DEPARTMENT
OF
PHYSICAL EDUCATION
LIST OF SUBJECTS

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Subject Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD201</td>
<td>History, Principles and Foundation of Physical Education</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD202</td>
<td>Organisation, Administration, Supervision and Camping in Physical Education</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD203</td>
<td>Methods in Physical Education and Introduction to Test and Measurement.</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD204</td>
<td>Anatomy &amp; Physiology</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD205</td>
<td>Kinesiology &amp; Biomechanics</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD206</td>
<td>Principles of Officiating, Training and Coaching</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD207</td>
<td>Health Education, First Aid and Sports Nutrition</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD208</td>
<td>Sports injuries and Physiotherapy</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD209</td>
<td>Practical – I</td>
<td>0:0:2</td>
</tr>
<tr>
<td>PD210</td>
<td>Practical – II</td>
<td>0:0:2</td>
</tr>
<tr>
<td>PD211</td>
<td>Practical – III</td>
<td>0:0:2</td>
</tr>
<tr>
<td>PD212</td>
<td>Practical – IV</td>
<td>0:0:2</td>
</tr>
<tr>
<td>PD213</td>
<td>Practical – V</td>
<td>0:0:2</td>
</tr>
<tr>
<td>PD214</td>
<td>Practical – VI</td>
<td>0:0:2</td>
</tr>
<tr>
<td>PD215</td>
<td>Practice Teaching</td>
<td>0:0:2</td>
</tr>
</tbody>
</table>

PD201 HISTORY, PRINCIPLES AND FOUNDATION OF PHYSICAL EDUCATION

Credit : 4:0:0

Marks : 40+60

Unit I

Unit II
Aims & Objectives of Education and Physical Education.
Theories of play (Surplus energy Theory, Recreation Theory, Relaxation Theory, Instinct Theory, Inheritance Theory, Social Contact Theory, Domination Theory & Self Expression Theory).

Unit III

Unit IV

Unit V

Unit VI
Personality Types of Personality – Learning curve- Individual differences – Intelligent quotient- Transfer of Learning.

Unit VII

Unit VIII

References:
1. Dr. A.K. Uppal, “Historical Development in Physical Education”.
2. Dr. S.R. Sharma, “Principles of Teaching in Physical Education”.
3. J.F. Williams, “Foundation of Physical Education”

PD202 ORGANISATION, ADMINISTRATION, SUPERVISION AND CAMPING IN PHYSICAL EDUCATION

Credit : 4:0:0 Marks : 40+60

Unit I

Unit II
Scheme of Organization of Physical Education Programme in Elementary, High and Higher Secondary Schools, college, University and State. (Organization Charts and responsibilities of Personnel)

Unit III
Facilities and Standards in Physical Education: Standard- definition-meaning.
   a) Play area-Standard recommended for schools and Colleges- Location of play areas in Schools-Types of Surface-Layout of play courts- suggestion for planning and laying out-care of play grounds.
c) Swimming pool_ need importance-types-construction of a multipurpose swimming pool-areas-purification-Regulations to be observed.

Unit IV : Finance And Budget
Physical Education budget for a school, Guiding factors in preparing a budget – Games fund- Rules of utilization- model Budget of income and expenditure.

Unit V : Programme Planning
Characteristics of a sound programme of Physical Education – Factors influencing the programme- Physical Education Syllabus _ Time Table- Physical Education periods- Time Allotment.

Unit VI

Unit VII : Camping And Recreation

Unit VIII : Supervision
Qualities and Qualifications of a Supervisor in Physical Education – Duties of a Supervisor pertaining to Administration, Instruction facilities and Professional Growth Techniques of Supervision, Visitation, Demonstration and Bulletins.

References
3. Cowel and Huzelton, “Curriculum Design in Physical Education”

PD203 METHODS IN PHYSICAL EDUCATION AND INTRODUCTION TO TEST AND MEASUREMENT
Credit : 4:0:0 Marks : 40+60

Unit I : Introduction
Meaning of Method and factors influencing method - Presentation techniques planning and Presentation- Methods of teaching Physical activities : command methods, Oral Method, Demonstration Method, Invitation Method, At – Will Method, Set Drill Method, Whole
Method, part method, Whole part Method, Progressive part Method, Observation & Visualization Method

**Unit II : Class management & Teaching Aids**
General and Specific points for a class management - Principles for a good class management - Commands – Response Command – Rythmic Command - Meaning of Teaching Aids and Importance - Use of Audio Visual Aids.

**Unit III : Lesson Plan**
Values of Lesson Plan - Types of Lesson Plan – General Lesson Plan and Particular Lesson Plan - Preparation of Lesson Plan

**Unit IV : Teaching of Activities**
Calisthenics & Marching - Indigenous activities - Minor Games - Major Games - Track & Field events.

**Unit V : Classifications**

**Unit VI : Method Of Organisation And Conducting Tournaments:**
a) Single knockout tournaments - Single League tournaments – Combination – tournaments - Challenge tournaments (Ladder, Pyramid).
b) Intramural competition and Extramural Competition.
c) Demonstration, Exhibition and play days
d) Track and field meet.

**Unit VII : Test And Measurement**
Meaning-need and importance of Test and Measurement - Selection of Test-criteria for a good test-validity-reliability-objectivity-norms.

**Unit VIII : Areas of Test and Measurement**
a) Physical Fitness - AAPHERD Youth Fitness Test, AAPHERD Health Related Fitness Test.
b) Motor Fitness - Indiaver Motor Fitness test
c) Harvard Step test - Cooper’s Test.
d) Sports Skill Test - Johnson Basketball Test
e) McDonald Soccer Test
f) Russell Lange volleyball Test

**References:**
2. Dr. A. Moorthy, “Research Methods in Physical Education, Sports & Exercise Science”
PD204 ANATOMY AND PHYSIOLOGY

Credit : 4:0:0  
Marks : 40+60

Unit I

Unit II : Skeletal System
Classification of Bones, Axial and appendicular skeleton and their functions – Arches of the foot – Sex differences in the skeleton – Classification of joints with examples for each.

Unit III : Blood
Composition of blood - Functions and its Components - Blood group - Coagulation of blood.

Unit IV : Circulatory system
Position and structure of heart - Cardiac cycle - Arterial pulse - Circulation of blood - Blood pressure - Blood vessels.

Unit V : Respiratory system
a) Respiratory passages
b) The lungs and respiratory movements
c) External and Internal respiration
d) Functions of the lungs
e) Mechanism of respiration

Unit VI : Digestive System
Structure and functions of Mouth, Stomach, Small and Large Intestine, Pancreas and Liver.

Unit VII : Nervous System
Nerve Cell - Motor & Sensory Pulses - Functions of cerebrum, Cerebellum, Medulla oblongata and Spinal cord - Reflex action

Unit VIII
Structure and functions of the eye and ear - Structure and functions of the skin and kidney.

References:
1. Albert Blaisdall, “Human Anatomy & Physiology”
2. Albert Blaisdall, “Human Physiology”
PD205 KINESIOLOGY AND BIOMECHANICS

Credit : 4:0:0  Marks : 40+60

KINESIOLOGY

Unit I
Definition – meaning. Brief history Aim and Objectives of kinesiology importance of kinesiology for physical education and sports.

Unit II
Axes and Planes of motion Fundamental positions. Types of movement around joints.

Unit III : Classification of Muscles
Kinesiological grouping of muscles. Origin insertion and actions of muscles at various joints. Muscular analysis of fundamental movements – walking – running, throwing, catching pulling, pushing.

BIO-MECHANICS

Unit IV

Unit V
Center of Gravity : Definition, meaning, its role in Sports & Games - Equilibrium: Stages - Factors that determine the degree of stability - Application of principles of equilibrium of Sports and Games.

Unit VI
Motion : Definition, Meaning - Speed, Velocity and Acceleration-definition meaning - Linear motion, curvilinear motion and angular motion – meaning and explanation with examples - Newton’s Laws of motion and their application.

Unit VII
Lever-definition and meaning - Types and characteristics for Lever with examples from Sports and Games - Mechanical advantage of Levers - Application of the Principles of Levers to Sports.

Reference:
1. Dr. A. K. Uppal & Dr. Lawrence, “Biomechanics in Physical Science”.

Department of Physical Education
PD206 PRINCIPLES OF OFFICIATING, TRAINING AND COACHING

Credit : 4:0:0  
Marks : 40+60

Unit I : History and Development of Major Games  
Basketball, Cricket, Football, Volleyball, Hockey, Kabaddi, khokho, Badminton, Handball and Athletics.

Unit-II : Teaching of Fundamental Skills  
Drills for development of skills-lead up games.

Unit-III : Ground Marking and Measurements  
Equipments-Rules and Interpretations - methods of Officiating- duties of officials of the major games.

Unit-IV  
Marking of 400 mtrs track and 200 mtrs track.  
Marking of Throwing and field Events-Rules and interpretations - Duties of officials.

Unit-V : Training  
Warming up-effects of warming up - Conditioning Exercises - Definitions and principles of Training - Training for motor components - Strength, Speed, Endurance, flexibility, coordinative abilities.

Unit-VI : Types of Training  

Unit-VII : Coaching  
Philosophy of Coaching- Qualities and Qualifications of a coach-code of ethics.

Unit-VIII  
Positional Play-tactics - Attacking and defending tactics – Periodisation - Preseason, Competitive season, off season.

References:  
1. “Book of Rules and Games”, YMCA Publication  
2. Lawther J.D., “Psychology of Coaching”  

Department of Physical Education
PD207 HEALTH EDUCATION, FIRST AID AND SPORTS NUTRITION

Credit : 4:0:0
Marks : 40+60

Unit-I
Health-definition-concepts-factors influencing health-heredity-environment.
Health problems of India-population and health environmental pollution-school health
problems.
Personal hygiene-desirable hygienic habits-health requirements.

Unit-II
Infection-immunity-causes of diseases - mode of infection spread of infection-public health
measures to combat infection public health administration sanitation-water supply.

Unit-III
Communicable diseases - cause-signs and symptoms, preventive measures of malaria,
typhoid, cholera, dysentery, filariasis.

Unit-IV : First Aid
Meaning-need and importance of first aid - First Aid treatment for accident-Burns-electrical
shock - poison-wound-drown.

Unit-V
Types of bandages-artificial Breathing-first Aid for fracture-intoxication-handling of
emergency person.

Unit-VI
Meaning of nutrition-Diet-Balanced Diet-Components of nutrition-carbohydrates-Fat-
Protein-vitamins and Minerals.

Unit-VII
Factors determining Diet-Planning-felocies of diet -ergogenic aids-drug-doping

Unit- VIII
Sports and diet-energy requirement in sports-caloric expenditure in sports-pregame meal-
waters replacement-Diet planning

References:
1. R.H.A. Blimmer, “Food, Health and Vitamins”.
2. St. John’s Ambulance First Aid
3. You and Your Health
PD208 SPORTS INJURIES AND PHYSIOTHERAPY

Credit : 4:0:0   Marks : 40+60

Unit I
Need and importance of the study of sports injuries in the field of physical education.
Prevention of injuries in sports.

Unit II
Common sports injuries – diagnosis immediate first aid – treatments of:

Unit III
Sports Specific injuries myositis ossificans – Tennis elbow – Rotator cuff injury.

Unit IV
Definition – Guiding principles of physiotherapy, importance of physiotherapy.
Electrotherapy – infrared rays, Ultraviolet rays, short wave diathermy, Ultrasonic rays.

Unit V
Hydrotherapy : Criotherapy, thermotherapy, contrast bath, whirl pool bath- steam bath –
sauna bath – hot water fomentation.

Unit VI
Massage : History of massage – classification of manipulations (Swedish system),
Physiological effects of massage.

Unit VII : Therapeutic Exercise
Definition and scope – principles of therapeutic exercise – classification and effective use of
therapeutic movements.
   a) The passive movements (relaxed, forced and passive, stretching).
   b) The active movements (Free, resisted)
   c) Types of contractions in resisted movements (concentric & Eccentric and State)
   d) Application of the therapeutic exercises:
      Free mobility exercises – shoulder, elbow-wrist and finger joints- hip, knee, ankle and
      foot joints-trunk, Head and neck exercises.

Unit VIII : Posture
Meaning and values of good posture – causes of poor posture – postural examinations – New
York State posture rating chart test. Some common deviations in posture – normal curvature
of the spine and its utility, Kyphosis, Lordosis, Kypholordosis flat back. Scoliosis (C and S
curve) round shoulders, knock knees, bowlegs, flat foot causes diagnoses for deviations and
treatment including exercises.

References:
   1. Waston, Jones, “Fractures and Joint Injuries”.

Department of Physical Education
3. Faber & Faber, “Sports Fitness and Sports Injuries”.

**PD209 PRACTICAL - I**

Credit : 0:0:2
Marks : 50+50

1. Foot ball
2. Kabaddi
3. Volley Ball
4. Badminton

**PD210 PRACTICAL - II**

Credit : 0:0:2
Marks : 50+50

1. Marching
2. Light Apparatus
3. Conditioning Exercise
4. Dhands and Baithaks
5. Softball

**PD211 PRACTICAL - III**

Credit : 0:0:2
Marks : 50+50

1. Rhythmics
2. Suryanamaskar and Asanas

**Gymnastics**
1. Floor exercise
2. Apparatus exercise

**PD212 PRACTICAL - IV**

Credit : 0:0:2
Marks : 50+50

**Track and Field**
1. Running events
2. Jumping events
3. Throwing events
PD213 PRACTICAL - V
Credit : 0:0:2 Marks : 50+50
1. Hockey
2. Cricket
3. Basketball
4. KhoKho

PD214 PRACTICAL - VI
Credit : 0:0:2 Marks : 50+50
1. First Aid & Physiotherapy
2. Officiating (any two games)

PD215 PRACTICE TEACHING
Credit : 0:0:2 Marks : 25+25+50
1. General Lesson
2. Particular lesson (Track or field or major game)
3. Internal assessment of practice teaching and observation record book

Note: The practice is spread throughout the year. The examination will be held only at the end of the final semester.
LIST OF NEW SUBJECTS

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Subject Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD301</td>
<td>Research Process and Advanced Statistics in Physical Education and Sports</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD302</td>
<td>Modern Trends in Physical Education</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD303</td>
<td>Sports Physiology</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD304</td>
<td>Sports Training</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD305</td>
<td>Sports Psychology and Sociology</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD306</td>
<td>Sports Medicine</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD307</td>
<td>Yoga And Fitness</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD308</td>
<td>Measurement and Evaluation in Physical Education</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD309</td>
<td>Sports Management</td>
<td>4:0:0</td>
</tr>
<tr>
<td>PD310</td>
<td>Applied Bio Mechanics</td>
<td>4:0:0</td>
</tr>
</tbody>
</table>

PD301 RESEARCH PROCESS AND ADVANCED STATISTICS IN PHYSICAL EDUCATION AND SPORTS

Credits : 4:0:0


Unit - II: - Areas of Research and Experimental Design – Training methods, exercise physiology, sports psychology – measurement and evaluation – writing a proposal by selecting a topic in the above areas, collecting literature from various sources. Experimental designs – meaning - basic principles – repeated measure design, rotated group design, Independent factorial design and mixed factorial design, defining thesis format – arrangement of chapters – use of computers for research.

Unit - III: - Measures of central tendency, variability, reliability, t- ratio for independent and repeated groups – level of confidence standard scales – different types – Graphs – line, bar and phi diagram – frequency polygon, histogram and ogive curve – sampling process – different types of sampling – sampling theory.

Unit – V: Simple, partial and multiple correlations – Concept of Wherry Doolittle method – Problem solution of Chi square biserial, totachorte, correlations phi contingency coefficients problem solution. Rank order correlation.

Reference Books

PD302 MODERN TRENDS IN PHYSICAL EDUCATION

Credits : 4:0:0

Unit – I: Professional Preparation – Teacher Training Programme in India – Diploma Course, Certificate Course, Undergraduate Course – Post Graduate Course – Higher Education (Research Degrees) – Comparison of Different Course contents – Professional Organization in Physical Education and sports in India – Germany – Britain – United States of America, China and Australia.


Unit – III: Modern Facilities and Equipments – Types of surface of playgrounds (Track and Field and Games) Modern equipments used in various sports and games.

Unit – IV: Identification of talents – Pre requisites and conditions for developing talent – Early recognition – screening and selection with performance factors – Anatomical, Physiological, Psychological and motor characteristics required for different sports persons - Talent Identification and Training – Main tasks of training – Main features of sports training programme, principal tasks.


Reference Books
1. Bucher A Charles “Functions of Physical Education”.
2. Bunna, Joh W “Scientific Principles of Coaching”
3. Hay, James G “Biomechanics of Sports Techniques”
5. Winter A David “Biomechanics of Human Movement”.
6. O. William Daytan “Athletic Training and Conditioning”.
12. J.D. Lauther: “Scientific Principles of Coaching”.
18. Government of India report on structure for college of Physical Education.

**PD303 SPORTS PHYSIOLOGY**

**Credits : 4:0:0**


**Unit – II:** - Structure and functions of skeletal muscle – The motor unit and strength gradation – Muscle force –velocity and power – Nervous control of muscular movement – Basic structure and functions of the nerve Neuron – Muscular Junctions. Different types of nervous system.


Reference Books

PD304 SPORTS TRAINING

Credits : 4:0:0


Unit – V: - Diet – diet for different sportsmen and women, caloric requirement – diet for different seasons – doping – drugs – effects.

Reference Books

PD305 SPORTS PSYCHOLOGY AND SOCIOLOGY

Credits: 4:0:0

Unit – I: - The Nature of Learning – Motor learning – Coordination of motion, Theories of learning – Kinesthesia, proprioception and labyrinthine, receptors, reflex action and the automatizing motor skills – Feed – back, servomechanism and knowledge of results – reinforcement and readings – retention and forgetting – Factors and conditions affecting motor learning – speed of perception – attention and concentration. The learning curve, imitation and learning – self activity and mental practices, trial and continuous revision learning – the whole and part learning, autogenic techniques, ergogenic effects


Unit – IV: - Motivation techniques – Building confidence, Dedication and pride, Discipline, fear and motivation, Motivation in practice and in games – Situational Motivation – Forging positive attitudes and relationships, handling the self motivated athlete, motivating the ‘Problem’ Athlete, Handling the ‘Superstat’ Athlete – Motivation – Girls and women.


Reference Books

**PD306 SPORTS MEDICINE**

**Credits : 4:0:0**

**Unit – I:** - A brief history of sports medicine – definition – meaning, preventive – curative and rehabilitation aspects – The participation, Physical Examination. Types of sports injuries – general principles of injury management – Management of soft-tissue injuries, bony injuries, nerve injuries.


**Unit – IV:** - Importance of sports nutrition – Exercise and food intake – before, during and after activity – computerized meal and exercise plan – role of carbohydrate in prolonged and severe training. Diet prescription for Hockey, Football, Basketball, Volleyball, Tennis, Cricket and athletics.


**Reference Books**

4. James A could III George I Davies, orthopaedic and sports physical therapy, the C.V. Mosby Company St. Locus – Toronto.
PD307 YOGA AND FITNESS

Credits : 4:0:0


Unit – III: - Definition of physical fitness – need and importance meaning of wellness – difference between physical fitness and wellness – the relationship between fitness / wellness and health – components of physical fitness and their meaning and importance.


Reference Books

PD308 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION

Credits : 4:0:0


Unit – II: - Test of Physical Performance – Speed, Agility, Balance, strength, endurance, flexibility, California perceptual motor ability, and Generality of components, Test of Physical Fitness: Basic fitness test, AAHPER Youth Fitness test – Physical fitness Index, Sargent test, National Physical Efficiency Tests, Indian Motor Fitness Test, Test for High School and College men, Kraus Weber Tests.


Reference Books

PD309 SPORTS MANAGEMENT

Credits : 4:0:0


Unit - V: - Computer Application – Managing information of computers – using computers to manage information – The administrative use of computers in professional
Reference Books

   Computer’s best use is in information management.

PD310 APPLIED BIO MECHANICS

Credits : 4:0:0


Unit – IV: - Aero dynamic constructs – Concepts and application of mechanics in the air media. Wind resistance, spin and gyration surface drag-from drag lift the minus effect. Guiding principles derived from the application of above mechanical concepts in the air media.


Reference Books