Savitribai Phule Pune University

(formerly University of Pune)

Department of Physical Education

Syllabus for
Master of Physical Education
(M.P.Ed.)

Semester and Credit System

Department of Physical Education

Near Administration Building,

Savitribai Phule Pune University, Pune – 411007

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Master of Physical Education (M.P.Ed.)

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Structure of the course

Objectives

1 To develop highly skilled scholars in the field of Physical Education.

2 To master the competencies and skills needed to become professional Physical Education and sport resource person.

3 To be sensitive about emerging issues in Physical Education & sports.

4 To develop in the students an inquiring mind & ability to employ reasoning, rational thinking, critical thinking in the problems & issues relating to the field.

5 To provide opportunity for creativity, self expression & provide information on continued professional growth.

Admission requirements:

A candidate who has passed any one of B.Ed (Phy.Edu), B.P.Ed, B.P.E. (4 years), H.D.Ed., D.P.Ed i.e. courses recognized by NCTE & UGC is considered eligible for admission to this course. Examination of Pune University or any other statutory university recognized by this university will be eligible for admission to M. Ed. (Phy. Edu.) Provided candidate fulfills all the other conditions required in the admission procedure. Admission will be given on the basis of merit based on regulations of state government and University of Pune.

Duration of the program:

The duration of the master's degree program will be of two academic years divided in four semesters. However, in case of failures, the student can complete the program in the 5^{th} /6^{th} semester, whichever is applicable.

General Instructions :

1. The Master of Physical Education (M.P.Ed.) program consists of **four semesters** spread over **two academic years and 64 credits (16 credits/semester).**

2. The entire program will be evaluated for a total of **1600 marks i.e. 64 credits.**

3. A student has to successfully complete 64 credits (4 x 4 = 16 credits per semester) in a minimum of two years.

4. A student can choose all the 16 courses in the Department of Physical Education or 14 courses in Department of Physical Education and 2 courses in any other Department/s as interdisciplinary courses to complete his Master of Physical Education (M.P.Ed.) courses

5. One credit will be equivalent to 15 clock hours of student-teacher contact per semester.

6. The syllabus of the open course may be prepared by the teacher of the Department which will be approved by the Departmental committee before the open course is offered by Department for the respective semester.

7. Details of the theoretical and practical components of each semester are given in the structure of the program.

8. Internal evaluation will follow Continuous Comprehensive Evaluation procedures. Internal evaluation should be done on every credit of each course or minimum two per course as decided by the teacher concerned.

Rules & Regulations

The Master of Physical Education (M.P.Ed.) degree will be awarded to a student who completes a total of 64 credits (4 x 4 =16 credits per semester) in a minimum of two years taking 04 courses per Semester.

Each paper will be of 4 credits, the evaluation of which will be decided by the teacher. 04 credits Course will have 100 marks.

A student may take a minimum of 56 credits and a maximum of 64 credits in his / her department.

In case a student wishes to take all courses from the department of registration he / she can also do so.

Eligibility for registering for courses other than the department of registration will be decided by the department.

Each course will have

1. 50 % of marks as semester end examination
2. 50 % marks for internal assessment

Each core unit will have an internal (continues) assessment of 50 % of marks and a teacher may select a minimum of two of the following procedures:

- Written Test
- Term Paper
- Mid Term Test
- Journal / Lecture / Library Notes
- Seminar Presentation
- Short Quizzes
- Assignments
- Extension Work

- To pass a student shall have to get minimum aggregate 30% marks in each head of passing (i.e. Internal assessment and semester end examination) and minimum aggregate 40% marks in each course.

- Revaluation of the end of semester and exam answer scripts but not of Internal assessments paper according to Ordinance No. 134 A & B.

- Internal assessment answer book may be shown to the students concerned but not the semester - end examination answer scripts.

- While marks will be given for all examinations, they will be converted into grades. The Semester end and final grade sheets and transcripts will have only grades and grade-points average.

- To pass a student shall have to get minimum aggregate 40% marks (E and above on grade point scale) in each course.

- The system of evaluation will be as follows: Each assignment/ test will be evaluated in terms of marks. The marks for separate assignment and the final (semester end) examination will be added together and converted into a grade and later grade point average. Results will be declared for each semester and the final examination will give total marks, grades, grade point average.

Marks	**Grade**	**Grade point**
80 to 100	O : Outstanding	10
70 to 79	A+ : Excellent	09
60 to 69	A : Very Good	08
55 to 59	B+ : Good	07
50 to 54	B : Above Average	06
45 to 49	C : Average	05
40 to 44	P : Pass	04
00 to 39	F : Fail	00
----	Ab : Absent	00

The formula for conversion of Grade point average (GPA) into the final grade

09.00	-	10.00	-	O
08.50	-	09.00	-	A+
07.50	-	08.49	-	A
06.50	-	07.49	-	B+
05.50	-	06.49	-	B
04.25	-	05.49	-	C
04.00	-	04.24	-	P
00.00	-	03.99	-	F

Remark : B+ is equivalent to 55% marks and B is equivalent to 50% marks.

$$GPA = \frac{\text{Total Amt. Of Grade Points Earned X Credits hrs. for each course}}{\text{Total Credit Hours}}$$

- If a student misses an internal assessment examination he/she will be given second chance with permission of the teacher concerned.

- Students who have failed and who have been absent for the entire course may reappear at the semester-end exam. Their internal marks will not change. S/he can also repeat during the 5th / the 6th semester whichever is applicable.

- The description for each of the grades will be as follows:

Grades	**Proposed Norm**
O: Outstanding	**Excellent analysis of the topic, (80% and above)** Accurate knowledge of the primary material, wide range of reading, logical development of ideas, originality in approaching the subject, Neat and systematic organization of content, elegant and lucid style;
A+ : Excellent	**Excellent analysis of the topic (70 to 79%)** Accurate knowledge of the primary material, acquaintance with seminal publications, logical development of ideas, Neat and systematic organization of content, effective and clear expression;

A: Very Good	**Good analysis and treatment of the topic (60 to 69%)** Almost accurate knowledge of the primary material, acquaintance with seminal publications, logical development of ideas, Fair and systematic organization of content, effective and clear expression;
B+: Good	**Good analysis and treatment of the topic (55 to 59%)** Basic knowledge of the primary material, logical development of ideas, Neat and systematic organization of content, effective and clear expression;
B: Above Average	**Some important points covered (50 to 54%)** Basic knowledge of the primary material, logical development of ideas, Neat and systematic organization of content, good language or expression;
C: Average	**Some points discussed (45 to 49%)** Basic knowledge of the primary material, some organization, acceptable language or expression;
P: Pass	**Any two of the above (40 to 44%)**
F: Fail	**None of the above (0 to 39%)**

- There will be an evaluation of each course by the students at the end of every semester.

Academic integrity and Plagiarism

It is the department task to encourage ethical scholarship and to inform students and staff about the institutional standards of academic behavior expected of them in learning, teaching and research. Students have a responsibility to maintain the highest standards of academic integrity in their work. Students must not cheat in examination or other forms of assessment and must ensure they do not plagiaries.

The Department has adopted the following definition of Plagiarism :
Plagiarism is the act of misrepresenting as one's original work, the ideas, interpretations, words of creative works of another. These include published and unpublished documents, designs, music, sound, image, photographs, computer codes and ideas gained through working in a group. These ideas, interpretations, words or works may be found in print and / or electronic media.

The following are the examples of plagiarism where appropriate acknowledgement or referencing of the author or source does not occur:

- Direct copying of paragraphs, sentences, a single sentence or significant part of a sentence;
- Direct copying of paragraphs, sentences, a single sentence or significant part of a sentence with an end reference but without quotation marks around the copied text;
- Copying ideas, concepts, research results, computer codes, statistical tables, designs, images, sounds or text or any combination of these;
- Paraphrasing, summarization or simply rearranging another person's words, ideas, etc without changing the basic structure and/or meaning of the text;
- Offering an idea or interpretation that is not one's own without identifying whose idea or interpretations it is;
- A 'cut and paste' of statements from multiple sources;
- Presenting as independent, work done in collaboration with others;
- Copying or adapting another student's original work into a submitted assessment item.

List of the courses offered by the Department

Compulsory Courses:

- Research Methodology and Statistics in PE & Sports I
- Research Methodology and Statistics in PE & Sports II
- Science of Sports Training.
- Measurements and Evaluation in PE & Sports.
- Kinetics of Human Motion
- Sports Biomechanics
- Exercise Physiology
- Sports Psychology
- Health Education
- Dissertation
- Measurement & Evaluation and Fitness & Conditioning(Practical)
- Specialization (Practical)

Optional Courses:

- Sports medicine
- Sports Nutrition
- Sports Management
- Yoga Science
- Philosophical & Sociological bases of PE
- Health & Fitness Management
- Recreation & Leisure Time Management
- Adapted Physical Education
- Pedagogy of Physical Education
- Professional Preparation & Curriculum Design
- Open course

SEMESTER – I

All Courses compulsory:

- PE – 101 : Research Methodology & Statistics in PE & Sports - I
- PE – 102 : Science of Sports Training
- PE – 103 : Kinetics of Human motion
- PE – 104 : Measurement & Evaluation in PE & Sports

SEMESTER – II

All Courses compulsory:

- PE – 201 : Research Methodology & Statistics in PE & Sports – II
- PE – 202 : Exercise Physiology
- PE – 203 : Sports Biomechanics
- PE – 204 : Measurement & Evaluation and Fitness & Conditioning (Practical)

SEMESTER – III

Compulsory Courses:

- PE – 301 : Sport Psychology
- PE – 302 : Health Education

Optional Courses: (any <u>two</u> of the following)

- PE – 303 : Sports Nutrition
- PE – 304 : Sports Medicine
- PE – 305 : Yoga Science
- PE – 306 : Sports Management
- PE – 307 : Philosophical & Sociological Basis of PE
- PE – 308 : Open course

SEMESTER – IV

Compulsory Courses:-

- PE – 401 : Dissertation
- PE – 402 : Specialization (Practical)

Optional Courses:- (any two of the following)

- PE – 403 : Adapted Physical Education
- PE – 404 : Health and Fitness Management
- PE – 405 : Recreation & Leisure time management
- PE – 406 : Pedagogy of Physical Education
- PE – 407 : Professional Preparation & Curriculum Design
- PE – 408 : Open course

External Examination Evaluation pattern

	Type of Questions	**Number of questions**	**Marks**
I	Multiple choice questions based on higher order thinking skills	2 questions on each Credit	**1*8= 8**
II	Questions based on Definitional/Specific short answer	1 out of 2 questions on each Credit	**4*4= 16**
III	Questions based critical thinking or ability to apply knowledge or Analytical/evaluative questions	1 question compulsory on each Credit	**4*4= 16**
IV	Essay type question based on ability to expound a theme at length with discrimination & justification	Any 1 out of 4 questions given on each Credit	**10*1= 10**
		Total	**50**

PE – 101 : Research Methodology & Statistics in PE & Sports - I

Credit – 1 : Basics of Research

a) Meaning and Definition of Research

b) Nature and Characteristics of Research

c) Need and Importance of Research in Physical education and Sports

d) Types and Methods of Research

Credit – 2 : Research Problem and Related Literature

a) Sources and Steps in Locating Research Problem

b) Characteristics/Criteria of Selecting Research Problem

c) Review of Related Literature – Need and Importance, Sources, Steps in Literature Search, and Evaluating Literature Sources

d) Analyzing, Organizing, and Reporting the Literature

e) Presenting the Research Problem – Title, Introduction, Statement of Problem, Significance, Objectives, Operational Definitions, Assumptions, Delimitation, and Limitation

Credit – 3 : Basics of Statistics

a) Meaning and Definition of Statistics

b) Need and Importance of Statistics in Physical Education and Sports

c) Types of Statistics

d) Types of Data/Scale

e) Normal Probability Curve – Characteristics, Skewness, Kurtosis

f) Graphical Representation of Data – Line, Pie, and Bar Diagram, Histogram, Frequency polygon & Curve

Credit – 4 : Descriptive Statistical Measures and its Interpretation

- Measures of central tendency and its Interpretation – Mean, Median, Mode
- Measures of Dispersion and its Interpretation – Range, Mean Deviation, Variance, and Standard Deviation
- Calculation and Interpretation of Standard Scores(T score, Z score), Percentiles, Deciles, & Quartiles

Books for Reference :

- ✓ Best, J. W., Kahn, J. V. (2011) **Research in Education,10th edn** New Delhi : Prentice Hall of India (P) Ltd.
- ✓ Thomas, J. R., Nelson, J. K., & Silverman, S. J. (2005) **Research Methods in Physical Activity,5th edn** Human Kinetics, United States of America
- ✓ Clarke, D. H. & Clarke, H. H. (1984) **Research Processes in Physical Education,2nd edn** United States of America : Prentice-Hall, Inc., New Jersey
- ✓ Johnson, B. & Christensen, L. (2008) **Educational Research,3rd edn** United States of America, Sage Publications, Inc., California.
- ✓ Gay, & Airasian., (1976) **Educational Research : competencies for Analysis and Applications,** Pearson Education, Inc., Upper Saddle River, New Jersey
- ✓ Verma, J. P. **Statistical Methods for sports and physical education.** New Delhi : Tata McGraw Hill Education (P) Ltd.
- ✓ Verma, J. P. (2009) **A Text Book on Sports Statistics** New Delhi : Sports Publications.
- ✓ Vincent, W., J. & Weir, J. P. (2012) **Statistics in Kinesiology 4th edn:** Human Kinetics, United States of America.
- ✓ Kinnear, P., R. & Gray, C., D. (2011) **IBM SPSS Satistics 18 Made Simple.:** Psychology Press, New York.
- ✓ Huizingh, E. (2007) **Applied Statistics with SPSS.:** SAGE Publications Ltd.,Witney, Great Britain.
- ✓ Aldrich, J., O. & Rodriguez, H, M. (2013) **Building SPSS Graphs to Understand Data.:** SAGE Publications Ltd., United States of America.

PE – 102 : Science of Sports Training

Credit – 1 : Sports Training

a) Definition & meaning of sports training, coaching & conditioning
b) Aims & Characteristics of sports training
c) Principles of sports training

Credit – 2 : Training Means & Methods

a) Development of health related fitness parameters
    i. Strength & Endurance – forms, characteristics, principles and means & methods
    ii. Flexibility – forms, means & methods.
b) Development of skill related fitness parameters
    i. Speed – forms, means & methods
    ii. Agility and Power - Methods
    iii. Coordinative abilities - methods
c) Psychological/mental training

Credit – 3 : Training Load & Planning

a) Training load – features, principles & adaptation
b) Overload – causes, symptoms & tackling of overload
c) Training cycles (Micro, Meso & Macro cycles)
d) Short-term & long-term training plans
e) Designing Sports Training program
f) Periodization -Types of Periodization

Credit – 4 : Preparing for Competition

a) Talent identification, its need & importance
b) Sports talent identification procedures in India
c) Sports skill – phases of skill acquisition
d) Technique - characteristics & methods.
e) Tactics & Strategies – definition, methods of tactical training
f) Competition planning & preparation – importance, frequency of competition and main & Build-up competition.

Books for Reference :

- ✓ Singh, H. (1991). **Science of Sports Training**. New Delhi: DVS publication
- ✓ Uppal. A. K. (2001). **Principles of Sports Training**. New Delhi: Friends publication
- ✓ Bompa, T. O., Haff, G. G. (2009). **Periodization: Theory and Methodology of Training** *(5th Ed.).* Champaign II: Human Kinetics
- ✓ Foran, Bill, (2001). **High-Performance Sports Conditioning**. Champaign II: Human Kinetics.
- ✓ Baechle, T. R., Erale, R. W. (2008). **Essentials of Strength Training and Conditioning**. (3rd Ed.). Champaign II: Human Kinetics.
- ✓ Dick, F. W. (2006). **Sports Training Principles** *(4th Ed.).* New Delhi: Friends Publication.

PE – 103 : Kinetics of Human Motion

Credit – 1 : External Forces:- Its effect on the body & its movement

a) Linear, Angular & General Motion

- Distance, Displacement, Speed, Velocity, and Acceleration

b) Application of Newton's Laws of Motion

c) Centripetal & Centrifugal Forces

d) Planes and Axes of Human Motion, Joint Actions

e) Simple Mathematics to Calculate Linear Motion & Centrifugal Force

Credit – 2 : a) Force, Friction, Pressure

b) Work, Power & Energy

c) Moment of Force & Inertia

d) Levers

e) Simple Mathematics to Calculate Kinetic & Potential Energy, Impact, Elasticity and Force

Credit – 3 : a) Freely falling bodies, Projectile, momentum & Impulse

b) Stability- static & Dynamic

c) Spin, Rebound, Impact & Elasticity

d) Fluid Mechanics, Air & Water resistance – Buoyancy – Magnus Effect – Bernoulli Principle

Credit – 4 : Internal Forces: - Its effect on the Body & its Movement

a) Mechanical Properties of Musculoskeletal System

b) The skeletal System:- Bones & Joints

c) The Muscular System:- Muscle Structure and Action & Muscle Contraction Force.

d) The Nervous System: - Motor Unit, Receptors & Reflexes

Book for Reference :

- ✓ McGinnis, P., M. (2005) **Biomechanics of Sport and Exercise,2nd edn.** Human Kinetics, United States of America.
- ✓ Hamilton, N. & Luttgens, K. (2002) Kinesiology **Scientific Basis of Human Motion,10th edn.** The McGraw Hill Companies, Inc., United States of Ammerica
- ✓ Hay, J. G. (1978) **The Boimechanics of Sports Techniques,2nd edn.:** Prentice-Hall, Inc. New Jersey, United States of America.
- ✓ Bunn, J. W. (1972) **Scientific Principles of Coaching,2nd edn.:** Prentice-Hall, Inc. New Jersey, United States of America.
- ✓ Carr, G. (2004) **Sport Mechanics for Coaches,2nd edn.** Human Kinetics, United States od America.
- ✓ Chapman, A., E. (2008) **Biomechanical Analysis of Fundamental Human Movements.**: Human Kinetics, United States of America.
- ✓ Thompson, C., W. & Floyd, R., T. (2001) **Manual of Structural Kinesiology,14th edn. :** McGraw-Hill Companies, New York.
- ✓ Yobu, A. (2008) **Sports Biomechanics. :** New Delhi. Friends Publications.
- ✓ Knudson, D. (2003) **Fundamentals of Biomechanics.** Kluwer Academic/Plenum Publishers, United States of America
- ✓ Grimshaw, P., Lees, A., Fowler, N. & Burden, A. (2007) **Sport and Exercise Biomechanics.** Taylor and Francis Group, U., K., & U., S., A.
- ✓ Uppal, A. K. & Lawrence, V. (2004) **Kinesiology in Physical Education & Exercise Science**, Friends Pub. India.

PE – 104 : Measurement & Evaluation in PE & Sports

Credit – 1 : a) Concept of Test, Measurement & Evaluation. Importance of Evaluation in Physical Education & Sports

b) Approaches to Evaluation

c) Domains of Human Performance – Cognitive, Affective, & Psychomotor

d) Classification of Test – Written Test and Psychomotor Test

e) Criteria of Test Selection – Scientific Authenticity (Validity, Reliability, Objectivity, Norms, Relevance), Administrative Feasibility and Educational Application.

Credit – 2 : a) Construction & Standardization of; – Knowledge Test, Psychomotor Test, Questionnaire, Opinionnaire, and Rating Scale

b) Establishing Scientific Authenticity of Test

c) Norms and Standards – Types of Norms, Procedure of Norms Development.

d) Grading and Steps involved in the process of Grading.

e) Procedure of Psychomotor Test Administration

Credit – 3 : a) Meaning and Assessment of GMA, HRPF, SRPF, Motor Fitness, Motor Educability.

- Test Batteries – AAHPERD Youth Fitness Test, JCR, FITNESSGRAM, ACSM Fitness Test, Oregon Motor Fitness Test, EURO Fit Test, Canada Fitness Test, Mc. Cloy's General Motor Ability Test, Methany Johnson Test
- Test Items for measuring – Cardio Respiratory Endurance, Muscular Strength & Muscular Endurance, Flexibility, Speed Agility, Power, Balance, and Co-ordination.

b) Measurement of skill of Various Sports and Games.

- Test Items and Batteries for – Badminton, Tennis, Basketball, Volleyball, Soccer, Hockey, etc.

c) Testing of psychological Variables

Credit – 4 : a) Fitness Assessment of Special-Needs Population and Older Adults

b) Techniques for Physical Activity Assessment

c) Evaluating Body Composition: Body Density and Percent Body Fat, Anthropometric Assessment (BMI, Body Circumference), Skinfold Assessment, Bioelectrical Impedance Method, Under Water Weighing

d) Anthropometric Measurement and Somatotyping

e) Posture Assessment

Book for Reference

- ✓ Clarke, H. David and Clarke Harison, H. (1987). **Application of Measurement to Physical Education.** Englewood-cliffs, Parentice Hall, Inc.
- ✓ Welk, G. (2002) **Physical Activity Assessments for Health- Related Research** United States Human Kinetics
- ✓ Miller, T. (2012) **NSCA's Guide to Tests And Assessments** United States, Human Kinetics
- ✓ Baumgartner, T. & Jackson, A. (1995**) Measurement for Evaluation in Physical Education and Exercise Science** United States of America, Wm C B Communication,
- ✓ Morrow, J., Jackson, A., Disch, J., and Mood, D. (2005). **Measurement and evaluation in Human Performance** United States of America Human Kinetics.
- ✓ Kansal, D. K. (2008). **Textbook of Applied Measurement Evaluation & Sports Selection**. Sports and Spiritual Science Publication. New Delhi.
- ✓ Scott, M. & French, E. (2009). **Measurement and Evaluation in Physical Education**. Sports Educational Technologies. New Delhi.
- ✓ Hoffman, J. (2006). **Norms for Fitness, Performance, and Health**. Human Kinetics. USA
- ✓ Tomchuk, D. (2011). **Companion Guide to Measurement and Evaluation for Kinesiology**. Jones & Bartlett Learning. London UK
- ✓ Johnson, J. (2012). **Postural Assessment**. Human Kinetics. USA
- ✓ Safrit, M., & Wood, T. (1995). **Introduction to Measurement in Physical Education and Exercise Science** (3 edn). WCB McGraw Hill. USA.

PE – 201 : Research Methodology & Statistics in PE & Sports - II

Credit – 1 : a) Hypothesis – Meaning & Definition, Types, and Formulation

b) Meaning of Sampling, Population and Sample

c) Sampling Techniques

d) Tools of Data Collection – Questionnaire, Opinionnaire, Interview, Observation, Rating Scale

Credit – 2 : a) Designs of the study

b) Variables – Independent, Dependent, Confounding, and Control

c) Formulating Method of Study – Describing Method, Participants, Variables, Instruments, Design, Procedure, and Analysis.

d) Ethical Issues in Research – Scientific Dishonesty, Issues of Copyright, Researchers Responsibility, Working with Faculty, and Protecting Human Participants

e) Reporting Research – Thesis/Dissertation, Research Article, Oral/Poster Presentation, and Abstract

Credit – 3 : a) Concepts Underlying Inferential Statistics – Standard Error, Hypothesis Testing, Testing of Significance, Two-tailed & One-tailed, Type I & II Errors, Degrees of Freedom

b) Normality testing

c) Measures of Relationship and its interpretation – Scattergram, Spearman and Pearson correlation coefficient

Credit – 4 : d) Introduction to Statistical Software – Excel and SPSS

b) Interpretation of Parametric Tools – One Sample, Paired, & Independent Sample't' Test, One way & N way ANOVA, and Post-hoc Test

c) Interpretation of Non-Parametric Tools – Chi-square, Mann - Whitney, and Kruskal - Wallis

Book for Reference

- ✓ Best, J. W., Kahn, J. V. (2011) **Research in Education,10th edn** New Delhi : Prentice Hall of India (P) Ltd.
- ✓ Thomas, J. R., Nelson, J. K., & Silverman, S. J. (2005) **Research Methods in Physical Activity,5th edn** Human Kinetics, United States of America
- ✓ Clarke, D. H. & Clarke, H. H. (1984) **Research Processes in Physical Education,2nd edn** United States of America : Prentice-Hall, Inc., New Jersey
- ✓ Johnson, B. & Christensen, L. (2008) **Educational Research,3rd edn** United States of America, Sage Publications, Inc., California.
- ✓ Gay, & Airasian., (1976) **Educational Research : competencies for Analysis and Applications,** Pearson Education, Inc., Upper Saddle River, New Jersey
- ✓ Verma, J. P. (2012). **Statistical Methods for sports and physical education.** New Delhi : Tata McGraw Hill Education (P) Ltd.
- ✓ Verma, J. P. (2009) **A Text Book on Sports Statistics** New Delhi : Sports Publications.
- ✓ Vincent, W., J. & Weir, J. P. (2012) **Statistics in Kinesiology 4th edn:** Human Kinetics, United States of America.
- ✓ Kinnear, P., R. & Gray, C., D. (2011) **IBM SPSS Satistics 18 Made Simple.:** Psychology Press, New York.
- ✓ Huizingh, E. (2007) **Applied Statistics with SPSS.:** SAGE Publications Ltd.,Witney, Great Britain.
- ✓ Aldrich, J., O. & Rodriguez, H, M. (2013) **Building SPSS Graphs to Understand Data.:** SAGE Publications Ltd., United States of America.

PE – 202 : Exercise Physiology

Credit – 1 : a) Introduction to exercise & sport physiology, its importance and role

b) Structure & function of exercising muscle

c) Neural control for exercising muscle

d) Neuromuscular adaptations to exercise and training

Credit – 2 : a) Energy metabolism and basic energy systems

b) Measuring Energy expenditure at rest and during exercise.

C) Fatigue

d) Hormonal regulation to exercise

Credit – 3 : a) Metabolic adaptation to training
(i) Aerobic Training (ii)Anaerobic Training (iii) Resistance training

b) Cardiovascular system and its control

c) Respiratory system and its regulation

d) Cardiovascular and respiratory adaptation to training.

Credit – 4 : a) Exercise in hot and cold environments :Thermoregulation

b) Exercise & training at Altitude

c) Body Composition & Nutrition for Sport

d) Physiological assessment & evaluation of performance determining factors

Books for Reference :

- ✓ Wilmore, J H and Costill, D L (2004) Physiology of Sport and Exercise. Champaign, Illinois: Human Kinetics
- ✓ McArdle, W.D., Katch, F.I. and Katch, V.L. (2007). Exercise Physiology, Energy, Nutrition and Human Performance. Baltimore: Lippincott, Williams & Wilkins
- ✓ Mathew, D.K. and Fox, E.L.(1976). Physiology basis of Physical Education and athletics. Philadelphia: UBS company
- ✓ Powers, S K and Howley, E T (2004) Exercise Physiology: Theory and Application to Fitness and Performance. New York: McGraw-Hill.
- ✓ Marieb Eclaine N. (1984). Human Anatomy and Physiology (3rd Ed.). Cal:The Benjamin Cumming
- ✓ Pearce Evelyn. (1992). Anatomy and physiology for nurces, calcutta: Oxford university press.

PE – 203 : Sports Biomechanics

Credit – 1 : a) Definition & meaning of Sports Biomechanics

b) Need and Importance of Biomechanics in PE & Sports

c) History of Biomechanics

d) Organization of Mechanics

e) Basic dimensions & units of measurement used in Mechanics

Credit – 2 : a) Analysis of Motor Skills

- Movement Analysis
- Kinesiological Analysis
    - Anatomical Analysis
    - Mechanical Analysis
    - Biomechanical Analysis

b) Qualitative and Quantitative Tools for Biomechanical Analysis – Timing Devices, Velocity Measuring Systems, Optical Imaging Systems, Accelerometers, Force Platforms, Force Transducers, Pressure Sensors, Electromyography and Computer Simulation and Modeling.

Credit – 3 : Analysis of Fundamental Skills: Walking, Running, Jumping, Leaping, Falling, Landing, Throwing, Lifting, Pulling, Pushing, Catching, Climbing

Credit – 4 : Analysis of Sports Skills of the following :

- Athletics, Gymnastics, Swimming
- Football, Volleyball, Hockey, Basketball, Cricket

Book for Reference :

- ✓ McGinnis, P., M. (2005) **Biomechanics of Sport and Exercise,2nd edn.** Human Kinetics, United States of America.
- ✓ Hamilton, N. & Luttgens, K. (2002) Kinesiology **Scientific Basis of Human Motion,10th edn.** The McGraw Hill Companies, Inc., United States of Ammerica

- ✓ Hay, J. G. (1978) **The Boimechanics of Sports Techniques,2nd edn.:** Prentice-Hall, Inc. New Jersey, United States of America.
- ✓ Bunn, J. W. (1972) **Scientific Principles of Coaching,2nd edn.:** Prentice-Hall, Inc. New Jersey, United States of America.
- ✓ Carr, G. (2004) **Sport Mechanics for Coaches,2nd edn.** Human Kinetics, United States od America.
- ✓ Chapman, A., E. (2008) **Biomechanical Analysis of Fundamental Human Movements.**: Human Kinetics, United States of America.
- ✓ Yobu, A. (2008) **Sports Biomechanics. :** New Delhi. Friends Publications.
- ✓ Bartlett, R. (2009) **Introduction to Sports Biomechanics Analysing Human Movement Patterns,2nd edn. :** Routledge, Taylor and Francis Group.
- ✓ Hamill, J. & Knutzen, K., (1995) **Biomechanical Basis of Human Movement**. Williams and Wilkins, United States of America
- ✓ Blazavich, A. (2008) **Sports Biomechanics The Basics: Optimising Human Performance**. A & C Black Publishers Ltd. U.,K.
- ✓ Knudson, D. (2003) **Fundamentals of Biomechanics.** Kluwer Academic/Plenum Publishers, United States of America
- ✓ Grimshaw, P., Lees, A., Fowler, N. & Burden, A. (2007) **Sport and Exercise Biomechanics.** Taylor and Francis Group, U. K.
- ✓ Ackland, T., Elliott, B., and Bloomfield, J. (2009) **Applied Anatomy and Biomechanics in sport** United States Human Kinetics.

PE – 204 : Measurement & Evaluation and Fitness & Conditioning (Practical)

I) Measurement & Evaluation

Credit – 1 : a) Warm up Routines & Cooling down routines

b) Weight training exercises-dumbbell exercises, barbell exercises, machine exercises

c) Resistance band exercises for strength & flexibility development

d) Strength/Swiss ball exercises for stability, strength, flexibility & rehabilitation Core training

Credit – 2 : a) Circuit training for strength, endurance, strength endurance improvement, & calorie burning

b) Interval training-strength, endurance

c) Flexibility training-static training, PNF training

d) Endurance training-continuous method, repetition method, Fartlek training

e) Speed, power, agility-plyometrics, complex training etc

II) Fitness & Conditioning

Credit – 3 : a) Anthropometric Measurement –

i. General Body Measurement: Body weight, Stature Height, Sitting Height
ii. Skeletal Diameters: Biacromial Diameter, Humerus Bicondylar Diameter, Wrist Diameter, Femur Bicondylar Diameter
iii. Circumference: Chest Circumference, Upper Arm Circumference, Thigh Circumference
iv. Length: Arm length, Leg length
v. Skinfold Measurement
vi. Posture assessment

b) Health Related Physical Fitness –

i. C. V. Endurance : Beep test, Run/walk test, Step test, Ergometer test

ii. Muscular strength & Endurance:1 RM, Pull Ups, Modified pull Ups, Flexed Arm Hang, Push Ups, Modified Push Ups Bent Knee Sit Ups, Curl-Up Test , Handgrip Strength Test

iii. Flexibility: Sit & Reach, Trunk & Neck Extention, Shoulder Flexibility, Shoulder lift, Shoulder & Wrist Elevation, Trunk rotation, Goniometer.

iv. Body Composition: WHR, BMI, Digital body fat Monitor, skinfold measurements.

c) Physiological Test – Heart rate, Respiratory rate, VO_2 max

Credit – 4 : a) Skill Related Physical Fitness –

i. Speed: 10 stride test, 40m multiple sprint test, 400m Drop off test, 50m. Dash, 30m. Flying test

ii. Agility: Shuttle run, SEMO Agility run, Dodging run test, 505 Agility test, Zig Zag run test, Side step test, Illinois Agility Run test

iii. Balance: Stork stand, Bass stick test, Bass test of dynamic balance

iv. Reaction time: Ruler drop test, Hand reaction time, Foot reaction time test

v. Power: SBJ, Vertical Jump, Medicine ball throw

vi. Co-ordination: Wall Catch test, Wall Volley

b) Sports Skill Test –

i. Basket Ball: Nelson-Johnson, AAHPERD, SAI & Knox

ii. Foot Ball: AAHPERD, McDonald & SAI Soccer test

iii. Volley Ball: Brady, Russell-Lange & AAHPERD Volley ball skill test

iv. Badminton: Miller wall volley badminton test, Service test

c) Psychological Test – Paper pencil Test.

Departmental committee should plan and display internal and external evaluation structure to the students at the beginning of the semester

PE – 301 : Sports Psychology

Credit – 1 : a) Introduction

- Meaning ,Scope and Development of Sports Psychology
- Relationship of Sports Psychology with other sports sciences.
- Needs & Importance of Sports Psychology

b) Cognitive process in Physical Activities:-Meaning & Characteristics

Credit – 2 : a) Sensation & perception, Thinking, Imagination, memory.

b) Attention- Meaning, dimensions

- Distractibility in Attention, Strategies to develop attention

c) Motor Learning

- Meaning & Factors affecting motor learning
- Motor development in various periods of childhood & adolescence.

Credit – 3 : a) Psychological aspects of action regulation

b) Personality-Meaning, traits & relation with sports performance

c) Motivation-Meaning, Types, Techniques and Attitude & Interest

d) Emotions- Meaning, Type and its influence on sports performance.

e) Anxiety, Arousal, & Stress – Sources & its Effects

f) Aggression – Dimensions, Theories.

Credit – 4 : a) Group Dynamics, Group Cohesion.

b) Leadership in Sports – Types, Theories.

c) Psychological aspects of long term & short term preparation for competition

d) Social Facilitation- Presence of others, Audience & Coaction effect

e) Methods of investigation in Sports Psychology

Book for Reference :

- ✓ Morris, T., & Summers, J. (2004). **Sport Psychology: Theory, Applications and Issues.** WILEY. Singapore.
- ✓ Shaw, D. F., Gorely, T., & Corban, R. M. (2005). **Instant Notes : Sport and Exercise Psychology**. BIOS Scientific Publishers T&F Group. UK
- ✓ Burton, D., & Raedeke, T. (2008). **Sport Psychology for Coaches**. Human Kinetics. USA.
- ✓ Thatcher, J., Day, M., & Rahman, R. (2011). **Sport and Exercise Psychology**. Learning Matters. UK
- ✓ Kalmesh, M. L. (2009) **Educational Sports Psychology** M/S Friends Publications [India]
- ✓ Burton, R. (2009). **Sports Psychology: Motivation, Participation & Performance**. Sports Educational Technologies. New Delhi.
- ✓ Bhatt, A. H. (2010). **Psychology in Sports**. Sports Publication. New Delhi.
- ✓ Jarvis, M. (2010). **Sports Psychology A students handbook.** Friends Publications [India]

PE – 302 : Health Education

Credit – 1 :

a. Concept of Health-definition, new philosophy of health, dimensions of health, Determinants of Health.

b) Responsibility for health -individual, community, state & international responsibility

c) Indicators of Health-twelve indicators, levels of health care, Health Care Systems in India

d) Health Education-Definition, changing concept of HE, aims & Objectives: of HE, role of health care providers, Approaches to Health Education,

e) Contents of Health Education, Principles of HE and need & importance of HE

f) Health Communication: Methods and Aids

Credit – 2 :

a) Nutrition

i. Proximate Principles**,**

ii. Balance diet**,**

iii. Malnutrition

b) School Health services & Programme,

i. Aspects,

ii. Role of the P.E.Teacher,

iii. Principal and Doctor

c) Occupation and Health

d) Pollution and Health

Credit – 3 :

a) Substance use, abuse, reasons for abuse, effects of drugs on body-route of administration, distribution, dosage, expectation of user, frequency

b) Alcohol-reasons, consequences, alcoholism and related problems

c) Tobacco-effects of smoking, reasons for smoking, second hand

smoking, preventing tobacco use

d) Inhalants, designer drugs, marijuana, cocaine, prevention of drug abuse, legal approach, educational approach, community approach, treatment & rehabilitation

Credit – 4 :

a) Pahtogens-virus, bacteria, rickettsiae, fungi, protozoa, helminthes, stages of disease, protection against disease

b) Communicable diseases-chickenpox, influenza, Tuberculosis, Typhoid, Cholera, Hepatitis,H1N1

c) Malaria, Chikungunya, Dengue syndrome, STDs, AIDS

d) Non-communicable diseases-hypertension, stroke, rheumatic heart diseases, diabetes

Books for Reference :

- ✓ Greene, W.H., Simon-Morton, B.G.(1984). **Introduction to Health Education**. NY: Macmillan Publishing Company
- ✓ Anspaugh, D.J., Ezell, G. (1995)/ **Teaching today's health** (4th Ed). Boston: Allyn & Bacon
- ✓ Park, K. (2007). **Park's textbook of Preventive & social medicine** (19th Ed). India: Banarasidas Bhanot Publishers

PE – 303 : Sports Nutrition

Credit – 1 : Sports nutrition –

- Introduction & Guidelines
- Impact of Science and Technology
- Digestion Process
- Nutritional Disorders

Credit – 2 : a) Body Fuels

- Carbohydrates, Fat/Lipids, Proteins, Vitamins & Minerals

b) Role of Water (Dehydration & Re hydration over hydration) & Fiber

c) Appropriate Diet Before, during & after the Competition

d) Caloric values of food items & Preparation of a Diet chart for a player/athlete

Credit – 3 : a) Energy systems

b) Cardiovascular integration & O2 Utilization for Exercise

c) Muscle anatomy & Physiology

Credit – 4 : a) Body composition & Weight Management

b) Energy Balance

c) Fluids & temperature regulation

d) Nutritional Assessment

Book for Reference :

- ✓ Meltzer, S., & Fuller, C. (2005). **The Complete Book of Sports Nutrition: A Practical Guide to Eating for Sport**. New Holland Publishers. London
- ✓ Fink, H., Burgoon, L., & Mikesky, A. (2006). **Practical Applications in Sports Nutrition**. Jones and Bartlett. USA
- ✓ Williams (2005). **Nutrition for Health, Fitness, & Sport** (7edn) Mc Graw Hill Publication. Newyork
- ✓ Pande P.K. (2010). **Outline of Sports Medicine**, New Delhi Jaypee Bros

- ✓ Pande, P. (2005). **Sports Medicine – curious queries**. KSK. New Delhi
- ✓ Manore M and Thompson J. (2000). **Sport Nutrition for Health and Performance.** Human Kinetics, Windsor,
- ✓ Mark Kern, (2005) **Sports Nutrition**, Tayloy & Francis
- ✓ Carolyn D. Berdanier, (1998) **CRC Desk Reference for Nutrition**, CRC Press.
- ✓ Judy A. Driskell & Ira Wolinsky (2006), **Sports Nutrition**, friends Pub. New Delhi.
- ✓ James Groff, (2000) **Advanced Nutrition and Human metabolism**, Wadsworth.

PE – 304 : Sports Medicine

Credit – 1 : a) Introduction- History, concept, aim & objectives and need & Importance

b) Role of Physician, Athlete trainer and coaches

c) Team Medical Care – Concept &approaches.

Credit – 2 : Injury and Tissue Response :

- Micro & macro trauma
- Tissue response to stress
- Inflammation and different steps of wound Healing
- Overuse Trauma.
- Common regional injuries & their management (head, neck, face, thorax, abdomen, Pelvis, Upper & lower limbs)

Credit – 3 : Therapeutic Modalities & Rehabilitation

- Hydrotherapy, Cryotherapy
- Thermotherapy
- Diathermy, Infra-red, Ultra sound, Ultra violet, Inter Ferential Therapy(IFT)
- Contrast & Paraffin bath
- RICE, Cryokinetics, Hydro collator packs, Sauna, Steam bath
- Therapeutic Massage – History, benefits & different Techniques
- Approach to rehabilitation

Credit – 4 : a) Inactivity Problems & Management

- Low back problems & their management
- Pregnancy & exercise
- Common old age problems (Arthritis, Heart disease)

b) Doping – History, Definition, Classification of Methods, Signs & Symptoms, Procedure, Use & Abuse of Drugs

c) Athletic Nutrition – Brief account of Macro & Micro Nutrients,

- Water intake & fluid balance.

- Guidelines to prepare a diet plan for players and its caloric need.

Book for Reference :

- ✓ Roy, S. & Irvin, R. (1983). **Sports Medicine**, Prentice hall. USA
- ✓ Pande P.K. (2010). **Outline of Sports Medicine**, New Delhi Jaypee Bros.
- ✓ Michael Hutson, (2001).**Sports injuries recognition & management** , Oxford University Press
- ✓ Govindarajulu, N. (2006). **Sports Medicine**, Friends Publication. New Delhi
- ✓ Ronald P. Pfeiffer & Brant Mangus , **Concepts of Athletic Training**, Jones & Bartlett Pub. 2nd Ed. 1993
- ✓ Meltzer, S., & Fuller, C. (2005). **The Complete Book of Sports Nutrition: A Practical Guide to Eating for Sport**. New Holland Publishers. London
- ✓ Fink, H., Burgoon, L., & Mikesky, A. (2006). **Practical Applications in Sports Nutrition**. Jones and Bartlett. USA
- ✓ Williams (2005). **Nutrition for Health, Fitness, & Sport** (7edn) Mc Graw Hill Publication. Newyork
- ✓ Pande, P. (2005). **Sports Medicine – curious queries**. KSK. New Delhi
- ✓ Beck, M. (1999). **Theory and Practice of Therapeutic Massage** (3edn) Melady-Delmar. New York.
- ✓ Findlay, S. (2010). **Sports Massage**. Human Kinetics. USA.
- ✓ Johnson, J. (2009). **Soft Tissue Release**. Human Kinetics. USA
- ✓ Fritz, S. (1995). **Fundamentals of Therapeutic Massage**. Mosby. USA

PE – 305 : Yoga Science

Credit – 1 : a) Concept & History of Yoga

b) Anatomy & Physiology of Yogic exercises

Credit – 2 : Traditional Yoga

- Literature of Yoga (Yoga sutra, Gita, hathapradipika etc.)
- Vital points of the body & Panchikarana prakriya
- Limbs Of Yoga
- Kumbhkas:- Meaning & types
- Asthang Yoga (awakening of the Kundalini, Nada, chakra, Pratyahara, Dharna, Dhyana, Samadhi)
- Mudras & Bandhas
- Satkarma & Siddhis

Credit – 3 : Yoga & Mental Health

- Mental health & Hygeine: Yogic & Medical perspectives
- Yoga & Modern psychology, Concept of normality.
- Emotional Disorders, Conflicts, Frustration
- Personal & interpersonal adjustments through yoga
- Yamas. Niyamas,Asanas & Pranayams : its contribution to Physical & Mental health.
- Prayer- Its significance in yogic Practices

Credit – 4 : a) Yoga Health & Fitness

- Meaning, Yoga dimensions of health related fitness
- Role of Nostril dominance in Brain function & activity
- Scientific reasoning behind the Various Asanas.
- Mechanism of Yoga , Diet for preventive & Curative aspects of health
- Researches done in Yoga :- An overview

b) Practical Training

- Demonstration and Performance of Yogic Practices
- Practice of Yoga Teaching

Book for Reference :

- ✓ Aayenger, B. K. (2005). **Yog Deepika**, Orient Longman Pvt. Ltd. Mumbai
- ✓ Swami, S.S. (2008). **Asana, Pranayam, Mudra Bandha**, Bhargava Bhushan Press, Varanasi
- ✓ Aayenger, B. K. (20010). **Light on the Yoga Sutras of Patanjali**, Orient Longman Pvt. Ltd. Mumbai
- ✓ Aayenger, B. K. (2008). **Light on Yoga**, Orient Longman Pvt. Ltd. Mumbai
- ✓ Aayenger, B. K. (2008). **Light on Pranayama**, Orient Longman Pvt. Ltd. Mumbai
- ✓ Gore M.M., **Anatomy & Physiology of Yogic Practices,** Kanchan prakashan
- ✓ Ross K., **The Mannual Of Yoga**, Rupa & Co.
- ✓ Swami Kuvalayananda, **Yogic Therapy –Its basic Principles and Methods**, CHEB New Delhi

PE – 306 : Sports Management

Credit – 1 :

a) Concept of Management, Philosophical & Historical Background.
b) Terminology in modern management &Applicable models of management
c) Competency based approaches and implementation in PE & Sports
d) Problems in management

Credit – 2 :

a) Management of sports at school, college &Universities
b) Management of Physical education Program
c) International & Indian Olympic Associations (IOC & IOA)
d) Sports Authority of India (SAI)

Credit – 3 :

a) Hierarchy of Education Administration at Central & State Level
b) Responsibilities & training of general Administrator
c) Supervision- Techniques, Functions & Evaluation

Credit – 4 : Event Management

a) Planning & Organization
b) Marketing & Sponsorship
c) Advertising & mass media
d) Follow –up

Book for Reference:

- ✓ Prof. Jose James, Dr. G.P. Gautam **Administration Of Physical Education** Frinds Publications [India]
- ✓ K. Chandrashekar **Sports Administration** Vivek Thani Khel Sahitya Kendra
- ✓ Dr.Rameshwari Devi, Dr. Iswar Singh, Dr. Sultana Khan **Management Of Sports and Physical Education** Frinds Publications [India]
- ✓ Dr. Akhilesh Sharma, Dr. Rakesh Gupta, Dr. H.R. Lunge **Techniques Of Supervision In Physical Education** Friends Publications [India]

- ✓ Earle F. Zeiglet & Garry W. Bowie . **Management Competency Development in Sports and Physical Education** (9 Philadelphia W. Lea and Febiger 1993)
- ✓ Joseph Bucher and Earnest Koenigerberg , **Scientific inventory Management** (New Delhi : Prentice Hall of India Pvt. Ltd. 1968)
- ✓ Ashton D. **Administration of Physical Education for Woman** (New York : The Ronald press C. 1968)
- ✓ Bucher C.A. **Administration of Physical Education and Athletic Program** (st. Louis : The C.V. Mosby co. 1979) 7th Edition.
- ✓ Daughterly G. and Woods J.D. **Physical Education and Intramural Programs : Organization and Administration** (Philadelphia U.S.A. W.B. Saunders Co. 1976) 11th ed.
- ✓ Fersythe C.E. and Duncan R.C. **Administration of Physical Education** (New Yourk : Prentice Hall Incl. 1951)

PE – 307 : Philosophical & Sociological Basis of PE

Credit – 1 : Developing Philosophic skills

a. What is Philosophy?
b. Idealism, Realism, Pragmatism, Naturalism and Existentialism
c. Objectives of Physical Education and Sports.
d. Developing personal Philosophic skills.
e. Improving life through our profession (Practical Applications)

Credit – 2 : Values and Ethical issues in Sports

a. Concepts of moral development and stages of development.
b. Ethics in Sports
c. Growing Ethical crises in sports.
d. Making sound Ethical decisions.

Credit – 3 : What is Sociology?

a. Introduction to Sports Sociology (Nature, Scope Def, Meaning, Importance and Historical perspective)
b. Relationship between Sports and Socializing Institutions (Family, Schools and educational systems)
c. National and International Integration through Sports (Sports and Nationalism-Sport's role in the making of Nation)
d. Sports and Women(Pre Independence, After Independence, Current Status, Social Barriers, Schemes for improving the Participation of Women by Govt)
e. Sports and Religion, Culture

Credit – 4 : Sports, Globalization and its Social Impacts

a. What is a Globalization and Characteristics of Global sport
b. Sports and Politics, Sponsorship, Media, Economy
c. Sport and Violence
d. Social Impacts of International Sports events

Book for Reference:

- ✓ Kretchemar R, (1994) **Practical Philosophy of Sport**. U.S.A: Human Kinetics.
- ✓ Bucher, (1992) **Foundations of Physical Education**. (1st Indian Edition) New Delhi: B. I. Publication
- ✓ Lumpkin, (1998) **Physical Education and Sports: A Contemporary Introduction**. U.S.A: McGraw Hill Companies.
- ✓ Hardman K, Green K, (2005) **Physical Education Essential Issues** London. SAGA.
- ✓ Shields D, Bredemeir B, (1995) **Character Development and Physical Activity**. U.S.A; Human Kinetics.
- ✓ Dawn P, (2002) **Gender and Physical Education**. U.S.A, Routledge.
- ✓ Ziegler, E.F. (2007) **An Introduction to Sports and Physical Education Philosophy**. Delhi: Sp Educational Techno.
- ✓ Jain R, (2002) **Sports Sociology** New Delhi: Jain Media Graphics.
- ✓ Bhupindar S, (2004) **Sports Sociology** – An Indian Perspective. New Delhi: Friends Publication.
- ✓ Sharma S, (2004) **Sociological foundations in Physical Education and Sports**. New Delhi: Friends Publication.
- ✓ Jarvie G, (2006) **Sports, Culture and Society An Introduction**. New York: Routledge.
- ✓ Cashmore E (2000) **Sports Culture An A – Z Guide**. New York: Routledge.

PE – 308 : Open Course

The Facility of open course provides for presentation of a faculty member's current research or specialized academic interest. The title and syllabus will be framed by the faculty member. The course will be given on approval by the Departmental Committee

PE – 401 : Dissertation

The facility of dissertation provides for student's interest in doing research on a topic of his/her choice. The topic and the plan of the dissertation is decided in consultation with the Faculty member and is executed on approval by the Departmental committee. Every candidate must follow all the guidelines given in the research report format given in the appendix of this document.

Departmental committee should plan and display internal and external evaluation structure to the students at the beginning of the semester

PE – 402 : Specialization (Practical)

The candidate has to opt for one of the options listed below.

1. Athletics	2. Yoga	3. Kabaddi	4. Kho-Kho
5. Volleyball	6. Basketball	7. Hockey	8. Football
9. Handball	10. Soft ball	11. Cricket	12. Table Tennis
13. Badminton	14. Tennis	15. Wrestling	16. Boxing
17. Judo	18. Taekwondo	19. Mallakhamb	20. Gymnastics
21. Netball	22. Korfball	23. Swimming	
24. Physical Education		25. Fitness & Conditioning	

Hands-on training program

Each candidate has to undergo a 3 week Hands-on training program at college, health club or school specified by institute whichever is applicable. This program will be conducted based on the guidelines given below.

i) Duration of the Hands-on training program- 3 weeks (Maximum 3 hours/day).
ii) The candidate will report to the director/manager/teacher concerned and undergo the training program developed by the college teacher and concerned director.
iii) At the end of completion, candidate will obtain certificate of completion from the Head & the director/manager/teacher concerned.
iv) Activities to be completed
    a. Understanding the administrative system related to competition participation, purchase & maintenance in the concerned college/Health club/School and duties related to teaching/training
    b. Role, duties & responsibilities of the Director/Trainer/Teacher
    c. Organization of event- required documentation, planning etc
    d. Training program – sports coaching/fitness training etc
    e. Assessment of students/clients

Departmental committee should design and approve the Syllabus for the specialization with details of internal and external evaluation

PE – 403 : Adapted Physical Education

Credit – 1 : An Introduction to Adapted Physical Education

a. Meaning, Need and Importance of Adapted Physical Education and Sports
b. Purpose, Aims and Objectives of Adapted Physical Education and Sports
c. Program organization of Adapted Physical Education and Sports
d. Adapted Sports-Para Olympics
e. Test, Measurement and Evaluation in Adapted Physical Education

Credit – 2 : Development of Individual Education Program (IEP)

a. The student with a disability
b. Components and Development of IEP
c. Principles of Adapted Physical Education and Sports
d. Role of Physical Education teacher
e. Teaching style, method and approach in teaching Adapted Physical Education

Credit – 3 : Developmental Considerations of an Individual

a. Motor development
b. Perceptual Motor development
c. Early childhood and Adapted Physical Education

Credit – 4 : Individual with unique need and activities

a. Behavioral and Special learning disability
b. Visual Impaired and Deafness
c. Health Impaired students and Physical Education
d. HRPF and its development for Individual with unique need
e. Role of games and sports in Adapted Physical Education

Books for Reference :

- ✓ Winnick, J. P. (2005). **Adapted Physical Education and Sports**. Human Kinetics (4th Edition).
- ✓ Pangrazi, R.P. and Dauer, V. P. (1998). **Dynamics Physical Education for Elementary School Children.** (12th Edition). Allyn and Bacon Publishing.
- ✓ Emes, C., & Velde, B. (2005). **Practicum in Adapted Physical Activity**. Human Kinetics. USA.
- ✓ Lieberman, L., & Houston-Wilson, C. (2009) **Strategies for Inclusion: A Handbook for Physical Educators**. Human Kinetics. USA.
- ✓ Beverly, N. (1986). **Moving and Learning**. Times Mirror/Mosby College Publishing.
- ✓ Cratty, B.J. **Adapted Physical Education in the Mainstream**. (4th Edition) Love Publishing Company.
- ✓ Houner, L.D. **Integrated Physical Education-A guide for the elementary classroom teacher**.

PE – 404 : Health and Fitness Management

Credit – 1 : a) Introduction to a Positive Health Lifestyle

- Understanding wellness
- Fitness concerns and needs in India

b) Principles of Physical Fitness

- Concept & Components of physical fitness (Health & Motor skill related)
- Personal physical fitness programs
- General principles of training

Credit – 2 : a) Cardiovascular Endurance and Fitness (aerobic exercise)

- Introduction to heart structure & Cardiac cycle
- Energy production and system
- Aerobic exercise prescription & programs
- Benefit/risk factors

b)Muscular Strength/Endurance

- Principles and development of muscular strength and muscular endurance
- Weight training programs and alternatives

Credit – 3 : a) Flexibility

- Factors influencing flexibility
- Flexibility related to health and wellness
- Measurement & Development of flexibility

b) Body Composition :

- Concept and assessment

Credit – 4 :

a) Development of Individualized Fitness Program

- Exercise prescription
- 2. Individualized workout

b) Nutrition

- Basic nutritional information
- b. Determining caloric intake and expenditure
- c. Meal planning and diets

c) Weight Management

- Weight loss/gain and body composition
- b. Weight management and lifestyle

d) Stress Management

- Stress related disease and disorders
- b. Stress and physical exercise

Book for Reference :

- ✓ Bates, M. (2008). **Health Fitness Management**. Human Kinetics. USA.
- ✓ Werner V.K. Hoeger, (2007). **Fitness and Wellness**, Wadsworth, Thomas learning
- ✓ Fahey, T., Insel, P., & Roth, W. (1997). **Fit & Well**. Mayfield. USA
- ✓ Heyward, V. (2006). **Advanced Fitness Assessment and Exercise Prescription**. Human Kinetics. USA
- ✓ Bouchard, C., Shephard, R.J., Stephens, T., Sutton, J.R., and McPherson, B.D. (Eds) (1990). **Exercise fitness and health** Human Kinetics. USA.
- ✓ Hoffman, R. and Collingwood, T.(2008). **Fit for Duty**, Human Kinetics. USA.
- ✓ Gordon Edlin,(2010) **Health & Wellness**, Jones and Bartlett Pub. Massachusetts

PE – 405 : Recreation & Leisure time Management

Credit – 1 : a) Fundamentals of Recreation

- Concept & Meaning of Recreation
- Need & Importance
- Principles & Theories of Recreation & Play

Credit – 2 : a) Therapeutic Recreation (Theoretical and philosophical foundations of therapeutic recreation, behavioral, therapeutic use of activity; recreative interaction-intervention techniques)

b) Recreation for the life –span (role of recreation and leisure on human development and its impact on healthy fetal development from conception until death. Examination of the diverse, multicultural perspectives on recreation and leisure)

Credit – 3 : a) Recreational Sports Programs and Administration Organization and administration of intramural sports on elementary, secondary, college, and university levels. Program planning, facilities, equipment and financing of intramural sports and Leisure activity program.

b) Program for different Category

- Men / Women
- Child / Youth/ adult/ Old age
- Physically/ mentally challenged

c) Recreational Facilities and Area Design

Credit – 4 : a) Current Issues in Recreation

- Recent research and management developments in recreation
- Latest trends in recreation and Leisure time management
- Employment opportunities and procedures for employment.

b) Practical (Conducting & organizing recreation & leisure time activity program for any of the above mentioned categories.)

Book for Reference :

- ✓ Human Kinetics (eds) (2006). **Introduction to Recreation and Leisure**. Human Kinetics. USA.
- ✓ Cordes, & Ibrahim (1996). **Applications in Recreation & Leisure**. MOSBY. USA.
- ✓ Chelladurai, P. (2006). **Human Resource Management in Sport and Recreation**. Human Kinetics. USA.
- ✓ Hoffman, R. & Collingwood, T. (2010). **Fit for Duty ,** Human Kinetics. USA.
- ✓ Gordon, S. & Garrett, W. (1993). **Sports and Exercise in Midlife** American academy of orthopedic surgeons. USA.
- ✓ Bucher, & Wuest,(2010). **Foundations of Physical Education, Exercise science and Sport** Tata McGraw Hill India.
- ✓ Smith, R.And Austin, D. **Inclusive and special Recreation: Opportunities for persons with Disabilities.** Human Kinetics. USA.
- ✓ Human Kinetics (eds)(2010). **Dimensions of Leisure for Life**. Human Kinetics. USA.

PE – 406 : Pedagogy of Physical Education

Credit – 1 : **Systematic improvement in teaching skills**

a. Science & Art of teaching – Teaching, Learning, & Pedagogy, appropriate practices-goals & feedback, conceptual orientation in Pedagogy, Pedagogy for physical activity

b. Stages of skill development in teaching, sources of help, expert PE teacher

c. Effective teacher-how are they identified? Active teachers, contextual variations of active teaching

d. What teachers do in PE? What students do in PE? Effective PE teaching

Credit – 2 : **Assessing and improving teaching**

a. Assessment model, on-site assessment of teaching, steps in assessment process

b. Task system-ecology of PE, important concepts in ecological framework

c. Interpersonal skills in PE teaching – teacher-student interaction skills, effective communication skills

d. Legal, ethical & moral issues in teaching, promoting self growth in PE

e. Strategies for content development-factors affecting program level planning, differing visions of good in PE

Credit – 3 : **Developing effective units of instructions**

a. Determining entry & exit levels, end of unit objectives, practical factors related to unit planning, constructing unit plan, writing instructional objectives

b. Generic instructional strategies-guided practice, independent practice, monitoring student performance

c. Instructional format-active teaching, task teaching, teaching through questioning, peer teaching, cooperative learning

d. Self-instructional formats-contracts, PSI, providing effective

instruction for mainstream students

Credit – 4 : **Measuring teaching & its outcomes**

a. Traditional methods for assessing teaching-intuitive judgment, eyeballing, anecdotal records, checklists, rating scale

b. Systematic observation records-event recording, duration recording, interval recording, group time sampling, self recording

c. Combining observation techniques, important decisions in developing observation strategies, building observation system

d. What to observe, training observers, calculating reliability of observation data, examples of observation system

Books for Reference :

- ✓ Siedentop, D. (1991). **Developing teaching skills in Physical Education**. Ca:Mayfield Publishing company
- ✓ Mosston, M., Ashworth, S. (1994). **Teaching Physical Education** (4th Ed). NY: Macmillan College Publishing Company
- ✓ Kelly, L.E., Nelograno, V.J. (2004). **Developing the Physical Education curriculum**. Champaign, IL: Human Kinetics
- ✓ Hopple, C.J. (2005). **Elementary Physical Education teaching & assessment-A practical guide**. Champaign IL: Human Kinetics
- ✓ Rink, Judith. (1985). **Teaching Physical Education for learning**. Times Mirror/Mosby College Publicatons
- ✓ Silverman,S.J., Ennis, C. (2003).**Student Learning in Physical Education**, Second Edition. IL: Human Kinetics
- ✓ Tinning, Richard. (2010).**Pedagogy and human movement: theory, practice & research**. UK: Routeledge

PE – 407 : Professional Preparation & Curriculum Design

Credit – 1 :

a) Meaning, criteria & evaluation of profession

b) A professional & professionalism in Physical Education & sports

c) Physical Education as a profession , carrier opportunities in PE.

d) Legal regulation of profession

Credit – 2 :

a) Historical perspectives

b) Policy perspectives

c) Theoretical perspectives

d) Nature & content of professional preparation programs

Credit – 3 :

a) Meaning & process

b) Growth on the job-in service concept

c) Self appraisal & parameter influencing self appraisal

d) Guiding principles & professional relations

e) Qualifications & duties, responsibilities & job profiles of school Physical Education teachers, directors of Physical Education in colleges & university

Credit – 4 :

a) Meaning, importance & fundamental principles of curriculum planning

b) Process of Curriculum Development and role of PETeacher.

c) Implementing the Physical Education curriculum

d) Co-education in Physical Education

Books for Reference :

- ✓ Kiran Sandhu (2004**). Professional preparation and career development in Physical Education and sports.** New Delhi: Friends publication.
- ✓ Kiran Sandhu (2004). **Trends and developments in Professional preparation in Physical Education and sports.** New Delhi: Friends publication.
- ✓ Barrow, H. M. (1983). **Man & movement** (3rd Ed.). Philadelphia: Lea & Febiger.
- ✓ Buchor, C. A. & Wuest, D. A. (1987). **Foundations of Physical Education and sports.** St. Louis: Times mirror / Mosby college publication.
- ✓ Kelly, L. E. & Melograno, V. J. (2004). **Developing the Physical Education curriculum.** Champaign: Human Kinetics.
- ✓ Pangrazi, R.P. & Dauer, V. P. (1995). **Dynamic Physical Education for elementary school children** (11th Ed.). Boston: Allyn and Bacon.
- ✓ Pangrazi, R.P. & Dauer, V. P. (1985**). Dynamic Physical Education curriculum & instruction for secondary school student.** Minnesoty: Burgess publishing company.
- ✓ Lombardo, B. & Wuest, D. (1994**). Curriculum & instruction the secondary school Physical Education experience.** St. Louis: Mosby
- ✓ Kasat, G. & Karmarkar, A. K. (1996). **Professional preparation in Physical Education and sports.** Amravati: Kasat

PE – 408 : Open Course

The Facility of open course provides for presentation of a faculty member's current research or specialized academic interest. The title and syllabus will be framed by the faculty member. The course will be given on approval by the Departmental Committee

Appendix A
Research Report Format Guidelines for Master of Physical Education (M.P.Ed.)

The student should use the following guidelines for thesis/dissertation.

- ✓ **Language:** English and Marathi are acceptable. If candidate is writing in English then Quotations in languages other than English must require a translation and if Marathi then quotations in language other than Marathi must require a translation. Thesis written in Marathi Language must have two abstracts, one in Marathi and other one in English and for Dissertation/thesis written in English Language must have abstract in English only.
- ✓ **Paper:** The thesis must be printed on good quality, A4 Size (8.27" x 11.69"), white paper (Executive bond) on both sides of the paper. Photographs and other special figures or tables may be printed on photographic quality paper. Oversize or undersize pages (e.g., maps/Drawings) can be included but will not be bound into the thesis—they will be placed in a pocket at the back of the thesis.
- ✓ **Margins:** Left-hand margins should be 38 mm (1.5") wide, to facilitate binding. All other margins should be well defined at approximately 25 mm (1"). Text alignment should be justified.
- ✓ **Font:** For the main body of the text, a standard, easily legible, 12-point font is preferred (e.g., Times New Roman) although for some font styles (e.g., Arial or Helvetica) 11-point may be acceptable. For Marathi a 16-point font is preferred (eg. Shree lipi). Condensed type is not acceptable. Chapter titles and section (sub) headings may be in a different style and should stand out clearly from the text. Text styles and title/(sub)heading styles should be consistent throughout the thesis, except that 11or 12-point font consistent with the thesis text may be used in the table of

contents. The thesis must be printed in black ink; printing should be laser or better quality.

Title	Marathi	English
Chapter Heading	16/18 Bold	14 Bold
Headings	16 Bold	14 Bold
Sub Headings	14 Bold	12 Bold
Body Text	14	12

- ✓ **Page Numbers:** All pages must be numbered in sequence. There must be no missing, blank, or duplicate pages.
  - o The page numbers in the preliminary material are to be in lower case Roman numerals, centered at the bottom of the page, except for the title page, which is not numbered. Minimum font size is 12-point and must be consistent throughout the text.
  - o The page numbers in the main part (all text pages) are to be numbered consecutively with Arabic numerals.
  - o Placement of page numbers is as follows: Assign page numbers for the first page of each chapter, bibliography, and title page but do not print the number. Number should be placed ½ inch from top of page and aligned with right margin.
- ✓ **Line Spacing:** 1.5 for text; exceptions are noted below.
- ✓ **Printing:** Preliminary pages to be printed on one side of the page and Body of the Thesis on both sides of the pages. Every new chapter should start on right hand side page.
- ✓ **Table of Contents:** The thesis must contain a complete table of contents. Individual entries (titles, headings, etc.) that extend onto more than one line should be single-spaced; line spacing of 1.5 should be maintained between entries. For clarity, chapter titles and (sub) headings should be in 12point font regardless of their font size in the main body of the text. Page numbers listed in the table of content should be aligned at the right-hand side of the page.

- ✓ **List of Illustrations/Figures and/or Tables** (if applicable): Individual entries (titles, captions, etc.) that extend onto more than one line should be single-spaced, but line spacing of 1.5 should be maintained between entries. The lists should include any material inserted in a back pocket.
- ✓ **Abstract:** The thesis must contain an abstract. This should occupy a single page, and may be single-spaced, if necessary. There should be no illustrations or footnotes. Students are advised that, due to space limitations shorten abstract to minimum 350 words.
- ✓ General sequence to be followed in the research dissertation is as follows:
    - o Title Page
    - o Certificate of the Guide
    - o Statement/Declaration by the Candidate
    - o Acknowledgement (Not more than TWO pages)
    - o Abstract
    - o Table of Contents
    - o List of Tables(if applicable)
    - o List of Figures(if applicable)
    - o Body of Thesis
    - o Bibliography
    - o Appendix (If Applicable)
    - o Vita(optional)

Appendices and other Supplementary Material

- ✓ **General:** Appendices may include survey forms, or any other supplementary material excluding data. Content and format should be in accordance with discipline practice.
- ✓ **Copyright Permission:** Where a thesis includes copyrighted material (e.g., publications), copyright permission letters should be included as a

separate appendix. Reprints may be included in the appendices, provided copyright permission is obtained.

Vita

Include your vita, or biographical sketch, with the document. List all educational institutions attended after graduation from high school and the date you received the undergraduate or graduate degree (or both). Include the list of professional organizations and other personal information of a scholarly nature. Do not include a list of publications. Do not number the vita page. Margins are identical to the preliminary pages. The Vita is limited to one page only.