

UNIVERSITY OF SARGODHA, SARGODHA


NOTIFICATION



No.UOS/Acad/2326

Dated: 10.08.2010

On the recommendations of Academic Council, the Syndicate in its 2/2010 meeting held on 08.07.2010 has approved the syllabus of MA Physical Education for implementation under annual system in affiliated colleges from the academic session 2010-11. Approved curriculum is annexed herewith.


(Ch. FAROOQ AHMAD)
Assistant Registrar (Acad)
for Registrar

Distribution:-

- Incharge
Department of Physical Education
- Controller of Examinations
- IT Manager (for uploading on university website) / web Developer
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C.C:

- Secretary to the Vice-Chancellor
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CURRICULUM OF M.A PHYSICAL EDUCATION UNDER ANNUAL SYSTEM

Session 2010-11

SCHEME OF STUDIES

There are Seventeen Courses in all; the colleges however have to choose at least 12 papers according to Physical and Academic facilities available with them. As it would be a **two years duration programme of 1000 Marks** entailing theory and practical comprising 500 marks for part-1 and part -2 each.

M.A. Part-I (Theory)

	Marks
Paper-I Philosophy of Physical Education and Recreation	65
Paper-II Movement Education (Basic Concepts)	65
Paper-III Basic Anatomy and Physiology	65
Paper-IV Sports Psychology	65
Paper-V Science of Track and Field	65
Paper-VI Rules and Techniques of Games and Sports	65
TOTAL	390

PRACTICALS

	Marks
Athletics	40
Games	40
Gymnastics	10
Physical Efficiency and Fitness Tests	10
Swimming	10
TOTAL	110
GRAND TOTAL	500

M.A .Part-II

	Marks
Paper-VII Research Methodology in Physical Education	65
Paper-VIII Bio mechanics	65
Paper IX Sports Medicine	65
Paper-X Measurement and Evaluation in Physical Education	65
Paper-XI Administration and Management in Physical Education	65
Paper-XII OPTIONAL (Any one from the list of elective subjects)	65
TOTAL	390

PRACTICALS

	Marks
Athletics	40
Games	40
Gymnastic	10
Hiking and Hill Trekking	10
Physical Efficiency and Fitness Tests	10
TOTAL	110
GRAND TOTAL	500

ELECTIVE SUBJECTS

The Colleges may offer any one of the following elective/optional subjects according to the facilities available in their respective institutions.

- I. Health and Environmental Science
- II. Sports injuries/Rehabilitation and its management
- III. Curriculum Development in Physical Education
- IV. Exercise Physiology
- V. Sports Nutrition

DETAILS OF COMPULSORY COURSES

PAPER-I

PHILOSOPHICAL BASIS OF PHYSICAL EDUCATION AND RECREATION

PART "A" Philosophy

INTRODUCTION

- a. Definition of Physical Education
- b. Nature, Scope and Historical Significance of Physical Education
- c. Objectives of Physical Education

PHILOSOPHY OF PHYSICAL EDUCATION AND SPORTS

- a. Definition of Philosophy
- b. Ancient and Modern Philosophies
 - i) Naturalism
 - ii) Pragmatism
 - iii) Idealism
 - iv) Realism
- c. Islamic Philosophy and Physical Education

PHILOSOPHY OF RECREATION AND LEISURE PROGRAMME

- a. Definition, Significance and Scope of Recreation and Leisure
- b. Objectives of Recreation
- c. Kinds of Recreation
 - i. Community Recreation
 - ii. Hospital Recreation
 - iii. Family Recreation
 - iv. Industrial Recreation
 - v. School Centred Recreation
 - vi. Regular School Programme
- d. Classification of recreational activities

PART "B" Recreation

LEADERSHIP

- a. Definition of a leadership
- b. Qualities of Recreational leader
- c. Responsibilities of leadership
- d. Types of Leadership

- e. Criteria of Leadership selection
- f. Site selection and check list
- g. Budgeting

CAMPING AND OUTDOOR EDUCATION

- a. Nature, Scope & Significance of camping and outdoor education
- b. Hiking & Hill Trekking
- c. Girl Guiding/Scouting

Books Recommended:

1. Krishnamurthy V, *Educational Dimensions of Physical Education*, 1990, Sterling Publisher Ltd, New Delhi, India.
2. Singh S B, Sodhi T S, Sandhu G S, *Philosophies of Education*, 1st edition, 1988, Indian Publications, Hill Road, Ambala Cantt, India.
3. Zeigler Eerle F, *An Introduction to Sports and Physical Education Philosophy*, 1989, C. Brown Publisher Int, New York.
4. Charles, Bucher A, Donald Chu, *Dimensions of Physical Education*, 2nd edition, C V Mosby Company, New York, USA.
5. Zeigler Eerle F, *Philosophical Foundation for Physical Health and Recreation Education*.
6. Hatfield Bral, Seppo E, ISO Alhola, *Psychology of Sports*, 1986, W M Brow Publishers, Dubuque, Iowa.
7. Charlas A Ucher, *Foundation of Physical Education*. Saint Louis, C V Mosby Company .
8. Harold ABL, *Men and Movement & Principles of Physical Education*. 2nd edition, Lea and Fbinger.
9. Wilam V E and Brow-Well, *Administration of Health Education and Physical Education*. A B Sanders and Co, Philadelphia.

PAPER-II

MOVEMENT EDUCATION

MOVEMENT: EDUCATION

- a. Definition of movement education
- b. Origins of Movement Education
- c. Nature of Movement Education
- d. Schools of thought
- e. Theories of Movement

GENERAL FACTORS EFFECTING MOVEMENT

- a. Physiological Factors
- b. Psychological Factors
- c. Sociological Factors

MOVEMENT CONCEPTS

- a. Spatial Awareness
- b. Body Awareness
- c. Quality of Movement
- d. Relationship

MOVEMENT VOCABULARY DEVELOPMENT CONCEPTS

- a. Conceptualization leading to Movement Vocabulary
- b. Movement and Music

c. Formulation of Tasks

SELECTED FUNDAMENTAL MOVEMENTS

a. Loco motor Movements

Walking Running
Jumping Hopping
Sliding Leaping
Rolling Gliding

b. Non-Loce motor Movements

Curling and Stretching Turning and Twisting
Pushing and Pulling Lifting and Lowering
Swinging and Circling Stillness and Balancing

OTHER AREAS

- a. Movement sequence
- b. Partner and group work
- c. Small Area Games and Lead-up Activities

EDUCATIONAL GYMNASTICS

- a. Definition of Educational Gymnastic
- b. Objectives of Educational Gymnastic
- c. Educational Gymnastic programme

SOMATOTYPING

- a. Historical overview
- b. Body Types — Sheldon's Method
- c. Endomorphy-Mesomorphy-Ectomorphy

EQUIPMENT AND APPARATUS

- a. Kinds of apparatus
- b. Importance of apparatus
- c. Handling of apparatus
- d. Maintenance of apparatus
- e. Improvement of apparatus

Books Recommended:

1. Barrow, 1988. *Principles of Man and Movement*, Lea.
2. Bouchard, 1991. *Physical Activity Sciences*, Huamn.
3. Panda P K, Sharama O P, *New Encyclopaedia of Physical Education* Vol.5, Khel Sahitya Kendra.
4. Barratt, *Physical Ethics or the Science of Action*.
5. Wads, 1995. *Introduction to Kinesiology*, WCB Brown.
6. Thompson, 1994. *Manual of Structural Kinesiology*, Mosby Year Book.
7. Anna Espenschade, Helen M Eckert, *Motor Development*, Charles E Mrril Publishing Company.
8. Clayen, Gordon and Blauer, *Applied Kinesiology and Biomechanics*, McGraw-Hill Book Company.
9. Winter, David A. *Biomechanics of Human Movement*, John Willy and Sons.
10. Schuri, Evelyn L, *Movement Experiences for Children*, Prentice Hall, Inc. Englewood Cliffts, New Jersey.

PAPER-III
BASIC ANATOMY AND PHYSIOLOGY

INTRODUCTION

- a. Definition and Importance of Anatomy and Physiology.
SKELETAL MUSCLES

- a. Anatomy of Skeletal Muscles
b. Description of major muscles of the body
c. Function of muscles during exercise
d. Effect of exercise on muscles

BONES AND JOINTS

- a. Description of joints
b. Anatomy of Bones and Joints
c. Effect of exercise on bones and joints and senility changes

ANATOMY AND PHYSIOLOGY OF THE FOLLOWING SYSTEMS

- a. Nervous Systems (Peripheral – Autonomic)
b. Circulatory system
c. Respiratory system
d. Digestive system
e. Excretory system

ENDOCRINOLOGY

- a. Endocrine glands and functions
b. Effects of malfunctioning of endocrine glands on human body
c. Detail of muscles related hormones

Books Recommended

1. Lost R J, Caningam, *A manual practical anatomy*.
2. Elaine N Marieb, 2002, *Human Anatomy & Physiology*, The Benjamin/Cummings Publishing Company, USA.
3. King & Shower, *Human Anatomy and Physiology*, W B Saundars, Co, New York, Philadelphia, USA.
4. Soloman and Davis, *Human Anatomy and Physiology*, W B Saundars.
5. Marieb, 1992. *Human Anatomy & Physiology*, The Benjamin Publishers.
6. Thibodeau, 1992. *Structure & Function of the Body*. Mosby Year Book.
7. Marieb, 1994. *Essentials of Human Anatomy & Physiology*. The Benjamin Publishers.
8. Wynsberghe, 1995. *Human Anatomy & Physiology*. Mc-Graw Hill.

PAPER-IV
SPORTS PSYCHOLOGY

1. Introduction

Definition of sports psychology
Significance of Psychology in sports
Psychological obstacles

2. Nervous System and Glandular System

Response Mechanism in human body or Neuro-physiology of Arousal
Glands and their effects on human behaviour
Psycho-Physiological factors effecting sports performance

3. Personality and Sports

Theories of personality

Measurement of personality

Personality profiles of athletes

4. Motivation and Performance

Definition of motivation

Sports motivation scale

Nature and types of motivation

Theories of motivation

Shaping athletes behaviour via requirement

5. Stress

Definition of stress

Theories of stress

Effects of sports stress on performance or Neuro-chemical aspects of stress

Dynamics of stress

6. Aggression

Types of aggression

Theories of aggression

Significance of aggression in sports

Aggression

7. Goal Setting

Types of goals

Goal identification

Rational goal setting/principles of effective goal setting

How goals effect performance

8. Concentration

Attention and its dimension

Types of attentional focus

Importance of concentration in sports

Factors that effect concentration

Techniques to enhance concentration

9. Self-Confidence and Sports performance

Introduction

Models of sports confidence

Sources of sports confidence

Development of self-confidence

10. Sport Cohesion

Definition and types of cohesion

Factors that effect team cohesion

Measurement of cohesion

Interventions to enhance cohesion

11. Cognitive and behavioural interventions to improve sports

Performance

Coping strategies in sports

Relaxation strategies

Arousal Energizing strategies

Imagery and sports performance Hypnosis (Imagery – Relaxation, Self-talks and Self-thoughts, Arousal)

Books Recommended:

1. Chiang H and Maslow A H, N Y Van Nostrand, 1989. *The Health Personality*.
2. Harper N Y and Brothers, Maslow, J, 1954. *The Motivation and Personality*.
3. Liaget J, 1965. *The Moral Judgement on Child*, N Y Free Press.
4. Polarad, M B and Geogheen B, *The Growing Child in contemporary society*. Milkaukees. The Bruce Publishing Co.
5. Schultz, B M, 1969. *Psychology in Use an introduction to applied Psychology*, N Y Macmillan & Co.
6. Harvey P G Health, 1988. *Psychology*, Longman, London.
7. Borthy V Harns and Bettel L Harris, 1984. *The Athletics Science to Sports Psychology*, Leisene Press.
8. William P Stranb, 1980. *Sports Psychology in Analysis of Athlete Behaviour*. Movement Publications USA.
9. Borcas Busam But, 1987. *Psychology of Sports*, Van Nostrand Roulledge Company, New York.
10. Terry Orlick, 1975. *Human Kinetics*, Publishers, Inc. USA.
11. Kane J E, 1972. *Psychological Aspects of Physical Education and Sports*, Roulledge and Kegan Paul, London and Boston.

PAPER-V

SCIENCE OF TRACK AND FIELD

HISTORY OF OLYMPIC MOVEMENT

- a. Olympic, Olympism
- b. Ancient Olympic
- c. Modern Olympic

LAYING OF STANDARD TRACK CONDITIONING IN ATHLETICS

- a. Strength training
- b. Endurance training
- c. Flexibility training
- d. Other components:
Power, Speed, Agility, Reaction time.

TRAINING PRINCIPLES

- a. Overloading and Stress e. Recovery/Rest
- b. Specificity of training f. Individuality
- c. Progression
- d. Continuity

RESISTANCE TRAINING (ISOTONIC, ISOMETRIC AND ISOKINETIC)

- a. Definition of weight training c. Specific exercises for Athletic
- b. Training for general fitness events

TECHNICAL ASPECTS IN TRACK & FIELD

- a. Running c. Throwing
- b. Jumping d. Walk Race

WARM-UP/COOL DOWN

- a. Definition
- b. General and Specific Warm-up
- c. Cool down concepts

RULES OF TRACK & FIELD EVENTS

- a. Jumps
- b. Throws
- c. Races
- d. Relay
- e. Hurdles

ADMINISTRATION AND ORGANIZATION OF ATHLETIC COMPETITION

- a. Athletics Officials
- b. Formation of Committees for conduct of Track and Field net.

Books Recommended:

1. *How to organize an Athletics Meeting*, Amateur Athletic Association Hand Book.
2. Abdul Waheed Mughal, *Athletic Officiating*, Islamabad.
3. Primo Nebiol, 1997. *Hand Book Inter. Amateur Athletic Federation*, IAAF.
4. Vivek, 1996. *New Encyclopaedia of Track & Field*, Khel Sahitya Kendra.
5. Gummerson, 1992. *Sports Coaching and Teaching*, A & B. Black.
6. Tony Pocock, 1992. *Official Rules of Sports & Games*.
7. Thani, 1995. *Skills & Tactics Field Athletics*, Sports Publishers.
8. 1994. *Track Athletics*, A & C Black.
9. 1994. *Field Athletics*, A & C. Black.
10. Amateur Athletics Association, *Hand Book*.
11. Rasheed Khalid, 1993. *Taaleem-i-Jismani*, Ilmi Kutab Khana, Lahore.

PAPER-VI

RULES AND TECHNIQUES OF GAMES AND SPORTS ORGANIZATION AND CONDUCT OF GAMES/SPORTS

- a. Types of Tournaments v. Consolation
 - i. League System (Round Robin) vi. Ladder
 - ii. Knock out (Elimination) vii. Pyramid
 - iii. Combination
 - iv. Double Elimination
- b. Organization and conduct of games and sports at different levels.
 - i. School
 - ii. College
 - iii. University
 - iv. National level

RULES AND TECHNIQUES OF THE FOLLOWING GAMES

a. Origin and Historical Background

- i. Hockey
- viii. Table Tennis
- ii. Football (for boys)
- ix. Hand Ball
- iii. Cricket
- x. Kabaddi (for boys)
- iv. Basketball
- v. Volleyball
- vi. Tennis
- vii. Badminton

Audio and Visual Aids in the development of skills in sports

Books Recommended:

1. 1991. *Official Rules of Sports and Games*. Methnen.
2. 1991. *Complete Illustrated Encyclopaedia of All the "Rules of the Game" Sport of the World*. Collins.
3. Barrett, 1993. *Players, Games and Spectacle*. F Watts.
4. Anshel, 1991. *Dictionary of the Sports and Exercise*. Human.
5. Gregory. *Activity Book About Sport*. Romansleigh.
6. Smith, 1992. *Chronicle of 20th Century Sport*. Pak Am.
7. Rustad, 1995. *Cricket Encyclopaedia*. Pak Am.
8. Barker. 1992. *Go & Play Tennis*. Pak Am.
9. 1995. *Rules of Games & Sports*. Pak Am.
10. Thani 1995. *Skills & Tactics Cricket*. Pak Am.
11. Thani, 1995. *Skills & Tactics Field Athletics*. Pak Am.
12. Thani, 1995. *Skills & Tactics Gymnastics*, Pak Am.
13. Saggarr, 1994. *Skills & Tactics Volleyball*. Pak Am.
14. Costill, 1993. *Swimming*. Pak Am.
15. *Take up Table Tennis*. Pak Am.
16. Giller, 1989. *World's Greatest Football Matches (PB)*. Pak Am.
17. *Know the Games series and teach yourself series on Hockey, Football, Volleyball, Cricket, Table Tennis, Net Ball, Soft Ball*.
18. Charles-C, Cowell and Hilda M Seh. *Modern Principles and Methods in Secondary Schools Physical Education*.
19. *Basketball — Know the Game Series*.
20. *Lawn Tennis — Know the Game Series*.
21. *How to improve you Basketball*. The Athletic Institute of Chicago, America.
22. Ruth Medglay. *Rules of the Games*.
23. Pankaj. *Rules of Game & Sports*.
24. B N Anuja. *Rules & Skills of Game & Sports*.
25. Donald Casady, *Sports Activities for Men*.
26. Vannier, *Individual and team Sprots for Girls*.
27. Marshal Canendish. *Encyclopaedia of Sports*.

PAPER-VII

RESEARCH METHODOLOGY IN PHYSICAL EDUCATION

INTRODUCTION

- a. Definition: Introduction of Research
- b. Importance of Research in Physical Education
- c. Characteristics of Researcher
- d. Types of Research

SCIENTIFIC METHODS IN RESEARCH

- b. Scientific method of research in Physical Education
- c. Relationship between research and theory

CONCEPTS OF RESEARCH

- a. Concepts and Variables (types of variables, ways to control variables)
- b. Definition: Theoretical and Operational

SELECTION AND FORMULATION OF RESEARCH PROBLEM/TOPIC

- a. Identification of Research Problems
- b. Objectives of the problem/topic
- c. Review of relevant literature
- d. Determinants of the significance of a research problem
- e. Theoretical framework

RESEARCH DESIGN

- a. Types of research design:
(Survey, experiment, case study, content analysis scope of each research design in Physical Education)
- b. Population and samples

HYPOTHESIS

- a. Definition and functions of hypothesis
- b. Characteristics of hypothesis
- c. Sources and logic through which hypothesis are derived

TOOLS OF DATA COLLECTION

- a. Tests/Interview schedule, Interview guide, Observation; participant and non-participant, Questionnaire
- b. Construction of questionnaire, types and guidelines for construction
- c. Administrator of questionnaire.
- d. Conduct of interviews, mailed questionnaire

MEASUREMENT, SCALING, AND ANALYSIS OF DATA

- a. Scores; T score, Z score, standard score. Graphs; histogram, pygraphs, bargraphs. Frequency Curve(normal curve); Indexes, Scales, Tables.
- b. Application of computer in data analysis; MS Word, Excel, use of statistics software, Power Point and Internet.

WRITING OF RESEARCH REPORT

- a. Style/format of report, outline
- b. Body of report:
 - i. Introduction
 - ii. Methodology
 - iii. Literature review
 - iv. Data Analysis
 - v. Findings
 - vi. Recommendations
 - vii. Appendix, questionnaire references, indexes, references.

Books Recommended:

1. Iqbal A Qureshi. 1996. *Research Methods in Physical Education*,

Hyderabad. Alumni.

2. David Clarke and Harrison Clarke, 1984. *Research Process in Physical Education*, Prentice Hall Inc, New Jersey.
3. John Best, 1981. *Research in Education*, Prentice Hall Inc, New Jersey.
4. Deobold Dalen, 1979. *Understanding Educational Research*. McGraw-Hill Inc, New York.
5. Bhatnagar O P, 1990. *Research Methods & Measurement in Behavioural and Social Sciences*. Agricole Publishing Academy, New Delhi.
6. Annel Rothstein, *Research Design and Statistics for Physical Education*, Prentice Hall Inc.
7. David H Clarke and H Harrison Clarke, *Research Processes in Physical Education*, Prentice Hall Inc.
8. Louis Conen and Lawrence Manion, *Research Methods in Education*, Croom Helm London.
9. Englenart Max D, *Methods of Educational Research*, Rand McNally and Company Chicago.
10. Muhammad Iqbal Saif, *The Basics of Research Proccss*, Gomal University, Dera Ismail Khan.
11. David H Clarks, 1984. *Research Process in Physical Education*, Prentice Hall Inc. Englewood, Cliffs, New Jersey.
12. L R Gay, 1990. *Educational Research Competencies*, Maxwell Macmillan, USA.
13. Rashid Khalid, 1993. *Taaleem-i-Jismani*, Ilmi Kutab Khan, Urdu Bazar, Lahore.

PAPER-VIII

BIOMECHANICS

BIOMECHANICS IN SPORTS AND ATHLETICS

- a. What is Biomechanics
- b. Functions of Biomechanics
- c. Importance of knowledge of Biomechanics to the:
 - i. Physical Educator
 - ii. Coach
 - iii. Athlete

FORMS OF MOTION

- a. Translation (or linear motion)
 - i. Rectilinear translation
 - ii. Curvilinear translation
 - iii. Non-linear motion
- b. Rotation (or Angular Motion)
 - i. Angular motion about an internal axis
 - ii. Angular motion about an external axis
- c. General Motion

KINETICS

- a. Linear Kinetics
Inertia, Mass, Force, Newton's Laws of motion. Friction, Impulse-Conservation of Momentum, impact, Pressure, Work.
- b. Angular Kinetics
Eccentric Force, Moment, Resultant Moment, Equilibrium, levers-Center of Gravity, Moment of Inertia, Angular Momentum, Centripetal and centrifugal force.

KINEMATICS

- a. Linear Kinematics
 - i. Distance and Displacement
 - ii. Speed and Velocity
 - iii. Acceleration
 - iv. Vectors and Scalars
 - v. Projectile
- b. Angular Kinematics
 - i. Angular Distance and Angular Displacement
 - ii. Angular speed and velocity
 - iii. Angular Acceleration
 - iv. Angular motion vectors

FLUID MECHANICS

Flotation, Buoyant force, Specific gravity, Centre of Buoyancy, Fluid Resistance, Surface Drag, Form Drag, Wave Drag, Lift.

BIOMECHANICAL ANALYSIS OF SPORTS TECHNIQUES

- a. Football
- b. Basketball
- c. Gymnastics
- d. Hockey
- e. Track and field:
 - Running
 - Throwing
 - Jumping
- f. Swimming

Books Recommended:

1. James G Hay, 1993, *The Bio-Mechanics of Sports Techniques*. Prentice Hall International Ltd, UK.
2. B M Nigg, 1994. *Biomechanics of the Musculo-Skeletal System*.
3. W. Herzog, 1994, John Wiley & Sons Publisher, USA.
4. Susan J Hall, 1995. *Basic Biomechanics*, McGraw-Hill Companies, USA.
5. J P Troup and Others, 1996. *Biomechanics and Medicine in Swimming*. VIIIE & FN Spun Publisher, UK.
6. Robert A Robergs, 1999. *Fundamental Principles of Exercise Physiology for Sports*.
7. Scott O Roberts, 2000. *Fitness Performance and Health*, McGraw-Hill Publisher, USA.
8. Dr. Dhana Joy Shaw, 2000. *Mechanical Basis of Biomechanics*, Sports Publications, New Delhi, India.
9. Roger Bartlett. *Introduction to Sports Biomechanics*. Department of Exercise and Sports.
10. Gheluse, 1988, *Current Research in Sports Biomechanics*.
11. Hay, *Biomechanics of Sports Techniques*, Prentice Hall, New York.

PAPER-IX

SPORTS MEDICINE

INTRODUCTION

- a. What is sports medicine

- b. History of sports medicine
- c. Nature scope and significance of sports medicine
- 33
- d. Branches of sports medicine

TRAINING AND CONDITIONING IN SPORTS

- a. Sports and ageing.
- b. Training principles
- c. Overtraining
- d. Strength training
- e. Endurance training
- d. Flexibility training

SPORTS INJURIES

- Injuries of extremities
- i. Injuries of upper limb & treatment
- ii. Injuries of lower limb & treatment
- iii. Injuries of lower limbs and treatment

THERAPEUTIC EXERCISES

- a. Physiotherapy exercises
- b. Yoga
- c. Mud Therapy
- d. Aquatic therapy
- e. Recreational therapy
- f. Touch/pressure therapy

CLIMATIC STRESS & ITS MANAGEMENT

- a. Climate stress e.g. heat cramps, heat fatigue, heat stroke, frost bite and hypothermia.
- b. Altitude stress

DOPING

- a. Definition of doping
- b. Addiction in sportsman and its effects on performance/health.
- c. Conflict between legitimate medication and doping regulations.
- d. Problems and prevention of self medication.
- e. Current doping principles/regulations procedures

Books Recommended:

1. Dr Gupta L C and Dr Pandee P K, 1987. *Outlines of Sports Medicine*. Jaypee Brothers Medical Publishers, New Delhi, India.
2. Dr Vidya Ratan, 1989. *Hand Book of Preventive and Social Medicine*, Jaypee Brothers Medical Publishers, New Delhi, India.
3. Dr Vidya Ratan, 1991. *Multiple Choice Questions in Preventive and Social Medicine*. Pee Brothers, New Delhi, India.
4. Hermas G P Mosterd W L, 1989. *Sports Medicine and Health*, Elsevier Science Publishers B V, Biomedical Division, Amsterdam, Netherlands.
5. Sperryn Peter N, 1989. *Sports and Medicine*, Butterworths Borough Green, Sevenoaks, England.
6. Dr Giam C K, Dr Teb K C, 1988. *Sports Medicine Exercise and Fitness*. P G Publishing Pvt Limited, UK.
7. JGF Williams and PN Sperryn Edward Arnold, *Sports Medicine*, Butler & Tanner Ltd, London.

8. John M C Coslon and Williams Armour. *Sports Injuries and their Treatment*.

PAPER-X

MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION INTRODUCTION

- a. Historical overview
- b. Definition of measurement and evaluation
- c. Importance of measurement and evaluation in Physical Education
- d. Basic principles of evaluation

EVALUATION AND ADMINISTRATION OF TESTS

- a. Criteria for selecting appropriate test
- b. Pre test responsibilities
- c. Duties during testing and responsibilities
- d. Post test responsibilities

BASIC STATISTICS

- a. Introduction
- b. Quantitative Data f. Standard Deviation
- c. Frequency table g. Normal probability curve
- d. Measures of central tendency h. Standard scores (Z. Scores-T. Scores)
- e. Quartiles and percentiles i. Correlation
- j. Anova Test

MEASUREMENT OF PHYSICAL FITNESS

- a. Definition of Physical Fitness
- b. Components of Physical Fitness
- c. Physical Fitness index
- d. Measurement of Motor Fitness

GENERAL MOTOR ABILITY

- a. Definition of Motor Ability
- b. Measurement of Motor Ability
- c. Components of Motor Ability

CARDIOVASCULAR FITNESS

- a. Definition
- b. Measurement of Cardiovascular Fitness

CLASSIFICATION AND GRADING IN PHYSICAL EDUCATION

- a. Purposes of classification/grading
- b. Marking system in Physical Education
- c. Criteria for grading

RATING SCALES IN PHYSICAL EDUCATION

- a. Construction of Rating Scales
- b. Rules for the use of Rating scales
- c. Types of Rating devices

MEASUREMENT OF SPECIFIC SPORT SKILLS

- a. Hockey e. Volleyball
- b. Football f. Tennis
- c. Basketball g. Track & Field
- d. Badminton (one event from each group)

Books Recommended:

1. Harrison Clerk A. *Application of Measurement in Health & Physical Education*.
2. Wilson N R. *Test & measurement in Physical Education*. (California National Text PA, ALTO).
3. Ch. Mecloy. *Test and Measurement in Health & Physical Education*. (NY FSc, Croits & Co).
4. Johnson Barry and Nelson Jack K. *Practical Measurement for Evaluation in Physical Education*. Burgess Publishers. 7/10 Ohms Lane Edina M N 55435.
5. Clarke H Harrison. *Application of Measurmenet to Health and Physical Education*, 1967. Prentice Hall Inc, Englewood Ckuff, New Jersey, New York, USA.
6. Baungartner. *Measurement for Evaluation in Physical Education*, 4th edition. C Brown Publishers, New York, USA.
7. Lien. *Measurement and Evaluation of Learning*, 4th edition, 1980. C Brown Publishers, New York, USA.
8. Banow Harold M & Rosemary McGee. *A Practical Approach to Measurement in Physical Education*.
9. Walpole Ronald E, *Introduction to Statistics*, The Macmillan Company, New York.
10. Lindsey Ruth Lt Al. *Body Mechanics*. WMC Brown.
11. Ted A Baumgartner, Andrew S Jackson, 1999. *Measurement for Evaluation in Physical Education and Exercise Science*.

PAPER-XI

ADMINISTRATION AND MANAGEMENT IN PHYSICAL EDUCATION

ADMINISTRATION

- a. Definition of administration
- b. Scope and importance of administration
- c. Types of administration
- d. Qualities of an Administrator
- e. Responsibilities of Administrator

ORGANIZATIONAL ADMINISTRATIVE SET UP IN SPORTS/PHYSICAL EDUCATION

- a. Administrative Organization and Structure
- b. Formal and informal organization
- c. Objectives of organizations
- d. Administrative set up of Physical Education in Educational Institution

PERSONNEL ADMINISTRATION IN PHYSICAL EDUCATION

- a. Principles of Personnel Administration
- b. Qualification of Staff
- c. Teaching load
- d. Inservice Training
- e. Evaluation and supervision

FISCAL MANAGEMENT

- a. Importance of fiscal management

- b. Types of Budget
- c. Finance and Budgeting
- d. Preparing Annual Budget
- e. Purchase procedure
- f. Fund Raising

OFFICE MANAGEMENT

- a. Importance of Office Management and Discipline
- b. Facilities, Space Personnel Equipment and Supplies
- c. Administrative Structure
- d. Environment and Cultures
- e. Assignments, responsibilities, correspondence, filing system and record

PUBLIC RELATIONS

- a. Definition
- b. Importance of Public Relationing in Sports & Physical Education
- c. Difference between Private and Public Administration

PLANNING FACILITIES IN PHYSICAL EDUCATION/SPORTS

- a. Basic consideration for planning
- b. Need of planning for various activities, areas and facilities
- c. Planning factors, units, types and functions
- d. Planning and Teaching Stations for schools and indoor activities
- f. Planning for Gymnasium/recreational buildings
- g. Play fields.
- h. Stadium
- i. Artificial Surfaces

Books Recommended:

1. Jensen, 1992. *Administrative Management of Physical Education and Athletic Programme*. Lea.
2. Leith, 1990. *Study Guide to Sport Administration*. Human.
3. Chakraborty S, 1998. *Sports Management*. Lokesh Thani.
4. Pande P K Sharma O P, 1998. *New Encyclopaedia of Physical Education Vol I-V*.
5. Bucher, Charles A. *Administration of Physical Education and Athletic Programme*. The C V Mosby Company.
6. Bucher, Charles A. *Administration of Health and Physical Education, Including Athletics*. The C V Mosby Company.
7. Arthur A, Vollmer and Edward F. *The Organization and Administration of Physical Education*, Prentice Hall Inc.
8. Editor, Howard Stephenson. *Hand Book of Public Relations* McGraw-Hill Book Company.
9. Plichard Theibert and Eugue M Ezersky, 1976. *Facilities in Sports and Physical Education*. The C V Mosby Company, St Louis, USA.
10. Charles A Bucher and March L Krotee. *Sports*, McGraw-Hill Publisher, New York, USA.
11. Jay Coakley, 2001, *Sports in Society*, McGraw-Hill Publisher, New York, USA.
12. Deborah A Yow and Others, 2000. *Strategic Planning for Collegiate Athletics*. The Haworth Half-Court Press, New York, USA.

DETAILS OF ELECTIVE COURSES

HEALTH & ENVIRONMENTAL SCIENCES

PART-A HEALTH

MEANING AND SIGNIFICANCE OF HEALTH EDUCATION

- Definition of Health
- Definition and scope of Health Education
- Relationship of Health Education with Physical Education
- Importance of Health Education in Community

PERSONAL HYGIENE

- Islamic concepts of personal Hygiene
- Cleanliness and Health
- Health Hazards
(Tobacco, Naswar, Sleeping Pills, Opium, Morphine, Hashish, Heroin, Charas, Alcohol and other drugs.

COMMUNITY HEALTH

- Concepts in Community Health
- Health & Welfare
- Health & Development
- Infectious diseases, Epidemiology
- Disease Transmission
- Immunity
- Disease prevention and control
- Disinfection
- Symptoms, causes and prevention of most common communicable diseases
- Epidemiology of non-communicable diseases and condition

Part-B ENVIRONMENTAL SCIENCE

- Concept and Importance of Environment
- Environmental improvement

ENVIRONMENT AND HUMAN HEALTH

- Toxic pollutants and their effect on health
- Mechanisms of action of drugs producing toxic effects of drugs on human body
- Carcinogenic agents
- Chemicals in food
- Biological effects of Radiation
- Sources of pollution:
Air
Water
Noise

WASTES

- Hazardous waste
- Sources and Quantities
- Disposal on land and in Ocean
- Energy from refuse
- Re-cycling

Books Recommended:

1. Simpson Stuan 1990. *Guide to the Environment*. Times Books, London.
2. Arnis Karan. *Environmental Science*.
3. Honghton and R A, 1989. *Global Climatic Change*, Scientific American.
4. Dr Jabalpur K S Shah, 1990. *Synopsis of Hygiene and Public Health*.
5. Bucher. *Physical Education and Recreation*, McGraw-Hill.
6. Harold. *Health Facts for College Students*. McGraw-Hill.
7. Harold. *A Text Book of Healthful Living*, Delhi.
8. Maude Lee & Heredge E T. *Health Factors for College Students*.
9. Shah. *Synopsis of Hygiene and Public Health*.
10. Anderson and Mortengreen. *Community Health*.
11. Willgoose 1988. *Environmental Health*, C Brown Publisher, New York, USA.
12. Miller 1991. *Dimensions of Community Health Education*. C Brown Publishers, New York, USA.
13. Nriago and Simmons, 1990. *Food Contamination from Environmental Sources*, John Willey & Sons Inc.

CURRICULUM DEVELOPMENT IN PHYSICAL EDUCATION

CURRICULUM

- a. Definition
- b. Physical Education as an integral part of the education process
- c. Need for Physical Education and sports Curriculum in educational institutions

PROCESS OF CURRICULUM DEVELOPMENT

- a. Curriculum Process:
 - i. Situation Analysis/need assessment
 - ii. Objectives
 - iii. Content selection
 - iv. Methodology
 - v. Evaluation
- b. Models of Curriculum development
- c. Major issues related to Physical Education Curriculum design

PHYSICAL EDUCATION CURRICULUM

- a. International trends in Physical Education Curriculum development
- b. Physical Education Curricula as reflected in the education policies of Pakistan
- c. Factors affecting the Physical Education Curricula:
 - i. Psychological
 - ii. Philosophical
 - iii Social and Cultural
 - iv. Socio Political

CURRICULUM DEVELOPMENT

- a. Primary
- b. Middle
- c. Secondary
- d. College and Universities

CURRICULUM EVALUATION

- a. Criteria for evaluation of curriculum
- b. Feedback as an instrument for improvement

Books Recommended:

1. Iqbal and Yasmeen, 1997. *Science of Physical Education*, Jamshoro Alumni, Health & Physical Education.
2. Khalid Rashid, 1995. *Talimaat-i-Jismani*. Ilmi Kutabkhana, Kabir Street Urdu Bazar, Lahore.
3. Tanner Laurel N, Daniel Tanner. 1980. *Curriculum Development*, Macmillan Publishers.
4. Cowell, 1955. *Curriculum Design in Physical Education*. Prentice Hall Inc, Englewood Cliffs, New Jersey, USA.
5. Jewett Bain 1985. *Curriculum Process in Physical Education*, C Brown Publishers, New York, USA.
6. Report 1980. *Curriculum for Development (Final Report)*, UNESCO.
7. Report 1986. *Curriculum in Health and Physical Education for Classes I-V-VI-VII-VIII-IX-X-XI & XII*, National Bureau of Curriculum, Islamabad.
8. *Curriculum for Development (Final Report an Analysis and review of Procedures and Customs)*, UNESCO).
9. Nicholas S H and Nicholas R. *Developing a Curriculum A Practical Guide*.
10. Govt of Pakistan, 1947. *Proceedings of the First Educational Conference*.
11. Govt of Pakistan, 1960. *Commission on National Education*.
12. Govt of Pakistan, 1982. *Reports of the Curriculum Committee, Part-II & III*, Ministry of Education, Islamabad 1982.

EXERCISE PHYSIOLOGY

INTRODUCTION

- a. Definition and nature of exercise physiology.
- b. Importance of exercise physiology in Physical Education.

CARDIO RESPIRATORY

Heart: Normal and diseased, CVS responses to exercises, B.P., hypertension, P.R., normal, abnormal changes; rehabilitation in heart diseased.

Blood: Training responses, anaemia, altitude, blood doping.

Lungs: Normal respiration and exercise responses, measurement, spirometry.

LOCO MOTOR SYSTEM:

Muscle: Gross anatomy and function, nerves and vessels, structure and function, fibre types and biochemistry, metabolic fuels for exercise and recovery.

CARDIOVASCULAR SYSTEM IN EXERCISE

- a. Muscle blood flow and blood pressure.
- b. Work out put, Oxygen consumption and cardiac output.
- c. Training effects on heart, dystrophy and atrophy on cardio output; stroke volume and heart rate in exercise.
- d. Relaxation of cardiovascular performance to Vo₂ maximum.
- e. Effects of heart disease and old age on athletic performance.
- f. Benefits of exercise for prevention of cardiovascular disease.

BODY HEAT IN EXERCISE, HEAT STROKE & HEART EXHAUSTION.

Acclimatization to heat, cold, altitude.

Effect of high Ambient pressure "Deep sea diving"

BODY FLUID AND SODIUM IN EXERCISE. REPLACEMENT OF SODIUM AND POTASSIUM.

SYSTEM OF ENERGY. AEROBIC AND ANAEROBIC.

BIOCHEMISTRY OF EXERCISE.

General metabolic and endocrine changes; effects of therapeutic medication including hormones.

TRAINING – TYPES AND EFFECTS; ERGONOMIC AIDS.

EXERCISE SEX DIFFERENCES. MALE & FEMALE ATHLETES.

OBESITY, EFFECTS ON PERFORMANCE AND CONTROL

FATIGUE AND EXHAUSTION

Books Recommended:

1. Reilly T and Williams, 1990. *Physiology of Sports* (E & FN Spon, London).
2. Ardle William D Mc, 1988. *Exercise Physiology*. Lea Febuser, 600 Washing to Square, Philadepia, PA19106 USA, ISBN 9-07. 100114.
3. Reilly T, 1990. *Physiology of Sports*. C V Brown Publisher, New York, USA.
4. 1989. *Powers Exercise Physiology*. C.Brown Publisher New York, USA.
5. Shaver, 1990. *Essentials of Exercise Physiology*. Jitandir Vij Publisher, New Delhi, India.
6. Rodhi Ashand Kaare, 1986. *Text Book of Work Physiilogy*. Hill Co, Singapore, ISBN-0-07-1000114.
7. Richard, A Berger, *Applied Exercise Physiology*. Lee & Febiger, Philadelphia.

SPORTS NUTRITION

DEFINITION OF NUTRITION

A. Importance of Food, Nutrition & its relation to sports performance:

i. Functions of food & nutrients obtained from food

Energy, Repairing Body Tissue, Regulate Body Process

ii. Sports nutrition for maintaining & improving sports performance

B. Concept of Human Energy:

i. Definition of energy

ii. Measures of energy

iii. Human Energy system

iv. Energy value of different foods

v. Exercise and fatigue

C. Energy Sources:

1. Carbohydrates:

i. Major Nutritional Constituents

ii. Types (Sources) recommended

iii. Metabolism & function

iv. Carbohydrate loading

2. Lipid:

i. Role of lipid in the body

ii. Lipid as energy source and reserve

iii. Use of lipid during exercise

5. Minerals:
 - i. Introduction, sources, types, importance
 - ii. Mineral intake, supplements
6. Water:
 - i. Introduction; recommended of water intake, functions
 - ii. Regulation of Body Temperature
 - iii. Fuel & Electrolyte losses & replacements
 - iv. Health aspects
7. Weight management:
 - i. concepts of dieting
 - ii. physiological factors of weight management
8. Nutrition for optimal Health & Physical Performance:
 - i. Balanced diet
 - ii. Pre-contest during and after contest meal
 - iii. Dietary recommendations for better health & physical performance.

Books Recommended:

1. Ottaway, 1985. *Handbook of Sports Nutrition Food for Sport Resource*.
2. Ridgway, 1994. *Food for Sport*. Boxtree.
3. Paish 1990. *Nutrition for Sport*. Crowood.
4. Bean, 1993. *Complete Guide to Sports Nutrition*. Black.
5. Devlin, 1992. *Food, Nutrition and Sports Performance*. Spon.
6. Asterita, 1985. *Nutrition and Stress*. Praeger.
7. Kibler, 1990. *Sport Participation Fitness Examination*. Huamn.
8. Grisogono, 1991. *Injuries and Diet Fitness: Children in Sport*. J Murray.
9. Geoffrey P Webb. 2002. *Nutrition: A Health Promotion Approach*. Arnold Publishers, UK.
10. Melvin H Williams, 2000. *Nutrition for Health Fitness and Sports*. McGraw-Hill Publishers, New York, USA.
11. Ottaway Berry & Bargin 1985. *Food for Sports — A Hand Book of Sports Nutrition*. Resource Publisher, Cambridge.

SPORTS INJURIES REHABILITATION AND ITS MANAGEMENT

INTRODUCTION TO SPORTS INJURIES

- a. Classification:
 - i) Cramps
 - ii) Ruptures
 - iii) Fractures
 - iv) Pulled Muscles/Muscle Stiffness
 - v) Strains
 - vi) Soreness
- b. Identification:
 - i) Upper Limb
 - ii) Lower Limb

PREVENTION OF INJURIES DURING:

- a. Warm up
- b. Skill performance
- c. Play
- d. Use of equipment
- e. Proper cool down

TREATMENT OF INJURIES

- a. Through Exercise

- b. Through Medication
- c. Hydro Therapy/Steam Therapy/Ice Therapy
- d. Pressure Therapy

CORRECTIVE PHYSICAL EDUCATION

- a. Posture (Descriptive and Anatomical definitions)
- b. General Causes of bad posture
- c. General postural deformities
 - i. Kyphosis v. Flat foot
 - ii. Lordosis iv. Knocked-Knees
 - iii. Scoliosis
- d. Remedial Exercises
- e. Adapted Physical Education
 - i. Definition
 - ii. Nature, scope and significance of adapted Physical Education
 - iii. Physical activities for convalescents
 - v. Rehabilitation programme for special persons

MASSAGE

- a. Definition of Massage
- b. Importance of Massage
- c. Types of Massage
 - i. Hydrotherapy iv. Physiotherapy
 - ii. Mud therapy v. Recreational Therapy
 - iii. Electrotherapy

Books Recommended:

1. Christopher M Norris, 1997. *Injuries Diagnosis and Management for Physiotherapists*, Butter Worth Heinemann Publisher, UK.
2. Gardiner M Dena, 1985. *The Principles of Exercise Therapy*. CBS Publications, Shandara, Delhi.
3. Iqbal, Yasmeen, Akhtar and Naeem, 1997. *Sports Injuries: Prevention Diagnosis and Treatment*. (Jamshoro: Alumin, Centre for Health & Physical Education).
4. Peterson Laras and Dr Per Renstorm, 1989. *Sports Injuries*, Published Federation and Folksam Insurance Company, UK.
5. Morris B Mellion, M D, 1989. *Sports Injuries and Athletic Problem*. Surject Publication, New Delhi, India.
6. Hutson M A, 1987. *Sports Injuries*. Oxford Medical Publication, London.