

M.P.Ed. Finals
Sean

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Semester I

Theory Courses

MPECC-102 PHYSIOLOGY OF EXERCISE

Objectives:

- The meaning and scope of sports physiology in physical education.
- The skeletal and muscular system and their role in improving performance.
- The changes in cardio vascular, respiratory and hormonal system during exercise.
- The effect of exercise on various physiological systems.
- Exercise prescription for special conditions such as hypertension, diabetes, obesity etc.
- The changes during exercise in various environmental conditions.
- The physiological differences in women and their performances.

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 Phosphate 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, Sympathetic medicaments. Stimulants and sports performance.

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

REFERENCES:

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

MPEEC-102 SPORTS TECHNOLOGY (Elective)**Objectives:**

- Meaning, purpose, advantages and applications of Sports Technology.
- The current application of advanced technology for better performance in sports.
- Monitoring and training technology and materials technology to enhance sport performance.
- The current and future impact of technology on sports materials.
- Ethics of using advanced technology in the fields of sports.

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, nano moulding 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 modeling 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.

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"
- Finn, R.A. and Trojan P.K. (1999) "Engineering Materials and their Applications" UK: Jaico
- John Mongilo, (2001), "Nano Technology 101 "New York: Green wood publishing group.
- Walia, J.S. Principles and Methods of Education (Paul Publishers, Jullandhar), 1999.
- Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jullandhar, Sterling
- Kozman, Cassidy and Jackson. Methods in Physical Education (W.B. Saunders Company, Philadelphia and London), 1952

Semester I

Practicum Course

MPEPC- 101 TRACK AND FIELD: SPRINT, MIDDLE AND LONG DISTANCE RUNNING, RELAY AND TRACK MARKING //SWIMMING/ GYMNASTICS

Objectives

- Perform block starts and different finishing techniques in sprinting.
- Understand the different methods of baton exchange and perform the same.
- To understand the method of track marking.

Sprints

- Start, Acceleration, Finish, Running styles in sprint,
- Related drills.
- Strategies and Tactics.

Middle Distance and Long Distance Race:

- Start, Acceleration, Finish, Running styles in Middle Distance and Long Distance Race,
- Related drills
- Strategies and Tactics.

Relays

- Baton exchange for different relays.
- Related drills.
- Strategies and Tactics.
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Rules, Regulations, Officiating and Marking for above Track Events.

SPECIALISATION RECORD

UNIT 1: History and development of the Sprints, Hurdles and Relays.

- Origin of the event
- Growth and development of the event

UNIT 2: Skills and Techniques

- Block start, Sprint technique
- Baton exchange techniques
- Training drills and progression of teaching skills

UNIT 3: Fitness training

- Energy system involved in the event
- Training to develop the fitness parameters involved in the event
- Training plan of six weeks for sprints, hurdles and relays

UNIT 4: Rules and Regulations

- Officials required for the track events
- Rules pertaining to sprints, and relays.

UNIT 5: Layout, construction and maintenance of track.

- Marking track events.

UNIT 6: Organization, Administration and managerial set up for conducting track events.

UNIT 7: Biomechanical principles of track events

- Block start
- Sprint

UNIT 8: Injuries and Nutrition

- Event related injuries, prevention, treatment and rehabilitation.
- Nutrition specific to the event

*The chapters are indicative. Chapter/s specific to the game/event of specialization can be included or irrelevant chapters excluded shall be decided in the departmental council meeting.

Gymnastics: Floor Exercise

- Forward Roll, Backward Roll, Sideward Roll, different kinds of scales, Leg Split, Bridge, Dancing steps, Head stand, Jumps-leap, scissors leap.
- Vaulting Horse
- Approach Run, Take off from the beat board, Cat Vault, Squat Vault.

Swimming: Fundamental Skills

- Entry into the pool.
- Developing water balance and confidence
- Water fear removing drills.
- Floating-Mushroom and Jelly fish etc.
- Gliding with and without kickboard.
- Introduction of various strokes
- Body Position, Leg, Kick, Arm pull, Breathing and Co ordination.
- Start and turns of the concerned strokes.
- Introduction of Various Strokes.
- Water Treading and Simple Jumping.
- Starts and turns of concerned strokes.
- Rules of Competitive swimming-officials and their duties, pool specifications, seeding heats and finals, Rules of the races.

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.

Semester I

Practicum Course

**MPEPC- 102 LABORATORY PRACTICAL: A. PHYSIOLOGY OF EXERCISE
B. TEST, MEASUREMENT AND EVALUATION**

Objectives

- Test the fitness abilities such as aerobic and anaerobic capacity and maximal strength.
- Measure the body composition and interpret the measurements
- Measure physiological parameters such as lung volume testing, lactate testing and evaluate the results.
- To determine what progress or extent of learning attained.
- To determine strengths, weaknesses, difficulties and needs of students.
- To develop the effort-making capacity of sports persons.
- To serve as aid for guidance, counselling, and prognosis.
- Evaluation of achievement to determine if individuals have reached important objectives.
- Prediction of an individual's level of achievement in future activities or predict one measure from another measure.

A. LABORATORY- PHYSIOLOGY OF EXERCISE

I. Assessment of Blood Pressure

Systolic and diastolic blood pressure., Hypertension and hypotension.

Assessment of Heart Rate -Resting Heart Rate, Maximum Heart Rate, Target Heart Rate, Heart Rate Monitoring during the activity, Manual method of Heart Rate measurement, Assessment of Heart Rate through Heart Rate monitor.

II. Assessment of Lung Volumes and Capacities, Spirometer tests.

Vital capacity (VC), Total lung capacity. (TLC), Inspiratory capacity (IC), Functional residual capacity (FRC), Tidal volume (TV), Inspiratory reserve volume (IRV), Expiratory reserve volume (ERV), Residual volume (RV)

III. Metabolic Rate Measurements and Maximum Oxygen Consumption Tests

Total energy expenditure, Basal metabolic rate, Treadmill VO₂ Max. test, Cyclic Ergometer VO₂ Max. test, Lactate threshold assessment

IV. Aerobic Field Tests.

Beep test, Cooper's minutes run and walk test, Harvard step test, 1 mile Rockport Fitness Walking Test

V. Anaerobic Field Tests

Margarita-Kalaman stair climbing test, Vertical Jump test for vertical power, Standing broad jump for horizontal power

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.

B. LABORATORY - TEST, MEASUREMENT AND EVALUATION

I. Physical Fitness Tests:

- AAHPERD Youth Fitness Test, Roger's Physical Fitness Test
- **Motor Fitness Tests:** JCR Test, INDIANA Motor Fitness Test
- **Motor Ability Tests:** Barrow motor ability Test, Newton Motor Ability Test
- **Motor Educability Tests:** Johnson Motor Educability Test

II. Muscular Strength Tests:

- Kraus Weber's Minimum muscular Fitness Test, Hand grip Strength Test, Leg and Back Dynamometer Test.
- **Speed:** 30 meter fly, 50 meters dash
- **Cardio Respiratory Fitness Tests:** Harvard Step Test, Cooper's 12 Minutes Run and Walk Test, Multi-Stage Fitness Test (Beep Test)
- **Agility:** 'T' Test, Illinois test, Burpee test.
- **Flexibility Tests:** Sit and Reach Test, Bridge Up Flexibility Test.

III. Skill Tests :

- **Badminton:** Miller Wall Volley Test
- **Basketball:** Johnson Basketball Test
- **Football:** Johnson Soccer test, McDonald Soccer Test
- **Handball:** Carnish Handball Test
- **Hockey:** Freidel Field Hockey Test
- **Tennis:** Dyer Tennis Test
- **Volleyball:** Russel Lange Volleyball Test

IV. Anthropometric Measurements

- Method of Measuring Height: Standing Height, Sitting Height
- Method of Measuring Circumference (Girth): Arm, Chest, Waist, Hip, Thigh, Calf
- Method of Measuring Skin folds: Biceps, Triceps, Chest, Sub scapular, Midaxillary, Suprailliac, Abdominal, Thigh, Calf.

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.

Semester I

Practicum Course

**MPEPC- 103 YOGA PERFORMANCE IN ASANAS AND PRANAYAMA/ AEROBICS/
ADVENTURE SPORTS (Any one)**

Objectives

- Basic awareness about the benefits of yoga and Pranyam.
- Increase the signups for yoga and Pranyam.
- To understand the different techniques of pranayama and yoga.
- Improves the general health through yoga and pranayama.

YOGA PERFORMANCE IN ASANAS AND PRANAYAMA

- Yoga, Asanas prescribed by Maharshi 'Patanjali', Shudhi Kriyas, jalneti, sutraneti, dugdhaneti, kunjil, Nauli, Bhastika, shatkriya, Pranayams, Anulom-vilom, Kapalbhati,

AEROBICS

- Rhythmic Aerobics - dance
- Low impact aerobics
- High impact aerobics
- Aerobics kick boxing
- Moves

March single, basics, side to side alternate, turn s/a ,double side to side, step touch, 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 right, shape, 'e' shape, shape, repeater left mode Warm up and cool down. Being successful in exercise and adaptation to aerobic workout.

ADVENTURE ACTIVITIES:

- Trekking, Wall climbing, River crossing, Mountaineering, etc.

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.

Practicum Course

MPEPC-104 GAMES SPECIALIZATION- KABADDI, HANDBALL AND WRESTLING**Objectives**

- Develop skills and fitness specific to a particular sport.
 - Appreciate and be able to execute strategic play.
 - Participate at a level appropriate to one's developmental stage.
 - Share in the planning and administration of sport experience.
 - Provide reasonable leadership.
 - Work effectively within a group toward common goals.
 - Appreciate the rituals and conventions that give particular sports their unique meanings.
 - Develop the capacity to make reasoned decisions about sport issues.
 - Develop and apply knowledge about umpiring, refereeing, and training.
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- **Basic skills**
 - **Advanced skills**
 - **Teaching progression of different skills**
 - **Drills for each of the skills**
 - **Biomechanical analysis of the skills**
 - **Specific fitness drills**

SPECIALISATION RECORD**UNIT 1 : History and development of the Game/Sport**

- Origin of the Game
- Growth and development of the Game in India.
- Tournaments and awards

UNIT 2: Skills and Techniques

- Fundamental Skills
- Advanced skills
- Training drills

UNIT 3: Strategies and Tactics

- Training for tactics
- Training plan for a period of six weeks and twelve weeks at different levels (High school, college and university)

UNIT 4: Officiating

- Rules and Regulations
- System of officiating

UNIT 5: Layout and construction and maintenance of playfield/courts

UNIT 6: Organization, Administration and managerial set up for conducting tournament /competition

UNIT 7: Biomechanics and Energy systems

- Biomechanical principles of the game/sport
- Energy systems involved in the games and fitness programme specific to the game

UNIT 8: Injuries and Nutrition

- Game/Sport related injuries – Prevention, treatment and rehabilitation.
- Nutrition related to the game – Off season, and pre, during and post competition

*The chapters are indicative. Chapter/s specific to the game/event of specialization can be included or irrelevant chapters excluded shall be decided in the departmental council meeting.

Theory Courses

MPECC-201 SPORTS PSYCHOLOGY AND SOCIOLOGY

Objectives:

- Understand the profile of psychological requirements of an applied sports psychology.
- Psychological aspects and methods for effective motor learning.
- Psychological training for optimizing one's mental state, to cope with stress and to increase psychological load tolerance.
- How to psychologically work with difficult athletes and injuries in sports.
- Successful coaching in individual sports and team sports.
- Means and methods of an event – specific, psychological and sociological preparation for competitions.
- Psychological training methods in sport.
- To help the student to acquire the knowledge about cooperation and competition.

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.

Practicals: 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.
- Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT)
- Catalogue of Test, New Delhi: National Council of Educational Research and Training Publication.
- Jain. (2002), Sports Sociology, Heal Sahety Kendre 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 Jersey: Prenticce Hall Inc.
- John D. Lauther (1998) Sports Psychology. Englewood, Prentice Hall Inc.
- Miroslaw Vauks & 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.
- Thelma 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.

Employability

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Semester II

Theory Courses

MPECC-202 - SPORTS MANAGEMENT AND CURRICULUM DESIGN IN PHYSICAL EDUCATION (Elective)

Objectives:

- To understand the importance of sport management of physical education and sports
- To gain the knowledge regarding planning and personal facility, Budget management in physical education and sports.
- To understand the various aspects of curriculum designing in professional preparation of Physical education.
- To gain the knowledge regarding HRM, Scientific purchasing, Job analysis, sports communication and its process.
- To understand the health and fitness industry in sports.

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, Encyclopaedias, 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.
- Arora, G.L. (1984): Reflections on Curriculum, New Delhi: NCERT.
- Bonnie, L. (1991). The Management of Sports. St. Louis: Mosby Publishing Company, Park House.
- Bucher A. Charles, (1993) Management of Physical Education and Sports (10th ed.,) St. Louis: Mobsy Publishing Company.
- Carl, E, Willgoose. (1982. Curriculum in Physical Education, London: Prentice Hall.
- Chakraborty & Samiran. (1998). Sports Management. New Delhi: Sports Publication.
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- 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.
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- NCERT (2005). National Curriculum Framework, New Delhi: NCERT.
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- Williams, J.F. (2003). Principles of Physical Education. Meerut: College Book House.
- Yadvnider Singh. Sports Management, New Delhi: Lakshay Publication.

Theory Courses

MPEOEC-201 YOGA STUDIES (Open Elective)

Objectives:

- To understand the common grounds of yoga and physical education and sports.
- To understand the anatomy and Physiology of asanas and pranyams kriyas.
- To gain knowledge regarding the application yoga.
- To gain knowledge regarding the effects of yoga exercise on the human body health and sports.
- To understand the teacher role, responsibilities to promote yoga education school and society.
- Knowledge of classical and theoretical foundations of the field of Yoga.

UNIT I – Introduction

Meaning and Definition of Yoga. Astanga Yoga: Yama, Niyama, Asana, 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 Chakras- Benefits of clearing and balancing Chakras.

UNIT III – Kriyas

Shat Kriyas- Meaning, Techniques and Benefits of Neti – Dharti – Kapalapathi- Trataka – Nauli – Basti, Bandhas: Meaning, Techniques and Benefits of Jalendra Bandha, Jihva Bandha, Uddiyana Bandha, Mula Bandha. Trataka – Procedure and Benefits.

UNIT IV – Mudras

Meaning, Techniques and Benefits of Hasta Mudras, Asamyukta hastam, Samyukta hastam , Mana Mudra, Kaya Mudra, Banda Mudra, Adhara Mudra. Meditation: Meaning, Techniques and Benefits of Meditation – Passive and active, Saguna Meditation and Nirguna Meditation.

UNIT V – Yoga and Sports

Yoga and Women Health – Yogic Exercises before and during the Menstrual Period. Yoga Practices for Pregnant Women. Balancing the Stress and Tension in day to day life. Difference between Yoga and Physical Exercises. Therapeutical Values of Asanas and Suryanamaskara.

Note: Laboratory Practicals be designed and arranged internally.

REFERENCE:

- George Feuerstein, (1975). Text Book of Yoga. London: Motilal Bansaridass Publishers (P) Ltd.
- Gore, (1990), Anatomy and Physiology of Yogic Practices. Lonavata: Kanchan Prakashan.
- 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.
- Karbelkar N.V.(1993) Patanjali Yogasutra Bhashya (Marathi Edition) Amravati: Hanuman Vyayam Prasarak Mandal
- Kenghe. C.T. (1976). Yoga as Depth-Psychology and para-Psychology (Vol-I): Historical Background, Varanasi: Bharata Manishai.
- Kuvalyananda 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.
- Swami Kuvalayanda, (1998), Asanas. Lonavala: Kaivalyadhama.
- Swami Satyananda Saraswati. (1989), Asana Pranayama Mudra Bandha. Munger: Bihar School of Yoga.
- Swami Satyananda Saraswati. (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: Kaivalyadhama.

Semester II

Theory Courses

MPEEC-201 HEALTH EDUCATION AND SPORTS NUTRITION

Objectives:

- To development competencies, skill and knowledge required for the healthy life style management.
- To understand the relationship between health and nutrition.
- To acquire the knowledge regarding weight management.
- To gain knowledge regarding various communicable diseases and their management process.

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.
- Turner, C.E. "The School Health and Health Education".
- Moss and et. At. "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.
- Boyd-Eaton S. et al (1989) The Stone Age Health Programme: Diet and Exercise as Nature Intended. Angus and Robertson.
- Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.

Semester II

Theory Courses

MPEEC-202 ATHLETE CARE AND REHABILITATION

Objectives:

- Participate regularly in developmentally age-appropriate movement and motor skills.
- Develop a healthy level of flexibility, balance, muscular strength and endurance, body composition and cardio-respiratory endurance.
- To understand the sports injuries and their management process.
- To understand the postural deformities and corrective exercises.
- To know the complete knowledge about different massage techniques.
- To understand the benefits of regular physical activity.

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.

REFERENCES:

- Doherty, 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.I. (1965) Corrective Physical education, London: W.B. Saunders & Co.
- Stafford and Kelly, (1968) Preventive and Corrective Physical Education, New York.

Practicum Course

MPEPC- 201 TRACK AND FIELD: JUMPING EVENTS AND HURDLES / SWIMMING / GYMNASTICS (any one)

Objectives

- Perform various jumps.
- Teach students following the progression of teaching various jumps
- Identify the specific fitness qualities required for each event and give training accordingly.
- Make proper markings and allot duties for officiating of the jumps.
- Prevent injuries and give first aid treatment to them if necessary.
- Perform hurdling technique.

Long Jump, Triple Jump, High Jump, Pole Vault and Hurdles

- Run up, Take off, Technique in the air, Landing of long jump, high jump and pole vault.
- Different techniques of Long Jump, High Jump
- Different techniques of Hurdles.
- Teaching stages and specific drills.

SPECIALISATION RECORD

UNIT 1 : History and development of the jumping events and hurdles

- Origin of the event
- Growth and development of the event

UNIT 2: Skills and Techniques

- Skills and techniques of Long jump
- Skills and techniques of High jump
- Skills and techniques of Triple jump
- Skills and techniques of Pole Vault
- Skills and techniques of Hurdles.
- Training drills and progression of teaching skills

UNIT 3: Fitness training

- Energy system involved in the event
- Training to develop the fitness parameters involved in the event
- Training plan of six weeks for jumps

UNIT 4: Rules and Regulations

- Officials required for the jumping events
- Rules pertaining to jumping events.

- Rules pertaining to hurdling events.

UNIT 5: Layout and construction and maintenance of jumping events' arena.

- Method of Marking

UNIT 6: Organization, Administration and managerial set up for conducting jumping events.

UNIT 7: Biomechanical principles of jumping events

- Long jump – Hang style and hitch kick style
- High jump – Straddle style and Fosbury flop style
- Triple jump
- Pole vault
- Hurdling

UNIT 8: Injuries and Nutrition

- Event related injuries, prevention, treatment and rehabilitation.
- Nutrition specific to the event

*The chapters are indicative. Chapter/s specific to the game/event of specialization can be included or irrelevant chapters excluded shall be decided in the departmental council meeting

HURDLES

- Fundamental skills in Hurdles Events.
- Related Drills.
- Strategies and Tactics.
- Body position at the start- starting technique, change in body position during Hurdles.
- Movements of the arms, stride length and frequency, position of torso while Hurdles and at finish.
- Advanced Skills various techniques of Hurdles Events.

Swimming:

Introduction of water polo game

- Fundamental skills
- Swimming with the ball
- Passing
- Catching
- Shooting
- Goal keeping
- Rules of the games and responsibility of officials

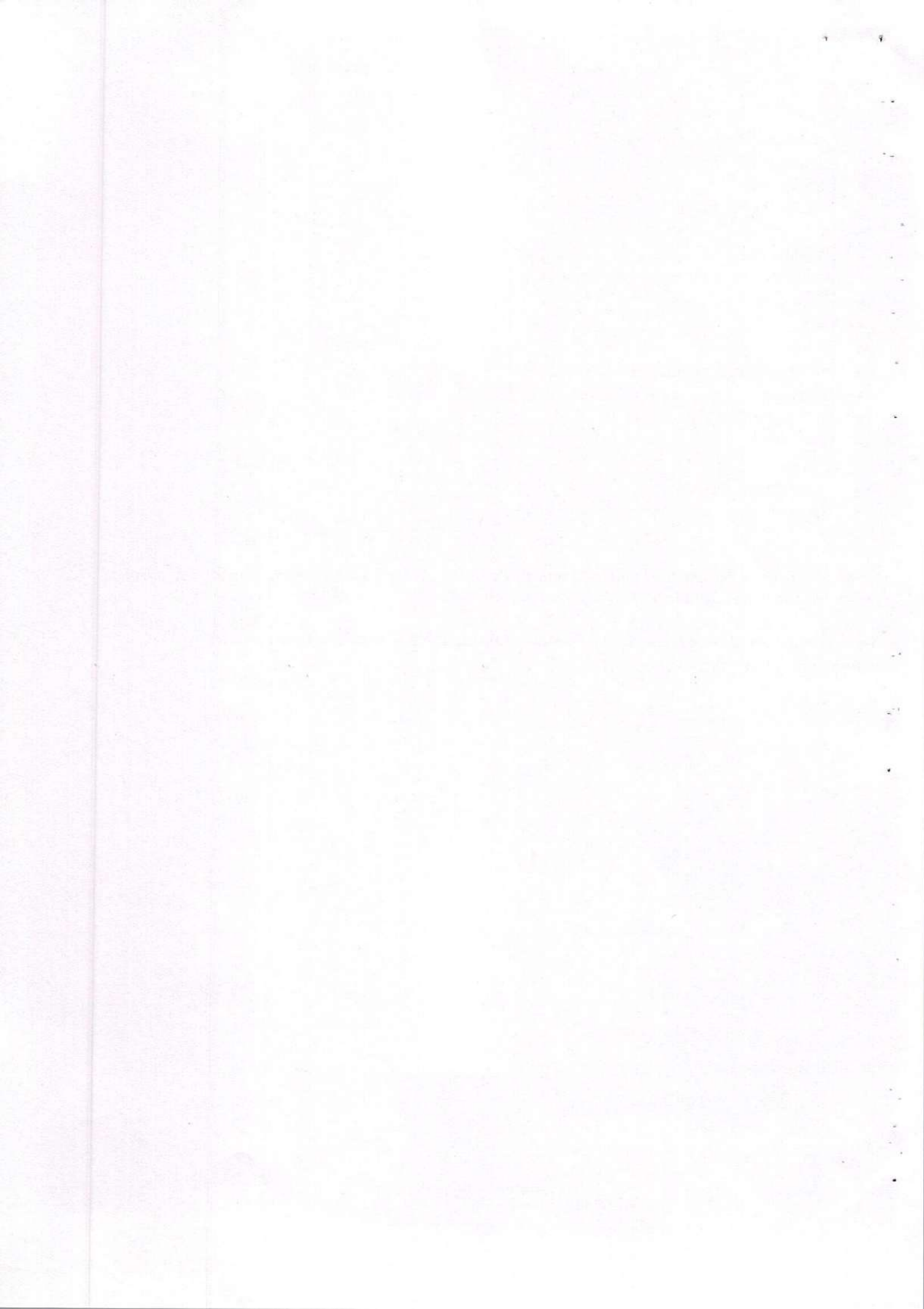
Gymnastics:

- Parallel Bar:
- Mount from one bar

- Straddle walking on parallel bars.
- Single and double step walk
- Perfect swing
- Shoulder stand on one bar and roll forward.
- Roll side
- Shoulder stand
- Front on back vault to the side(dismount)
- Horizontal/Single Bar:
 - Grip
 - Swings
 - Fundamental Elements
 - Dismount
- Uneven Parallal Bar:
 - Grip
 - Swings
 - Fundamental Elements
 - Dismount

(Course contents in Gymnastics and Swimming should be chalked out internally considering advance level of students and suitable to their age and gender).

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.



Semester II

Practicum Course

MPEPC- 202: LABORATORY PRACTICAL: SPORTS PSYCHOLOGY

Objectives

- To understand how psychological factors influence physical performance
- To understand how participation in sports affects psychological development
- The application of this understanding to real life cases is the essence of sports psychology

UNIT- I

1. Aptitude tests
2. Interest inventories/schedules
3. Bell Adjustment inventory
4. Achievement motivation Tests
5. Personality Tests – self esteem, self confidence, self concept, self and ideal discrepancy.

UNIT - II

1. Stressful life –events scale
2. Anxiety
3. Self-esteem
4. Extraversion and neuroticism personality assessment.
5. Well-being Questionnaire.

UNIT -III

1. Sociometry
2. Measuring styles of leadership behaviour
3. Attitude measurement
4. Level of aspiration
5. Emotional Intelligence

UNIT -IV

1. Muller Lyer Illusion
2. Maze Learning
3. Self confidence test
4. Imagery test
5. Self talk

UNIT -V

1. Psychological reactions to sports injuries
2. Reaction ability tests
3. Anxiety tests
4. Depth perception test
5. Cognitive ability test

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.

MPEPC – 203 TEACHING LESSONS OF SPORTS AND GAMES/ CLASSROOM THEORIES OF DIFFERENT SPORTS AND GAMES

Objectives

- To consider the basic principles of teaching, training and coaching
- To provide direction to instruction.
- To provide guidelines for assessment.
- To convey instructional intent to others.
- To improve the student's ability to communicate effectively with the students.
- To develop an understanding and appreciation of the sports and games.
- To create opportunities for students to engage in creating teaching and coaching.
- To develop a knowledge and understanding of scientific training procedures.

(A) TEACHING LESSONS OF DIFFERENT SPORTS AND GAMES

The students of M.P.Ed – II Semester need to develop proficiency in taking teaching classes in indigenous activities and sport 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 ten lessons in PU/Degree/Professional college during the course of the second 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, all the parts of the lesson covered progressively.

General out-line of the contents of practical teaching of Games and Sports.

- General and specific warming up required for the game/sport.
- Basic skills of the game/sport.
- Advanced skills of the game/sport.

(B) CLASS ROOM TEACHING ON THEORIES OF SPORTS AND GAMES (LESSONS ON THEORY OF DIFFERENT SPORTS & GAMES).

The students of M.P.Ed–II Semester need to develop proficiency in taking teaching lessons as per selected games and sport or game specialization. In view of this, the students shall be provided with selected or specialized game 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 second 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 all the parts of the lesson covered progressively.

General out-line of the contents of class room 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.
- Theoretical basis of general and specific warming up, importance, uses and applications of various skills (both fundamental and advanced), and lead up activities for those skills.
- Equipment of the game/sport, infrastructure and facilities required for the game etc.
- General rules and their interpretations, Duties of officials, officiating in class competitions and Intramurals, Marking of the play area.

At the end of the practical/class room teaching classes the semester exams in this activity will be held with two examiners of which at least one shall be an external examiner.

Practicum Course

MPEPC-204 GAMES SPECIALIZATION- KHO-KHO, TABLE TENNIS AND FOOTBALL (any one)

Objectives

- Develop skills and fitness specific to a particular sport.
 - Appreciate and be able to execute strategic play.
 - Participate at a level appropriate to one's developmental stage.
 - Share in the planning and administration of sport experience.
 - Provide reasonable leadership.
 - Work effectively within a group toward common goals.
 - Appreciate the rituals and conventions that give particular sports their unique meanings.
 - Develop the capacity to make reasoned decisions about sport issues.
 - Develop and apply knowledge about umpiring, refereeing, and training.
-
- **Basic skills**
 - **Advanced skills**
 - **Teaching progression of different skills**
 - **Drills for each of the skills**
 - **Biomechanical analysis of the skills**
 - **Specific fitness drills**

SPECIALISATION RECORD

UNIT 1 : History and development of the Game/Sport

- Origin of the Game
- Growth and development of the Game in India.
- Tournaments and awards

UNIT 2: Skills and Techniques

- Fundamental Skills
- Advanced skills
- Training drills

UNIT 3: Strategies and Tactics

- Training for tactics
- Training plan for a period of six weeks and twelve weeks at different levels (High school, college and university)

UNIT 4: Officiating

- Rules and Regulations
- System of officiating

UNIT 5: Layout and construction and maintenance of playfield/courts

UNIT 6: Organization, Administration and managerial set up for conducting tournament /competition

UNIT 7: Biomechanics and Energy systems

- Biomechanical principles of the game/sport
- Energy systems involved in the games and fitness programme specific to the game

UNIT 8: Injuries and Nutrition

- Game/Sport related injuries – Prevention, treatment and rehabilitation.
- Nutrition related to the game – Off season, and pre, during and post competition

Theory Courses

MPECC-301 SCIENTIFIC PRINCIPLES OF SPORTS TRAINING**Objectives:**

- To work as physical education teachers and coaches with greater efficiency.
- To train athletes and teams appropriately to their age in the selected sports discipline.
- To apply the acquired and in-depth knowledge as well as their methodical competences in practical sports training under different conditions.
- To analyse development tendencies in their selected sports discipline and to take this into consideration when planning their own training process;
- To choose appropriate and more effective training measures for the preparation of athletes for national and international competitions

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 - 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:

- Beotra Alka, (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
- 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 Training, 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

Semester III

Theory Courses

MPECC-302 - SPORTS BIO - MECHANICS AND KINESIOLOGY

Objectives:

- The meaning and scope of Kinesiology and Biomechanics in Physical Education and sports
- The location of muscles and the involvement of muscles in movement
- Principles of physics as applied to sports skills
- Application of laws of biomechanics in various skills and athletic events.
- The methods of analyzing skills and detecting faults during the performance of these skills.
- Usage of various technique and tools to analyze skills.
- The method of improving skills thereby increasing efficiency of skill performance.

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.

UNIT V – Movement Analysis

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

Note: Laboratory practicals should be designed and arranged for students internally.

REFERENCE:

- Deshpande S.H.(2002). Manav Kriya Vigyan – Kinesiology (Hindi Edition) Amravati Hanuman Vyayam Prasarak Mandal.
- 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 Kinesiology(Friends Publication India 2004)
- Uppal, A (2004), Kinesiology in Physical Education and Exercise Science, Delhi Friends publications.
- Williams M (1982) Biomechanics of Human Motion, Philadelphia; Saunders Co.

Theory Courses**MPEOEC-301 HEALTH, FITNESS AND WELLNESS (Open Elective)****Objectives:**

- To development competencies, skill and knowledge required for the fitness and life style management.
- To understand the relationship between fitness and wellness.
- To acquire the knowledge regarding healthy lifestyle approach.
- To gain knowledge regarding various aspects and its practical implications fitness lifestyle management.

UNIT I – Introduction

Physical Fitness – Meaning, Definition and importance of Physical Fitness. Components of Physical fitness. Principles of Physical fitness. Factors determining Physical fitness. Wellness- concept of wellness dimensions of wellness. Reaching wellness through life style management. Relationship between Physical fitness and wellness.

UNIT II – Health and Weight Management

Meaning and definition of health. Importance of health. Factors influencing Health. Dimensions of Health. Health related fitness components, health benefits of exercises. Weight management- concept of overweight and obesity and their health implications, factors contributing to excess body fat. BMI, management of weight.

UNIT III – Nutrition

Basic Concept of nutrition, balanced diet, components of balanced diet and their sources, Mal nutrition, Nutritional guidelines. Importance of Knowing the different food values Food pyramid. Eating disorder, proper hydration.

UNIT IV – Aerobic and Anaerobic Exercise

Meaning of aerobic activities. Concept of cardio vascular fitness. Means and methods to develop cardio respiratory fitness; warm up, cool down and stretching exercises, heart rate monitoring during activity. Meaning of anaerobic exercises. Resistance training for muscular strength and endurance; principles of resistance training.

UNIT V – Flexibility Exercise

Flexibility: meaning and definition, importance of flexibility in daily lifestyle, types of flexibility, factors determining flexibility. Types of flexibility exercises (dynamic, static). PNF stretching.

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
- Dr. A.K. Uppal, Physical Fitness, Friends Publications (India), 1992. 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, Karyn Hartiger & 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

Semester III

Theory Courses

MPEEC-301 SPORTS JOURNALISM AND MASS MEDIA (Elective)

Objectives:

- Meaning, scope and changing trends of journalism in sports.
- Role of journalism in sports promotion and vice-versa and Media.
- To develop professional competencies, skills and knowledge regarding sports journalism.
- To acquire the writing skills in the field of sports.
- To gain knowledge regarding organizations and presentation skills in sports media.
- To develop and understanding about research processes and future direction in sports journalism.

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. 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.
- Kannan K (2009) Soft Skills, Madurai: Madurai: Yadava College Publication
- Mohit Chakrabarti (2008): Value Education: Changing Perspective, New Delhi: Kanishka Publication.
- Padmanabhan. A & Perumal A (2009), Science and Art of Living, Madurai: Pakavathi Publication.
- Shiv Khera (2002), You Can Win, New Delhi: Macmillan India Limited.

Objectives:

- The concept of sports medicine and its significance in sports performance.
- The development of the profession of sports medicine and its regulatory bodies.
- Injuries occurring in the upper extremities and their rehabilitation.
- Injuries occurring in the lower extremities and their rehabilitation.
- The technique and benefits of massage.

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 Injuries 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.
- Practical: Anthropometric Measurements.

Practicum Course

**MPEPC- 301 TRACK AND FIELD: THROWING EVENTS AND COMBINED EVENTS
HEPTATHLON EVENT AND DECATHLON EVENT**

Objectives

- Perform throwing events.
- Perform throwing techniques.
- Understand the different methods of throwing styles, tactics and perform the same.
- Perform combined events and different finishing techniques

Styles and Techniques of

- Shot Put
- Discus Throw
- Javelin Throw
- Hammer Throw
- Heptathlon and Decathlon

SPECIALISATION RECORD

UNIT 1: History and development of the throwing events and combined events.

- Origin of the event
- Growth and development of the event

UNIT 2: Skills and Techniques

- Shot Put styles and techniques
- Discus throw styles and techniques
- Javelin throw styles and techniques
- Hammer throw techniques
- Heptathlon and Decathlon techniques
- Teaching progressions of each event and training drills

UNIT 3: Fitness training for each of the skills

- Energy system involved in the skill
- Training to develop the fitness parameters involved in the skill
- Training plan of six weeks for throws
-Training for tactics

UNIT 4: Rules and Regulations

- Officials required for the throwing events and combined events.

- Rules pertaining to throwing events and each of the throws and combined events.

UNIT 5: Layout and construction and maintenance of throwing arena.

UNIT 6: Organization, Administration and managerial set up for conducting throwing events and combined events.

UNIT 7: Biomechanical principles of the throwing events and combined events.

UNIT 8: Injuries and Nutrition

- Event related injuries, prevention, treatment and rehabilitation.
- Nutrition specific to the event

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.

Practicum Course

MPEPC – 302 LABORATORY PRACTICAL: SPORTS BIO-MECHANICS AND KINESIOLOGY

Objectives

- Identify the various planes and axis
- Perform various fundamental movements and the planes and axes in which they act.
- Palpate the various muscles of the body.
- Prescribe exercises for the development of specific muscles.
- Utilize the goniometer to measure the joint angles
- Analyze the various skills and athletic events on the basis of kinesiological and biomechanical principles
- Use the camera and video to capture the still and live images to analyze the skills.

Kinesiology

1. Basic Anatomical Position
2. Planes and Axes
3. Fundamental movements at various joints – Neck, Shoulder, Elbow, Wrist, Trunk, Hip, Knee and Ankle.
4. Identification and palpation of muscles – Biceps Brachii, Triceps Brachii, Deltoids, Pectoralis Major, Rectus Abdominus, Latissimus Dorsi, Trapezius, Teres Major, Rotator cuff muscles, Ilio Psoas muscle, Gluteus group, Quadriceps group, Hamstring group, Soleus, Gastrocnemius.
5. Joint movement analysis
6. Muscular analysis of movement

Biomechanics

1. Center of Gravity
2. Goniometer testing – flexibility and ROM.
2. Analysis of Standing, Sitting, walking, running.
3. Analysis of skills of various games.
4. Analysis of Long Jump, High Jump, Sprinting, Race walking, Shot Put, Discus Throw etc.
5. Video analysis of various skills as mentioned above.

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.

MPEPC-303 INTREN SHIP- PEDAGOGY (CL)

Objectives

- The general coaching principles of sports and games
- Specific coaching principles of track and field and games specialization
- Various drills for progression of learning skills from simple to complex.
- Management of trainees while coaching a game/event
- Knowledge about various equipments required for the teaching of a particular game/event.
- Periodisation of coaching according to the purpose and objectives.

(A) COACHING LESSONS OF TRACK AND FIELD EVENTS

The students of M.P.Ed – III Semester need to develop proficiency in taking coaching 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 fifteen lessons in track and field for the BPEd students or high school students as decided by the departmental council at the end of which a competition will be conducted among the trainees of the MPED teachers. For this purpose a group of three MPED students in each coaching team may be made to coach track, jumps and throws. 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 coaching lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

(B) COACHING LESSONS OF GAME SPECIALISATION

The students of M.P.Ed – III Semester need to be develop proficiency in taking coaching lesson in selected game 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 visit the schools and take coaching lessons on games allotted to them for 15 days at the end of which there will be a competition among the participating schools in the respective games. 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 coaching lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

Practicum Course

MPEPC-304 GAMES SPECIALIZATION- VOLLEYBALL, HOCKEY AND CRICKET (any one)

Objectives

- Develop skills and fitness specific to a particular sport.
- Appreciate and be able to execute strategic play
- Participate at a level appropriate to one's developmental stage
- Share in the planning and administration of sport experience.
- Provide reasonable leadership
- Work effectively within a group toward common goals
- Appreciate rituals and convention that give particular sports their unique meanings
- Develop the capacity to make reasoned decisions about sport issues.
- Develop and apply knowledge about umpiring, refereeing and training.

- **Basic skills**
- **Advanced skills**
- **Teaching progression of different skills**
- **Drills for each of the skills**
- **Biomechanical analysis of the skills**
- **Specific fitness drills**

SPECIALISATION RECORD

UNIT 1 : History and development of the Game/Sport

- Origin of the Game
- Growth and development of the Game in India.
- Tournaments and awards

UNIT 2: Skills and Techniques

- Fundamental Skills
- Advanced skills
- Training drills

UNIT 3: Strategies and Tactics

- Training for tactics
- Training plan for a period of six weeks and twelve weeks at different levels (High school, college and university)

UNIT 4: Officiating

- Rules and Regulations

- System of officiating

UNIT 5: Layout and construction and maintenance of playfield/courts

UNIT 6: Organization, Administration and managerial set up for conducting tournament /competition

UNIT 7: Biomechanics and Energy systems

- Biomechanical principles of the game/sport
- Energy systems involved in the games and fitness programme specific to the game

UNIT 8: Injuries and Nutrition

- Game/Sport related injuries – Prevention, treatment and rehabilitation.
- Nutrition related to the game – Off season, and pre, during and post competition

*The chapters are indicative. Chapter/s specific to the game/event of specialization can be included or irrelevant chapters excluded shall be decided in the departmental council meeting.

Skill Development and Employability

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Semester IV

Theory Courses

MPECC-401 INFORMATION AND COMMUNICATION TECHNOLOGY IN PHYSICAL EDUCATION (ICT)

Objectives:

- Concept, elements, process and types of communication.
- Concept and importance of ICT.
- Fundamentals of computers and MS office applications.
- ICT in teaching learning process project based learning
- Explain the historical perspective of educational technology
- State the emerging trends in educational technology.
- E-learning and web based learning.

1.1.3

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

E-Learning, Web Based Learning, Visual Classroom

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 2005
- Heidi Steel Low price Edition, Microsoft Office Word 2003- 2004
- IITL 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

Semester IV

Theory Courses

MPECC-402 APPLIED STATISTICS IN PHYSICAL EDUCATION AND SPORTS

Objectives:

- A need for promoting the timely collection and publication of good quality statistical data.
- A need for maintaining continuity and comparability in the data produced.
- The safeguarding of confidentiality of individual returns, impartiality and objectivity as prerequisites for reliable statistics.
- The application of the most optimal, statistical principles, methods and proceedings.
- To use population mean, as an estimate of the sample mean,
- To make inferences about a population based on information we get from a sample taken from the population.
- To make inferences about a sample with a high degree of reliability

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

UNIT IV – Probability Distributions and Graphs

Normal Curve. Meaning of probability- Principles of normal curve – Properties of normal curve. Divergence from 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.

REFERENCE

- Best J. W (1971) Research in Education, New Jersey; Prentice Hall, Inc
- Clark D.H. (1999) Research Problem in Physical Education 2nd edition, Englewood Cliffs, Prentice Hall, Inc.
- 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

Semester IV

Theory Courses

MPECC-403 DISSERTATION

Objectives:

- Formulating research questions with the help of the supervisor and elaborating the research.
 - Acquiring information independently and assessing its relevance for answering the research questions.
 - Acquiring attitude to work on scientific research in a team.
 - Learning to communicate in a scientific language through collaboration with fellow students and researchers.
 - Following up and analyzing developments in the chosen area, through training and by making contact with the current research in one of the areas.
 - Using adequate experimental or theoretical methods and techniques.
 - Critically analyzing the results and their interpretation.
 - Reporting and presenting the original results in an orderly way and placing the open questions in the right perspective. Linking techniques and results from literature as well as actual research and future research lines with research.
1. A candidate shall have dissertation for M.P.Ed. – IV Semester and must submit 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 her dissertation not less than one week before the beginning of the 4th Semester Theory Examination.
 3. The candidate has to face the Viva-Voce conducted by DRC, (Departmental Research Committee).

Activities:

- Scoring the data: scoring the responses based on scoring key previously prepared and as per the objectives of the study.
- Tabulate the scored data: Preparation of suitable tables in MS excel, to enter the data to the supervisor.
- Analysis of the tabulated Data: Applying the suitable statistical analysis to the tabulated data. Graphical representation of the data, calculation of descriptive measurers, Inferential analysis of the data based on objectives of the study. Identifying the major findings and discussion of the finding and a report of the same to be submitted to the supervisor.

- Reporting of research study:

Chapterization: preparation of chapter headings and sub headings

Writing of chapters:

Chapter one: Introduction

Chapter two: Review of Related Literature

Chapter three: Methodology

Chapter Four: Analysis and Interpretation of the data

Chapter Five: Summary and conclusion, Preparation of Bibliography using APA Style, Preparation of Appendices, Submission of the Final Dissertation.

Practicum Course

MPEPC- 401 TRACK AND FIELD: RACE WALKING, CROSS COUNTRY RACE, HALF MARATHON, FIELD MARKING AND TRACK AND FIELD OFFICIATING

Objectives

- Perform cross country race, Race walking technique
- Perform half marathon race techniques.
- Understand the methods of field marking and track and field officiating

- **Race Walking**
- **Cross Country**
- **Half Marathon**
- **Field Marking and Track and Field Officiating**

SPECIALISATION RECORD

- **UNIT 1: History and development of Race Walking, Cross Country, Half Marathon.**

- Origin of the event
- Growth and development of the event

UNIT 2: Skills and Techniques

- Skills and techniques of Race walking
- Strategies in Cross Country and Half Marathon

UNIT 3: Fitness training

- Energy system involved in the race walking and cross country
- Training to develop the fitness parameters involved in the events
- Training plan of six weeks for race walking, combined events and cross country

UNIT 4: Rules and Regulations

- Officials required for combined events, cross country and race walking
- Rules pertaining race walking, cross country and Half Marathon

UNIT 5: Layout and construction and maintenance of track and field arena

UNIT 6: Organization, Administration and managerial set up for conducting an Athletic Meet

UNIT 7: Biomechanical principles

- Race walking

UNIT 8: Injuries and Nutrition

- Event related injuries, prevention, treatment and rehabilitation.
- Nutrition specific to the events

*The chapters are indicative. Chapter/s specific to the game/event of specialization can be included or irrelevant chapters excluded in consultation with the guide

Practical Course

MPEPC – 402 LABORATORY PRACTICAL – A. COMPUTER APPLICATION (ICT)
B. PERSONALITY DEVELOPMENT (Common Paper)

A. COMPUTER APPLICATION (ICT)

Objectives

- Students will attain a level of basic computer awareness—how computers work, how computers are controlled, the impact of computers in education and physical education.
- Students will be introduced to different types of computer equipment, such as disc drives, printers, laserdiscs, modems, speech synthesis and video digitization.
- Students will receive hands- on experience with a number of general applications- word processing, spread sheets.
- Students will receive hands- on experience with a number of physical education applications- physical fitness assessment, diet analysis, games statics, game simulation, computer assisted learning, scheduling, reaction time test and motion analysis.
- Students will gain an awareness of the information storage and retrieval capabilities of the computer.
- Students will be introduced to the techniques instructional design in physical education using computers, laserdiscs and multi media. Also, they will be introduced to the development and evaluation of computer software.

I – Microsoft Word

- Using the various options in Microsoft word to create folders, files, saving and their applications in administration of sports events and coaching.

II – Microsoft Excel

- Using Microsoft excels to prepare spreadsheets, insert graphs, Analyze data and to prepare schedules etc.

III – Microsoft PowerPoint

- Prepare Presentations.

IV –Creating and using E-Mail:

V –Using search engines

Practicum Course

MPEPC 403 COACHING LESSONS OF TRACK AND FIELD/GAMES SPECIALIZATION (PL)

Objectives

- The general coaching principles of sports and games
- Specific coaching principles of track and field and games specialization
- Various drills for progression of learning skills from simple to complex.
- Management of trainees while coaching a game/event
- Knowledge about various equipments required for the teaching of a particular game/event.

The students of M.P.Ed – IV Semester need to develop proficiency in taking officiating lesson on selected above discipline. In view of this, the students shall be provided with advance mechanism of officiating 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 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 fourth 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 officiating lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

Note: Where ever details of any activities are not mentioned, it is expected to elaborate skills by the competent bodies of local Universities/ Autonomous Colleges.

Practicum Course

MPEPC-404 GAMES SPECIALIZATION - BASKETBALL, BADMINTON AND SOFTBALL (any one)

Objectives

- Develop skills and fitness specific to a particular sport.
 - Appreciate and be able to execute strategic play
 - Participate at a level appropriate to one's developmental stage
 - Share in the planning and administration of sport experience.
 - Provide reasonable leadership
 - Work effectively within a group toward common goals
 - Appreciate rituals and convention that give particular sports their unique meanings
 - Develop the capacity to make reasoned decisions about sport issues.
 - Develop and apply knowledge about umpiring, refereeing and training.
-
- **Basic skills**
 - **Advanced skills**
 - **Teaching progression of different skills**
 - **Drills for each of the skills**
 - **Biomechanical analysis of the skills**
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SPECIALISATION RECORD

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UNIT 5: Layout and construction and maintenance of playfield/courts

UNIT 6: Organization, Administration and managerial set up for conducting Tournament / competition

UNIT 7: Biomechanics and Energy systems

- Biomechanical principles of the game/sport
- Energy systems involved in the games and fitness programme specific to the game

UNIT 8: Injuries and Nutrition

- Game/Sport related injuries – Prevention, treatment and rehabilitation.
- Nutrition related to the game – Off season, and pre, during and post competition

The students should prepare a record book containing the above said activities which will be evaluated in the semester exam.