Equipment's: Balls: Types, Materials and Advantages, Bat/Stick/ Racquets: Types, Materials and Advantages. Clothing and shoes: Types, Materials and Advantages. Measuring equipment's: Throwing and Jumping Events. Protective equipment's: 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.

Note: Students should be encouraged to design and manufacture improvised sports testing equipment in the laboratory/workshop and visit sports technology factory/ sports goods manufacturers.

REFERENCE:

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: JaicoPublisher. John Mongilo, (2001), "Nano Technology 101 "New York: Green wood publishing group.

Kochar, S.K. (1982) Methods and Techniques of Teaching (New Delhi, Jullandhar, Sterling Publishers Pvt. Ltd.)

Kozman, Cassidy and Jackson. (1952) Methods in Physical Education (W.B. Saunders Company, Philadelphia and London)

Walia, J.S. (1999)Principles and Methods of Education (Paul Publishers, Jullandhar)

Semester II
Theory Courses

MPCC-201 APPLIED STATICTICS IN PHYSICAL EDUCATION AND SPORTS

UNIT I – Introduction
Meaning and Definition of Statistics.
Functions, need and importance of Statistics.
Types of Statistics: Parametric and non-parametric statistics.
Meaning of the terms, Population, Sample, Data, types of data.
Variables; Discrete, Continuous.

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 Scale
Meaning, Purpose, Calculation of Range, Quartile deviation, Mean Deviation, Standard Deviat io n,
Meaning, P u r p o s e , Ca lc u la t io n a nd advantages o f scoring scales; Sigma scale, Z Scale, t. scale etc.

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 etc.

UNIT V – Inferential and Comparative Statistics
Tests of significance; Sample t. Test, 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.
Concept of ANOVA and ANCOVA.
Note: It is recommended that the theory topics be accompanied with practical, based on Computer software of statistics.

References:
J.P.Verma, (2011), Statistical Methods for Sports and Physical Education, Tata McGraw Hill Education private Limited, New Delhi.
S. L. Gupta & Hitesh Gupta (2011), Research Methodology (Text and Cases with SPSS applications) International Book House Pvt. Ltd. Ansari Road, New Delhi.
Best J. W (1971) Research in Education, New Jersey; Prentice Hall, Inc
Clark D.H. (1999) Research Problem in Physical Education 2nd
Eaglewood Cliffs, Prentice Hall, Inc. edition,
Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illonosis; Human Kinetics
Kamlesh, M. L. (1999) Reserach 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
Thirumalaisamy (1998), Statistics in Physical Education, Karaikudi, Senthilkumar Publications

Semester II
Theory Courses

MPCC-202 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
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 - Periodization: Meaning, Single, Double and Multiple Periodization, 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:
BeotraAlka, (2000), Drug Education Handbook on Drug Abuse in Sports. Delhi: Sports Authority of India.
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 Gary, T. Moran (1997) – Cross Training for Sports, Canada: Human Kinetics
Hardayal Singh (1991) Science of Sports Training, New Delhi, DVS Publications Jensen, C.R. &
Fisher A.G. (2000) Scientific Basic of Athletic Conditioning, Philadelphia
Ronald, P. Pfeiffer (1998) Concepts of Athletics Training 2nd Edition, London: Jones and Bartlett Publications
YograjThani (2003), Sports Training, Delhi: Sports Publications

Semester II
Theory Courses

MPCC-203 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 & Mental State
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. 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 – Psychological aspects of Competition:
Defining competition, determinants of competitive behavior, psychological characteristics of precompetition, during competition and post competition. Selected psycho regulative techniques technique for relaxation and activation. Psychological aspects of long term and short term preparation for competition, Psychological care of injuries, sports person, responses to injuries, prevention and coping techniques.

UNIT V – Psycho-Social Facilitation:
Presence of others, co action effect and audience effect in sports. Factors mediating social facilitations.**Volitional regulation actions in sports:** Meaning, Characteristics and Factors affecting volitional regulated behavior. Development of volitional qualities.
Practical's: Atleast five experiments related to the topics listed in the Units above should be conducted by the students in laboratory. (Internal assessment.)

REFERENCES:
Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT) Catalogue of Tests, New Delhi: National Council of Educational Research and Training Publication.
J ain. (2002), Sports Sociology, Keal SahetyKendre Publishers.
Jay Coakley. (2001) Sports in Society – Issues and Controversies in International Education, Mc-Craw Seventh Ed.
John D Lauther (2000) Psychology of Coaching. Ner Jersy: Prenticce Hall Inc.
J ohn 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.
Robert N. Singer. (1989) The Psychology Domain Movement Behaviour. Philadelphia: Lea and Febiger.
T helma Horn. (2002). Advances in Sports Psychology. Human Kinetic.
Whiting, K, Karman.Hendry L.B & Jones M.G. (1999) Personality and Performance in Physical Education and Sports. London: Hendry Kimpton Publishers.

Semester II
Theory Courses

MPEC-201 SPORTS BIOMECHANICS AND KINSESIOLOGY (elective)

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. Principles 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. Note: Laboratory practical's should be designed and arranged for students internally.

UNIT V – Movement Analysis

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

Note: Laboratory Practical's be designed and arranged internally.

REFERENCE:

Deshpande S.H.(2002). ManavKriya Vigyan – Kinesiology (Hindi Edition) Amravati :HanumanVyayamPrasarakMandal.
Hoffman S.J. Introduction to Kinesiology.Human Kinesiology Publication In.2005. Steven Roy,&
Richard Irvin. (1983). Sports Medicine. New Jersery: Prentice hall. Thomas. (2001).
Manual of structural Kinesiology, New York: Me Graw Hill. Uppal A.K. Lawrence
Mamta MP (2004) Kinesiology. Delhi, Friends Publication.
Uppal, A K. (2004), Kinesiology in Physical Education and Exercise Science, Delhi, Friends publications.
Williams M (1982) Biomechanics of Human Motion, Philadelphia; Saunders Co.

Semester II
Theory Courses

MPEC-202 SPORTS MEDICINE (Elective)

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.
Practical's: Lab. Practical's and visit to Physiotherapy Centre to observe treatment procedure of sports injuries; data collection of sports injury incidences etc. should be planned internally.

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 Therapy. Toronto: C.V. Mosby Company.
Morris B. Million (1984) Sports Injuries and Athletic Problem. New Delhi: Surjeet Publication.
P andey.(1998). Sports Medicine. New Delhi: KhelShitya Kendra
The Encyclopedia of Sports Medicine. (1998). The Olympic Book of Sports Medicine, Australia: Tittel Blackwell Scientific publications. Practical: Anthropometric Measurements,

Semester III
Theory Courses

MPCC-301 SPORTS MANAGEMENT

UNIT I- Management:
Meaning and Functions, The skills of management, the universal nature of the management process, Management and Administration, Principles and Theories of Management.

UNIT II- Organization:
Classical Principles, Bureaucracy; Bureaucracy in Democracy and in sports organizations. Open systems perspectives. The constitution of a national sports organization, office holders of an organization and their functional meetings.

UNIT III- Human resource management:
Definition & Aspect of HRM, Job analysis and its process. Human resource planning, Recruitments, Manpower Planning, Personal Management and its principles, Appraisals & Public Relation in physical education.

UNIT IV- Management of performance:
Evaluation and its techniques in physical education. Sports competition and its system, Training structure & performance. Injury management, Ethics of sports.

UNIT V- Management of finance, Facilities and material:
Financial administration in sports and physical education, Sources of funds in sports. Budgeting is sports and games, purpose and principles of budgeting. Material Management: Improvisation and Standardization of Sports equipment's and materials. S cientific purchasing. Storekeeping, inventory control and value analysis. Facility (outdoor and indoor) Planning, Construction and maintenance of sports facilities.

REFERENCE:
Bucher Carles, A. (1987) Administration of Physical Education and Athletic programs. London, The C.V. Mosby Co.
Chelladurai P. (1985) Sports Management Macro perspective. Canada Sports Dynamics
Earle F. Zeigler &Grary W. Bowie(1993): Management competency Development in sports and physical education philadephip: W. Leo and Febiger.
heph Bucher and Earnest Koerigeberg(1968): Scientific Inventory Management . New Delhi: Prentice Hall of India Pvt. Ltd.,
Morson James G and Jimpaul (1988) Modern Sports Administration. Englewood Cliffs, NerJersey: Prentice Hall, Inc.
Scholar Rondoll S and Nicholas.J. (1983) Personal Management. New York, West Publishing company.
Vanderwag Harold. J. (1984) Sports Management (New York: Mac Millon publishing company.

Semester III
Theory Courses

MPCC-302 PROFESSIONAL PREPARATION & CURRICULUM DESIGN IN PHYSICAL EDUCATION

UNIT I- Features of Indian Democracy with regards to Contribution of Physical Education & sports. Historical review of Professional preparations in India. Role of the Government & nonofficial agencies in Accreditation /Certification, preparation and in improving professional preparation. Aim & purposes in professional Preparation, Basic principles of curriculum construction, Organization in general education, Preparation of General Education, allied and foundational subject.

UNIT II- Physical Education Graduate & Post-graduate level Professional Preparation Areas,Purposes, admissions, Curriculum, Laboratory experience, Field Experiences, Teaching Practice, area of specialization and concentration on core areas, Research requirement, Methods of instruction, Professional competencies, facilities and special resources for Library, Laboratory, Staff placement and follow-up.

UNIT III- Importance of Curriculum Development, factors affecting curriculum, changing needsof student, National and professional policies. The role of teacher in curriculum Development.Principles of planning Professional preparation, Evaluation and followup. Selecting material for Instruction-Calcinations of activities in Physical Education, Cultural influence in the in the choice of activities and flexibility of programme material.

UNIT IV- Selecting methods of teaching - Grouping of students for instruction, Lectures, Projects activities, demonstration, block of period, total time allotment for a given activity, teaching aids, conditioning special gadgets to concentrate on development of particular skills, bring up prerequisites for learning a given skill or activity, provision for individual differences. Development programme suitability of activities for different age groups and sexes, for different levels of education - Kindergarten elementary school, middle school, 10 + 2 school, college and university, special institution (Technical school, orphan hostel & for challenged people) special days and national days etc.

UNIT V- Co-education in Physical Education - Integrating the programmes for boys and girls,activities suitable for co-education needs, level at which co-education is desirable, special provision for development of girls programme. Committee recommendation – NCTE, NCERT, CBSE, UGC recommendations on curriculum for school and colleges curriculum followed in colleges of physical education CPEd, DPEd, BPE, B.Sc, BPEd, MPE, MPEd and M. Phil.

REFERENCES:

Aggarwal,J.C. (1990) Curriculum Reform in India-World Overviews, Doaba World Education Series-3 Delhi DoabaHouse,Book Seller and Publisher.
Arora,G.L. (1984) Reflections on Curriculum, New Delhi: NCERT
Gattu, J. Rryant,(1971) Career Potentials Physical Activity. New Jersey: Englewood Chiffs, Prentice Hall Inc.
Jrwin,W.Lestia(1984)Curriculum in Health & Physical Edu, St.Louis:TheC.V.Mosby Company. Pyke, Frank,S. (1980) Towards better coaching. Australian Govt. Publishing Service Canberra.Willgoose, E. Carl(1982) The curriculum in Physical Education, Edition 3,New Jersey : Englewood Cliffs, Prentice Hall Inc.

Semester III
Theory Courses

MPCC-303 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- Sports Nutrition

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- Weight Control 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:

Boyd-Eaton S. et al (1989) The Stone Age Health Programme: Diet and Exercise as Nature Intended. Angus and Robertson.

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 and et. al."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.

Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.

Turner, C.E. "The School Health and Health Education".

Semester III
Theory Courses

MPEC-301 VALUE AND ENVIRONMENTAL EDUCATION IN PHYSICAL EDUCATION (Elective)

UNIT-I Concept of Human Values, Value Education towards Personal Development Aim of education and value education; Evolution of value oriented education Concept of Human values; types of values; Components of value education, Judging Value System. **Personal Development** Self-analysis and introspection; sensitization towards gender equality, physically challenged, intellectually challenged. Respect to - age, experience, maturity, family members, neighbors, co-workers. **Character Formation Towards Positive Personality:** Truthfulness, Constructivity, Sacrifice, Sincerity, Self-Control, Altruism, Tolerance, Scientific Vision.

UNIT-II Value Education towards National and Global Development National and International Values

Constitutional or national values - Democracy, socialism, secularism, equality, justice, liberty, freedom and fraternity. **Social Values** - Pity and probity, self-control, universal brotherhood. **Professional Values** - Knowledge thirst, sincerity in profession, regularity, punctuality and faith. **Religious Values** - Tolerance, wisdom, character. **Aesthetic values** - Love and appreciation of literature and fine arts and respect for the same. National Integration and international understanding.

UNIT-III Therapeutic Measures

Control of the mind through

Simplified physical exercise. Meditation – Objectives, types, effect on body, mind and soul
Activities: Moralisation of Desires, Neutralisation of Anger, Eradication of Worries, Benefits of Blessings

Unit-IV Environmental Education , Rural and Urban Sanitation

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, sustainable development, Pollution free eco- system. Rural Health Problems, Causes of Rural Health Problems, Points to be kept in Mind for improvement of Rural Sanitation, Urban Health Problems, Slum Area, Sanitation at Fairs & Festivals, Mass Education for Sanitation.

Unit- V Natural Resources and Related Environmental Issues

Resources: - Water, food 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.

Practicum:

Judging the Personal Values., Meditation Techniques, Plantation and its care.

References:

Miller T.G. Jr., Environmental Science (Wadsworth Publishing Co.) Odum, E.P. Fundame ntals 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 (Blackwell Science)
Heywood, V.H. and Watson V.M., Global biodiversity Assessment (U.K. Cambridge University Press 1995.
Jadhav, H.and Bhosale, V.M. Environmental Protection and Laws (Delhi: Himalaya Pub. House), 1995.

E-References:

https://www.epa.gov/education/what-environmental-education
http://www.tnteu.ac.in/pdf/environmental.pdf
https://postconflict.unep.ch/humanitarianaction/documents/02_04-01.pdf
https://www.geo.lu.lv/fileadmin/user_upload/lu_portal/projekti/gzzf/Vides_zinatne_kursi/16. LECTURE-Environmental_policy.pdf

Semester IV
Theory Courses

MPEC-302 SPORTS JOURNALISM AND MASS MEDIA (Elective)

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
M ass 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.

***Practical assignments to observe the matches and prepare report and news of the same; visit to News Paper office and TV Centre to know various departments and their working.Collection of Album of newspaper cuttings of sports news*.**

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.
K annan K (2009) Soft Skills, Madurai: Madurai: Yadava College Publication
M ohitChakrabarti (2008): Value Education: Changing Perspective, New Delhi: Kanishka Publication.
Padmanabhan. A &Perumal A (2009), Science and Art of Living, Madurai: Pakavathi Publication.
Varma A.K. (1993) Journalism in India from Earliest Times to the Present Period.Sterling publication Pvt. Ltd.
Venkataiah. N (2009) Value Education,- New Delhi: APH Publishing Corporation. 43

Semester IV
Theory Courses

MPCC-401 INFORMATION & COMMUNICATION TECHNOLOGY (ICT) IN PHYSICAL EDUCATION

UNIT I – Communication & Classroom Interaction

Concept, Elements, Process & Types of Communication, Communication Barriers & Facilitators of communication Communicative skills of English - Listening, Speaking, Reading & Writing Concept & 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 and artificial intelligence

E-Learning,Web Based Learning, Visual Classroom
Artificial intelligence :- introduction, tools, scope and importance in physical education.

REFERENCES:

B. Ram, New Age International Publication, Computer Fundamental, Third Edition-2006 Brain under IDG Book. India (p) Ltd Teach Yourself Office 2000, Fourth Edition-2001
Douglas E. Comer, The Internet Book, Purdue University, West Lafayette in 2005Heidi Steel Low price Edition, Microsoft Office Word 2003- 2004
ITL Education Solution Ltd. Introduction to information Technology, Research and Development Wing-2006 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
Mr. Koushik Chatterjee, Mr. Sohom Saha, Mr. Debajit Karmakar The AI Revolution in Sports, Publisher: OrangeBooks Publication

Semester IV
Theory Courses

MPCC-402 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 bad 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.
***Note: Each student shall submit Physiotherapy record of attending the Clinic and observing the cases of athletic injuries and their treatment procedure.(To be assessed internally*)**

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.
Mc Ooyand 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

Semester IV
Theory Courses

MPCC-403 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 Bedfordrow, London 1998
D r. A.K. Uppal, Physical Fitness, Friends Publications (India), 1992.
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
Robert Malt. 90 day fitness plan, D.K. publishing, Inc. 95,
Madison Avenue, New York 2001 Warner W.K. Oeger& Sharon A.Hoeger,Fitness and Wellness, Morton Publishing Company,1990.

Semester IV
Theory Courses

MPEC-401 ADAPTED PHYSICAL EDUCATION (Elective)

UNIT I- Introduction:
Meaning, Definitions, Aims, goals & objective Need & importance of adapted Physical education Historical review of adapted Physical education

UNIT II- Classification of Disability:
(a)Physical disabilities (b) Mental Retardation (c) Visual Impairment (d) Hearing Impairment Their Causes, Characteristics and Functional Limitations.

UNIT III- Adapted Physical Education Programme:
Guiding principles for adapted physical education programme (AAPHERD Principle) Physical Education program for disabled of Elementary school, Middle School, High School, College & University Level.

UNIT IV- Co-curricular Activities for disabled:
Outdoor, Rhythm and Dance activities.

Nature of Aquatic activity programme for Disabled: Importance of aquatics for the disabled, Nature of aquatic activity programme based on types of various disabilities and Rehabilitative role and importance of aquatic activity.

UNIT V- Rehabilitations:
Aims and objectives of rehabilitations council of India
Meaning of functional and occupational rehabilitation.

Importance of Adapted programme in Rehabilitation and Functional Rehabilitation Psychological Rehabilitation - Adjust mental, Environmental and Personality Development. Government welfare Programme.

Note: Each student shall submit record of attending the clinic or centers observing the cases of disabled and their treatment procedure. (To be assessed internally)

REFERENCES :

Anoop Jain, Adapted Physical Education, Sports Publication, Ashok Vihardelhi. 52

Arther G. Miller & James, Teaching Physical Activities to impaired youth, John Wilag& Sons Inc. Canada. Arthur S. Daniels &Euilya, Adapted Physical Education, Harpet& Row Publisher - New York. Auxter, Byler, Howtting, Adapted Physical Education and reactions.Morbey- St. LauisMirrauri. K. Park,

Preventive & Social Medicine, BanaridasBhanot Publishers Prem Nagar Jabalpur. Ronald W. French,& Paul J. Special Physical Education. Charies E. Merrics Publishing Co.Edinburgh, Ohio.

ShekarKC, Adapted Physical Education (KhelSahitya Kendra: New Delhi.) Winnick JP,Adapted Physical Education and sport Human Kinetics USA, 2005

Semester IV
Theory Courses

MPEC-402 DISSERTATION (Elective)

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.

MPPC- 101 GAMES SPECIALIZATION: TRACK & FIELD / GYMNASTICS/ SWIMMING.

Running, Walking, Hurdle & Relay Events

Fundamental skills –

Use of Starting blocks- stance on the blocks.

Body position at the start, Hurdle & Relay Events- starting technique, change in bodyposition during running, movements of the arms, stride length and frequency, position of torso while running/walking/ clearing hurdle/baton exchange and at finish.

Advanced Skills/Correction of faults: various techniques of sprint start: Bullet start, standing start, Walking, Hurdle & Relay Events

Active game practice

Note: *Course contents in Gymnastics and Swimming should be chalked out internally consideringavailability of facilities, advance level of students, suitable to their age and gender*

Semester I Practicum
Course

MPPC- 102 Laboratory Practical in Anthropometric Measurement, Sports Psychology, Physiologyof Exercise, Biomechanics and Kinesiology (Two standardized tests practical from each subject**)**

Semester I Practicum
Course

MPPC- 103 SPORTS AND GAMES: **YOGA & INDIGENOUS ACTIVITIES** (Lezium, Dumb-Bell,Umbrella, Tipri, Wands, Hoops/Malkhambh) **/AEROBICS/SELF DEFENCE TECHNIQUE-MartialArts, Taekwondo/Karate/ Wushu**(Yoga + Any one activity)

YOGA- Asanas prescribed by Maharshi „Patanjali", ShudhiKriyas, jalneti, sutraneti, dugdhaneti,kunjal, Nauli, Bhastika, shatkriya, Pranayams, Anulom-vilom, Kapalbhati,

INDIGENIOUS & MASS DEMONSTRATION ACTIVITIES: The students of M.P.Ed–I Semesterneed to develop proficiency in taking teaching classes in indigenous activities and Mass demonstration under school situation. In view of this, the students shall be provided with teaching experience. The duration of the lesson to be conducted by these students shall be in the range of 30 to 40 minutes depending on the class they are going to handle at school and college level.

Each student teacher is expected to take at least five lessons during the course of the first semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these lessons, the duration should slowly increase and all the parts of the lesson covered progressively. Students are expected to learn and organize mass drill in school Situation on following aspects:

Apparatus/ Light apparatus Grip

Attention with apparatus/ Light apparatus

Stand–at–ease with apparatus/ light apparatus

Exercise with verbal command, drum, whistle and music–Two count, Four count, Eightcount and Sixteen count.

Standing Exercise

Jumping Exercise

Moving Exercise

Combination of above all

MALKHAMB: Table of Exercises on Malkhamb should be prepared internally for teaching.
General out-line of the contents of teaching of theory of Games and Sports

Introduction of the game/sport and historical development with special reference to India, Orientation of the students to the play area and equipment used in the game/sport, Important tournaments held at National and International levels, Distinguished sports awards and personalities related to the Game/sport. Warming-up- General free hand exercises, specific work out using equipment. Fundamental skills, Lead up activities, General rules and their interpretations, Duties of officials, officiating in class competitions and Intramurals, Marking of the play area.

AEROBICS -Rhythmic Aerobics–dance, Low impact aerobics, High impact aerobics, Aerobicskick boxing

Moves March single, basics, side to side alternate, turn s/a ,double side to side, stop watch, grapevine, knee up, leg curl, kick front, toe touch, kick side, side lunge, over the top, back lunge, straddle, kick front, travel s 11. kick side, corner, heel to left, shape, 'e' shape, shapew, shape, repeater left mode

Warm up and cool down

Being successful in exercise and adaptation to aerobic workout.

Semester I

Practicum Course
MPPC-104 PHYSICAL FITNESS TEST:

National physical fitness proficiency Modified Test (NPFP „A') is to be practiced and organized as per the norms/scores prepared by the department presented below.

Semester -I : National Physical Fitness Proficiency Test Modified Norms (Battery 'A')

S. No.	Events	Sex	Performance Scores					
			14 Marks	12 Marks	10 Marks	08 Marks	07 Marks	06 Marks
1.	100 M run (Sec.)	Men	Below12.0	12.0-12.9	13.0-13.9	14.0-14.9	15.0-15.9	16.0 & Above
		Women	Below14.0	14.0-14.9	15.0-15.9	16.0-16.9	17.0-17.9	18.0 & Above
2.	Long Jump (Mtr.)	Men	Above 5.25	5.25-4.74	4.75-4.24	4.25-3.74	3.75-3.26	3.25 & Below
		Women	Above 4.00	4.00-3.75	3.50-4.26	3.25-3.01	3.00-2.76	2.75 & Below
3.	Shot Put (Mtr.)	Men	Above 8.00	8.0-7.51	7.50-6.51	6.50-5.51	5.50-4.51	4.50 & Below
		Women	Above 7.00	7.0-6.51	6.50-5.51	5.50-4.51	4.50-3.51	3.50 & Below
4.	High Jump (Mtr.)	Men	Above 1.50	1.50-1.46	1.45-1.30	1.30-1.16	1.15-1.01	1.00 & Below
		Women	Above 1.26	1.25-1.06	1.05-0.96	0.95-0.86	0.85-0.76	0.75 & Below
5.	800 M run (Min.)	Men	Below 2:25	2:25-2:34	2:35-2:44	2:45-2:69	2.75-2.99	3:00 & Below
	200 M run (Min.)	Women	Below 30.0	30.0-32.4	32.5-34.9	35.0-37.4	37.5-39.9	40.0 & Above

Semester II

Practicum Course

MPPC- 201 GAMES SPECIALIZATION: TRACK & FIELD / GYMNASTICS/ SWIMMING.

Jumping Events: Long Jump, Triple Jump, High Jump, Pole Vault.

- Fundamental skills –
  - Body position at the start, Use of runway, Running, Take off & Landing- startingtechnique, change in body position during running, movements of the arms, stride length and frequency, position of torso.
- Advanced Skills/Correction of faults: various techniques of start, Running, Take off & Landing.
- Active game practice

Note: *Course contents in Gymnastics and Swimming should be chalked out internally consideringavailability of facilities, advance level of students, suitable to their age and gender*

Semester II

Practicum

Course

MPPC-202 SPORTS AND GAMES: The Candidate has choice to select any two of thefollowing games in 2nd Semester**(Cricket/Volleyball/Basketball/ Football/Handball/ Hockey/**

Netball)

Note: *Course contents in game or sport should be chalked out internally considering advance level ofstudents (Teaching & Officiating) and suitable to their age and gender. Practical skill test- any one of each.*

Semester II

Practicum

Course

MPPC-203 ADVENTURE or LEADERSHIP CAMP/TOUR/TRAINING & SEMINAR

ADVENTURE ACTIVITIES: Trekking, Wall climbing, River crossing, Mountaineering, etc

SEMINAR: Presentation on topics of sports, yoga, wellness, health & fitness their researchfindings, survey of literature, development, historical or current issues.

Semester II

Practicum

Course

MPPC-204 PHYSICAL FITNESS TEST:

Modified National physical fitness proficiency Test (NPFP „B') is to be practiced and organized as per the norms/scores prepared by the department presented below.

Semester II

Semester -II : National Physical Fitness Proficiency Test Modified Norms (Battery 'B')

S. No.	Events	Sex	Performance Scores					
			14 Marks	12 Marks	10 Marks	08 Marks	07 Marks	06 Marks
1.	100 M run (Sec.)	Men	Below12.0	12.0-12.9	13.0-13.9	14.0-14.9	15.0-15.9	16.0 & Above
		Women	Below14.0	14.0-14.9	15.0-15.9	16.0-16.9	17.0-17.9	18.0 & Above
2.	Long Jump (Mtr.)	Men	Above 5.25	5.25-4.74	4.75-4.24	4.25-3.74	3.75-3.26	3.25 & Below
		Women	Above 4.00	4.00-3.75	3.50-4.26	3.25-3.01	3.00-2.76	2.75 & Below
3.	12 Min.Run /Walk (Mtr.)	Men	Above 2601	2600-2301	2300-2001	2000-1601	1600-1201	1200 & Below
	08 Min.Run /Walk (Mtr.)	Women	Above 1701	1700-1501	1500-1301	1300-1101	1100-901	900 & Below
4.	Puss ups Dand Style (Nos)	Men	Above 35	35-30	29-25	24-15	15-06	05 & Below
	Sit ups (Nos)	Women	Above 35	35-30	29-25	24-15	15-06	05 & Below
5.	Cricket Ball Throw (Mtr.)	Men	Above 65	35-56	55-46	45-36	35-26	25 & Below
	Hand Ball Throw (Mtr.)	Women	Above 25	25-21	20-16	15-11	10-06	05 & Above

Semester III
Practicum
Course
MPPC- 301 GAMES SPECIALIZATION: TRACK & FIELD /SWIMMING/ GYMNASTICS

Throwing Events: Shot put, Discus throw, Javelin throw, Hammer throw

- Fundamental skills –
  - Use of Throwing Arena/runway.
  - Body position at the start, Grip, rotation & release- preliminary swing, change in bodyposition during running/rotating, movements of the arms, stride length and frequency, follow throw.
- Advanced Skills/Correction of faults: Various techniques of Start, Rotation/Carry, Release& Reverse.
- Active game practice

Note: *Course contents in Gymnastics and Swimming should be chalked out internally consideringavailability of facilities, advance level of students, suitable to their age and gender*

Semester III
Practicum
Course

MPPC-302 SPORTS AND GAMES: The Candidate has choice to select any two of thefollowing games in 3rd Semester**.(Kabaddi/Kho-Kho/ Boxing/ Judo/Wrestling/ Baseball /**

Softball)

Note: *Course contents in game or sport should be chalked out internally considering advance level ofstudents (Teaching & Officiating) and suitable to their age and gender. Practical skill test- any one of each.*

Semester III
Practicum
Course
MPPC-303 INTERNSHIP& PROJECT

INTERNSHIP: Every student has to serve honorary in the institution/ School/fitness

centers.Evaluated on the basis of Daily Diary preparation, regularity, teaching quality, sincerity, class control and job execution.

Criteria for evaluating Internship Programme:

- A Student will be required to join any school/organization in any one of the following areas: o Gym and Health Club management.
  O Aerobics/Mass Demonstration.
  O Training of Life guard for water sports.
  O Sports Management/Journalism.
  O Teaching Physical Education in Schools/Institutions/Centers.
- A student is required to bring a certificate on letter head of the Institute form the Head of the Organization., specifying that he/she has imparted instruction/training/teaching in that organization w.e.f. …….....to……. and his/her work has been excellent/very good/good/satisfactory/poor (The administrator may tick any one of the five alternatives).

PROJECT: Informative model (working or simple, preparation of informative chart or flex board)related to Physical Education, sport, health, wellness, yoga & fitness to be prepared individually or in group.

Semester III
Practicum
Course
MPPC-304 PHYSICAL FITNESS TEST

Modified Canadian fitness Test is to be practiced and organized as per the norms/scores prepared by the department presented below.

Canadian Fitness Test Marking Norms

S.No	Events	Sex	Performance Scores					
1	Canadian Test (Sec.)	Men	70Marks	65Marks	60Marks	55Marks	50Marks	45Marks
			28 & Below	29-34	35-39	40-44	45-49	50 & Above
		Women	34 & Below	35-39	40-44	45-49	50-54	55 & Above

Semester IV
Practicum
Course
MPPC- 401 GAMES SPECIALIZATION: TRACK & FIELD /SWIMMING/ GYMNASTICS

Combined Events: Decathlon & Heptathlon

- Fundamental skills –
  - O Decathlon & Heptathlon events.
  - O Use of scoring system
- Advanced Skills/Correction of faults:
- Active game practice

TEACHING/COACHING/OFFICIATING LESSONS OF TRACK & FIELD/GYMNASTICS/ SWIMMING:

The students of M.P.Ed –IV Semester need to develop proficiency in taking Teaching/ Coaching/ Officiating lesson on above mentioned selected discipline. In view of this, the students shall be provided with advance training and coaching in selected discipline. The duration of the lesson to be conducted by these students shall be in the range of 30 to 40 minutes depending on the class, they are going to handle at school and college level.

Each student teacher is expected to take at least five lessons during the course of the forth semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these Teaching/ Coaching/ Officiating lessons, the duration should slowly increase and all the parts of the lesson covered

progressively.

Note: Course contents in Gymnastics and Swimming should be chalked out internally considering availability of facilities, advance level of students, suitable to their age and gender

Semester IV
Practicum
Course

MPPC-402 SPORTS AND GAMES: The Candidate has choice to select any two of the

following games in 4th Semester **(Badminton/ T.T/ Tennis/ Squash/ Shooting/ Archery/ Fencing)**

Note: *Course contents in game or sport should be chalked out internally considering advance level of students (Teaching & Officiating) and suitable to their age and gender. Practical skill test- any one of each.*

Semester IV
Practicum
Course

MPPC-403 CLASS ROOM TEACHING (LESSONS ON THEORY SUBJECTS)

The students of M.P.Ed–IV Semester need to develop proficiency in taking teaching lessons as per selected subjects/Topics of B.P. Ed level. In view of this, the students shall be provided with selected or specialized subject teaching experience. The duration of the lesson to be conducted by these students shall be in the range of 30 to 40 minutes depending on the class time they are going to handle at school and college level.

Each student teacher is expected to take at least five lessons during the course of the forth semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these teaching lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

Semester IV
Practicum
Course
MPPC-404 PHYSICAL FITNESS TEST

Modified Copper Fitness Test is to be practiced and organized as per the norms/scores prepared by the department presented below.

Semester - IV:Cooper Fitness Test Modified Marking Norms

S.No	Events	Sex	Performance Scores					
			70Marks	65 Marks	60 Marks	55 Marks	50 Marks	45Marks
1	12 Min run/ Walk (Mtr.)	Men	Above 2800	2800-2501	2500-2201	2200-1801	1800-1401	1400 & Below
	09 Min run/ Walk (Mtr.)	Women	Above 1800	1800-1601	1600-1401	1400-1201	1200-1001	1000 & Below