

**Thiruvallur University**  
**Vellore**



**DEPARTMENT OF PHYSICAL EDUCATION**

**B.Sc. Physical Education**

**SYLLABUS**

**2023–24 onwards**

(CO-K, PO mapping adopted and implemented from 2023-2024 onwards)

**Thiruvallur University**  
**Department of Physical Education**  
**B.Sc Physical Education**  
**Syllabus effect from the academic year 2023-24 onwards**

S. No.	Sem.	Course No.	Title of the Course	Pg. No.	Course Code	U E	IA	Total	Credits
<b>PART - III CORE COURSE</b>									
1	I	I	Foundation of Physical Education and Sports		23UPHC01	75	25	100	5
2	I	II	Anatomy and Physiology		23UPHC02	75	25	100	5
3	II	III	Methods in Physical Education		23UPHC03	75	25	100	4
4	II	IV	<b>Practical-1</b> Gymnastics, Pyramids and Aerobics		23UPHC04	75	25	100	4
5	III	V	Rules, Regulations and Officiating in Sports and Games-1 (Athletics –Track & Field events)		23UPHC05	75	25	100	4
6	III	VI	<b>Practical-2</b> Athletics - Track & Field Events		23UPHC06	75	25	100	4
7	IV	VII	Rules, Regulations and Officiating in Sports and Games -2 (Kho-Kho, Table Tennis, Ball Badminton and Cricket)		23UPHC07	75	25	100	4
8	IV	VIII	<b>Practical-3</b> Kho-Kho and Table Tennis		23UPHC08	75	25	100	5
9	V	IX	Rules, Regulations and Officiating in Sports and Games -3 (Volley ball, Handball, Hockey and Kabaddi)		23UPHC09	75	25	100	5
10	V	X	Fundamentals of Sports Training		23UPHC10	75	25	100	5
11	V	XI	Exercise Physiology		23UPHC11	75	25	100	5
12	V	XII	<b>Practical-4</b> Volleyball and Kabaddi		23UPHC12	75	25	100	5
13	VI	XIII	Rules, Regulations and Officiating in Sports and Games - 4 (Football, Basketball, Badminton and Swimming)		23UPHC13	75	25	100	4
14	VI	XIV	Test, Measurement and Evaluation		23UPHC14	75	25	100	5
15	VI	XV	<b>Practical-5</b> Teaching Practice		23UPHC15	75	25	100	4

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**PART - III DISCIPLINE SPECIFIC ELECTIVE (DSE)**

16	I	1	Science of Yoga	23UPHE01	75	25	100	3
17	II	2	Recreation, Camping and Supervision in Physical Education	23UPHE02	75	25	100	3
18	III	3	<b>Practical – 6</b> Drill and Marching – Calisthenics – Light Apparatus and Yoga	23UPHE03	75	25	100	3
19	IV	4	Care and Prevention of Sports Injuries	23UPHE04	75	25	100	3
20	V	5	<b>Practical-7</b> Handball (OR) Curriculum Design in Physical Education	23UPHE05A 23UPHE05B	75	25	100	3
21	V	6	<b>Practical-8</b> Hockey (OR) Physiotherapy	23UPHE06A 23UPHE06B	75	25	100	3
22	VI	7	<b>Practical-9</b> Football (OR) Bio-Mechanics	23UPHE07A 23UPHE07B	75	25	100	3
23	VI	8	<b>Practical-10</b> – Basketball and Badminton (OR) Kinesiology	23UPHE08A 23UPHE08B	75	25	100	3

**PART - III SKILL ENHANCEMENT COURSE (SEC)**

24	I	1	Health Education	23UPHS 01	75	25	100	2
25	II	2	Fitness and Nutrition	23UPHS02	75	25	100	2
26	II	3	Naan Muthalvan	23UPHS03	75	25	100	2
27	III	4	Naan Muthalvan / Elementary Statistics	23UPHS04	75	25	100	2
28	III	5	Sports Management in Physical Education	23UPHS05	75	25	100	2
29	IV	6	Naan Muthalvan /Sports Psychology	23UPHS06	75	25	100	2
30	V	7	Naan Muthalvan / Research Methodology	23UPHS07	75	25	100	2

**PART - III FOUNDATION COURSE (FC)**

31	I	1	Safety Education and First Aid	23UPHF0 1	75	25	100	2
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**PART - IV**

32	IV		Value Education	23UVED	75	25	100	1
33	IV		EVS-Field Work	23UEVS	75	25	100	2
34	V		Internship/Industrial Training - Project Meet	23UINT			100	2
35	VI		Professional Competency Skills	23UPCS	75	25	100	2

**PART - V**

36	VI		Extension Activity	23UNEXT				1
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**\*Week - 6 working day order      Per Semester – 15 such weeks**

- Number of Units in the syllabus for all courses    05
- Maximum marks per course 100
  
- Total marks in PART - I            400
- Total marks in PART - II          400
- Total marks in PART - III        1900
- Total marks in PART - IV        1500
- Total marks in PART - V         100
- **Overall Total Marks -            4300**

**TEACHING METHODOLOGIES ADOPTED FOR THE UG PROGRAMME**

1. Chalk talk
2. Text book learning
3. Digital learning- online PPT - Lecture notes
4. Video lecture – Online – You Tube – Google Meet - Classroom
5. Interactive sessions
6. Student seminar
7. Lecture by experts in field – Invited talks
8. Participatory learning – Lectures in other Institutions

**INTERNAL EVALUATION METHODOLOGY FOR ALL THE PROGRAMS:**

- Quiz programme or e-Quiz
- Periodical class tests
- Subject wise assignments
- Individual seminar using **Power Point**
- Seminar based on lecture notes available online
- Group Discussions / Debate / Interactive Sessions
- Oral presentation on Topics with related subjects.

**QUANTIFICATION OF INTERNAL EVALUATION - UG THEORY**

- Two common Internal Assessment Test
- Minimum Two Assignments per course
- Model Examination for 75 marks reduced to 10 marks.

<b>TEST</b>	<b>ASSIGNMENT</b>	<b>ATTENDANCE</b>	<b>MODEL EXAM</b>	<b>TOTAL</b>	<b>CONTINUOUS INTERNAL ASSESSMENT</b>
<b>10</b>	<b>10</b>	<b>5</b>	<b>75</b>	<b>100</b>	<b>-</b>
<b>Reduced To</b>					
<b>5</b>	<b>5</b>	<b>5</b>	<b>10</b>		<b>25</b>



## FOUNDATION OF PHYSICAL EDUCATION AND SPORTS

**Semester : I**  
**Code : 23UPHC01**

**Core : I**  
**Credit : 5**

**Learning Objectives :** To enable the students to gain **knowledge** about foundation of Physical Education, structure and functions of human body, theories of Learning and Law of Learning.

### **Course Outline :**

#### **Unit - 1**

Meaning and Definition of Education and Physical Education – Need, Nature and Scope of Physical Education – Physical Training and Physical Culture.

#### **Unit - 2**

Aim and Objectives of Physical Education – Development of Physical , Cognitive, Neuro-muscular, Affective, Social, Emotional, Spiritual and Recreational – Theories of Learning – Laws of Learning.

#### **Unit – 3**

Scientific basis of Physical Education – Contribution of Allied Sciences – Anatomy, Physiology, Biomechanics, Kinesiology, Sports Medicine, Psychology, Sociology and Computer Science.

#### **Unit - 4**

History of Physical Education in Sparta and Athens – Olympic Games: Ancient, Modern – Origin – Organisation and conduct of the game – Olympic Flag, Torch, Oath, Emblem and Motto.

#### **Unit - 5**

Recent development in India: SAI, NSNIS, SNIPES, LNIPE, Sports Academics – Award and Scholarships: Arjuna Award, Dhronochariya Award, Rajiv Gandhi Khela Ratna Award – International and National Competitions: Asian Games, SAF, SGF, RDS and BDS.

### **Books for References:**

Bucher Charles A., *Foundations of Physical Education*, St. Louis the C.V. Mosby Company, 1983. Kamlesh M.L., *Physical Education : Facts and Foundation*, New Delhi, P.B. Publications, 1988.

Thirunarayanan, C. and Hariharan, S., *Analytical History of Physical Education*, Karaikudi, C.T. & S.H., Publications, 1990.

Sharma, O.P., *History of Physical Education*, New Delhi, Khel Shitya Kendra, 1998.

Wakharkar D.G., *Manual of Physical Education in India*, Pearl Publicatons Pvt. Ltd., Bombay, 1967. Wuest, Deborah, A. and Charles A. Bucher, *Foundations of Physical Education and Sport*, New Delhi  
: BL. Publication Pvt., Ltd.

Wellman and Cowell, *Philosophy and Principles of Physical Education*, A marvati: Suyog Prakashan. Jackson Sharman/ *Modern Principles of Physical Education*, New York: A.A. Barnes & Co.

Khan, Eraj Ahmed, *History of Physical Education*, Patna Scientific Book Co.

## ANATOMY AND PHYSIOLOGY

Semester : I  
Code : 23UPHC02

Core : II  
Credit : 5

**Learning Objectives :** To enable the students to gain **knowledge** about physical structure and functions of human body and organs respectively.

### **COURSE OUTLINE:**

#### **UNIT- I**

##### **Introduction :**

1. Need and importance of anatomy and physiology for the students of physical education.
2. Descriptive terms used to describe the human body.
3. Definition - Cell, Tissue, organ and system - Microscopic structure of the cell.
4. Classification, Structure and functions of various types of tissues.

#### **UNIT-2**

##### **Joints and Nervous System**

1. Joints: Definition and classification of joints.
2. Anatomical structure of synovial Joints - Terminology of movements around a joint.
3. Nervous system – Structure and functions of brain.
4. Structure and functions of Spinal cord - Reflex arc.

#### **UNIT-3**

##### **Circulatory and Respiratory System**

1. Structure of the heart, Systematic pulmonary, Coronary circulation.
2. Blood- Functions of blood, Composition of blood, Lymph and its functions.
3. Respiratory system – Definition, Structure and Functions of respiratory system.
4. Mechanism of respiration - Lung volumes.

#### **UNIT-4**

##### **Digestive and Muscular System**

1. Digestive system – Structure and function of alimentary canal.
2. Accessory organs of digestive system, Pancreas, Gall bladder.
3. Muscular system - Structural and functional classification of muscles- Skeletal, cardiac and smooth.
4. General characteristics of muscles - Elasticity, Contractibility and Irritability.

## **UNIT -5**

### **Urinary and Endocrine System**

1. Urinary system - Structure and functions of kidney and urinary tract.
2. Formation of urine.
3. Introduction to Endocrine system
4. Pituitary and Thyroid glands.

### **REFERENCE BOOKS:**

1. Davis, Dv.wtay's Anatomy, London Longmans Grenn and Co ltd.1967.
2. Pearce, Evelyn B.Anatomy and physiology for nurses, London Faber and Faber ltd.,1962.
3. Pearce,J.W. Anatomy for students and teachers of physical education, London, Edward Arnold and co.,1959.
4. Anderson, T. Mclerg human Kinetics and Analysing body moment. London, William Heinman medical books ltd.,1961.



## SCIENCE OF YOGA

Semester : I  
Code : 23UPHE01

DSE : I  
Credit : 3

**Learning Objectives** :To enable the students to gain **knowledge** of various types of Asanas, Pranayama, Bhandas, Mudhras, Meditation and their benefits. They can able to serve the society by teaching yoga.

### UNIT - 1 12hrs.

#### Introduction :

1. Meaning and Definition.
2. Aims and Concept of yoga.
3. Scope of yoga.
4. Schools of yoga.

### UNIT - 2 20hrs.

1. **Hastanga Yoga** :Yama, Nyama, Asana, Pranayama, Prathyahara, Dharana, Dhyana and Samadhi.
2. **Asanas** – Sitting postures -Techniques and Benefits.
3. Standing postures -Techniques and Benefits.
4. Lying Postures - Techniques and Benefits.

### UNIT - 3 8hrs.

#### Suriyanamaskar

1. Stages
2. Breathing Techniques
3. Physiological and Psychological benefits of Suriyanamaskar
4. General benefits.

### UNIT – 4 10hrs.

#### Pranayama

1. Pranayama - Meaning, Aim, Definition
2. Physiological and Psychological benefits of Pranayama.
3. Types of Pranayama – Sheetal Pranayama, Sheetkari Pranayama,
4. Phastrika Pranayama and Ujjayai Pranayama - Techniques and Benefits.

### UNIT – 5 10hrs.

#### Bandhas, Mudras and Meditation

1. Bandhas - Meaning, Types and Benefits.
2. Mudras – Types.
3. Mudras - Techniques and benefits.
4. Meditation – Practicing method and benefits.

**REFERENCE BOOKS :**

1. Gharote M.L. Guidelines for Yogic Practice, Lonawala Medha Publications, 1982.
2. Iyengar B.K.S. The Art of Yoga Indus as Imprint of HARPIC Collins India Pvt. Ltd., 1985.
3. Ann Swanson, Science of Yoga: Understand the Anatomy and Physiology to Perfect your Practice, ISBN-13 978-0241341230, Publisher-DK, Publication 3rd January 2019.
4. Howard Muphet, Practical Yoga for Everyone, Publisher-Orient Blackswan, ISBN 9788125020387, July 2001.
5. N.S. Ravishankar, Yoga for Health, ISBN 81-223-0724-4, Pustak Mahal, Delhi, 2006.
6. Dr. G. Francis Xavier, Yoga for Health and Personality, ISBN 81-223-0892-9, Pustak Mahal, Delhi, 2006.
7. Dr. A.M.Moorthy, Yoga Therapy, ISBN 81-8016-024-6, Teachers Publishing House, Coimbatore, 2004.

## HEALTH EDUCATION

Semester : I  
Code : 23UPHS 01

SEC : I  
Credit : 2

**Learning Objectives** :To enable the students to obtain **knowledge** of Health education.  
Gain **knowledge** of health.

**UNIT - 1 Health:** **5hrs.**

1. Definition, and Meaning of Health.
2. Characteristics of Healthy and unhealthy people.
3. Factors influencing Health.
4. Components of Health – Physical, Mental, Social, Emotional and Spiritual

**UNIT - 2 Health Education:** **5hrs.**

1. Definition, and Meaning of Health Education.
2. Scope, Aim and Objectives of Health Education.
3. Health Education programme - Health instructions, Health services and Health Supervision.
4. Fitness and Exercises.

**UNIT - 3 Hygiene:** **6hrs.**

1. Meaning, Need and Importance of Personal Hygiene.
2. Ill-Effects of Drug, Alcohol, Tobacco and Smoking.
3. Immunity and its types.
4. Need and importance of Immunity.

**UNIT - 4 Communicable and Non-Communicable Diseases:** **7hrs.**

1. Infection and Diseases
2. Causes, Mode of spread, Signs and symptoms and prevention.
3. Malaria, Typhoid, Cholera, dysentery, Tuberculosis, COVID and STD.
4. Non-Communicable Diseases-Cancer, Diabetics, Heart attack, Polio and Leprosy.

**UNIT – 5 Health Awareness:** **7hrs.**

1. AIDS awareness – Causes, Symptoms and Prevention.
2. Family planning, Health schemes in India.
3. Role of voluntary health organisation – WHO, UNICEF
4. Indian Red Cross Society, ICCW, IMA

**REFERENCE BOOKS:**

1. Moss, R. and et.al, Health education, National educational annual, U.S.A.
2. Neiniah, School Health Education, Harper and Brothers.
3. Park, J.E. Text Book of Preventive and social Medicine.
4. Dr. S.K. Mangal and Dr.P.C.Chandha Health and Physical Education Ludhiana, R.D.Tandon Brothers, 1979.
5. Benu Gupta, Mukesh Agarwal, Sunita Arora, A Textbook on Physical and Health Education: Fitness, Wellness and Nutrition, ISBN 9789386092540, 2019.
6. Michael Mosley, Fast Exercise : The Smart Route to Health and Fitness, 2013.

**E-RESOURCES:**

1. <https://www.nutrition.gov/topic/exercise-and-fitness>
2. [shorturl.at/axHOR](http://shorturl.at/axHOR) –concept of Physical Education and Fitness
3. [https://file.lacounty.gov/SDSInter/dmh/216745\\_ExerciseforOlderAdultsHealthCareProviderManual.pdf](https://file.lacounty.gov/SDSInter/dmh/216745_ExerciseforOlderAdultsHealthCareProviderManual.pdf)

## SAFETY EDUCATION AND FIRST AID

Semester : I  
Code : 23UPHF01

FC : I  
Credit : 2

**Learning Objectives** :To enable the students to Gain **knowledge** of Safety and First aid.  
**Understand** about methods to adopt safety and first aid.

**UNIT - 1** **5hrs.**

**Introduction:**

1. Meaning and Definition of Safety Education.
2. Objectives of teaching programmes on safety.
3. Need and importance of safety education.
4. Factors affecting safety.

**UNIT - 2** **6hrs.**

**Safety Education:**

1. Safety at Home – School.
2. Safety in Physical Education and Sports – safety in play area – Gymnasium – Swimming Pool.
3. Safety at camp.
4. Safety at Road-Traffic Rules and Regulations, Traffic Symbols and Signals.

**UNIT - 3** **5hrs.**

**First Aid:**

1. Meaning and Definition of First Aid.
2. Aims of First Aid.
3. Responsibility of First Aider.
4. Major First Aid Technique - First Aid Kits- Rules of First Aid – ABC Rule.

**UNIT - 4** **7hrs.**

**Injuries:**

1. Fracture - Causes, Types, Symptoms - Management
2. Dislocation - Causes, Types, Symptoms - Management
3. Sprain and Strain - Causes, Types, Symptoms - Management
4. Cramp – Symptoms and Management, Wounds - Types and Management, Bleeding – Forms, Symptoms and Management

**UNIT – 5** **7hrs.**

**Bandages:**

1. Types of Bandages.
2. Techniques of Bandaging.
3. Artificial Respiration, CPR.
4. First Aid for Shock, Drowning, Poisoning, Dog bite, Snake bite and burns.

**REFERENCE BOOKS:**

1. Benu Gupta, Mukesh Agarwal, Sunita Arora, A Textbook on Physical and Health Education: Fitness, Wellness and Nutrition, ISBN 9789386092540, 2019.
2. Dr. Vikash Kumar, Dr. Sarita Chaudhary and Dr. Shweta Suri, Physical Education, Health, First Aid and Kinesiology in Physical Education, Sports Publication, Delhi, ISBN: 978-9388269-78-0, 2023.
3. Gina M. Piazza, First Aid Manual, Little Brown & Co., May 27 1992.
4. Dr.Elakkuvana Bhaskara Raj, Ms.Jyoti Marthe, First Aid & Health, Thakur Publication Pvt. Ltd. Lucknow, ISBN- 978-93-5480-282-9, 2022.

**E-RESOURCES:**

1. <https://www.firstaidwarehouse.co.uk/blogs/news/what-are-the-different-types-of-bandages-first-aid-warehouse>
2. <https://www.cdc.gov/niosh/topics/snakes/symptoms.html>

## METHODS IN PHYSICAL EDUCATION

Semester : II  
Code : 23UPHC03

Core : III  
Credit : 4

**Learning Objectives** :To enable the students to **know** the methods of teaching various physical activities. Learn and able to draw fixtures. **Understand** the various methods of organizing tournaments.

### COURSE OUTLINE:

#### UNIT - 1

15hrs.

##### Introduction

1. Meaning of the term Method.
2. Factors to be considered in determine the method of teaching.
3. Teaching Techniques in Physical Education – Lecture method, Command method, Demonstration method, Imitation method, Project method.
4. Activity planning according to Age and Sex characteristics.

#### UNIT - 2

15hrs.

##### Presentation Techniques

1. Preparation – Personal.
2. Technical preparation.
3. Commands – Types of commands and types of formation.
4. Class management.

#### UNIT - 3

15hrs.

##### Principles of Teaching

1. Teaching procedure - Simple to Complex, Whole method, Whole-part-whole method, Part-whole method.
2. Intrinsic motivation.
3. Extrinsic motivation.
4. Frequency and duration of instructional periods.

#### UNIT – 4

15hrs.

##### Lesson Plan

1. Meaning – Objectives – Principles.
2. Types of Lesson Plan – General and Particular Lesson plan.
3. Steps of Lesson plan – Introductory, Preparatory, Skill part, Group activity and Concluding part.
4. Coaching Lesson – various parts of lesson- warming-up, Physical (general and special) Teaching and Tactical preparation.

#### UNIT – 5

15hrs.

##### Tournaments and Teaching Aids

1. Meaning – Types of Tournament – Merits and Demerits-Knock-out and Elimination Tournament, League or Round Robin Tournament, Combination Tournament, Challenge Tournament.
2. Fixtures – Types of Fixtures.
3. Publicity - Meaning-Demonstration, Play day, Exhibition in Physical Education.
4. Teaching Aids - Audio Visual Aids, Importance of teaching aids.

**REFERENCE BOOKS :**

1. Knapp Clyde and Hagmani E.P. Teaching Methods for Physical Education : New York, McGraw Hill Book Co., Inc., 1948.
2. Cosmin. H. Rosalind, C. and Jackson, C.O. Methods in Physical Education: London W.B. Saunders Cop., 1960.
3. Thirunarayanan C., Hariharan S, Methods in Physical Education : Karaikudi, South India Press, 1962.
4. Carol Barr, Jones and Bartlett, Principles and Practice of Sports Management, March 2011.
5. Trevor Slack, Human Kinetics, The Application of Organisation of Theory, 2005.



## GYMNASTICS, PYRAMIDS AND AEROBICS

Semester : II  
Code : 23UPHC04

Practical - I

Core : IV  
Credit : 4

**Learning Objectives** :To enable the students to gain **knowledge** of Gymnastics, Pyramids and Aerobics and their benefits. It can be practiced in their day-today life to lead a healthy life.

**UNIT -1** **15hrs.**

### **Gymnastics**

#### **Balancing Beam**

1. Jump to squat and land.
2. Knee scale with support.
3. Walking on the beam.
4. Standing scale front ways - Scissors leap.

**UNIT -2** **15hrs.**

### **Floor Exercise**

1. Forward roll.
2. Cart wheel.
3. Cat leap.
4. Scissors leap.

**UNIT - 3** **15hrs.**

### **Pyramids**

1. Methods and Procedures.
2. Two to Ten man pyramids.
3. Wall – Tower – Triangle Pyramid.
4. Moving – Collapse Pyramid.

**UNIT - 4** **15hrs.**

### **Aerobics - Floor**

1. Counts - Rhythm (Ship, Cha-Cha).
2. Mirror (Walk or March, Touch out, Step touch, Cap step).
3. Shapes (A, V, L, Jazz square, Diamond, Mambo, Clock step, Grape Wine).
4. Power move (Launches, Gallop, Jazz walk, Squats).

**UNIT - 5** **15hrs.**

### **Aerobics - Stepper**

1. Counts - Rhythm (Ship, Cha-Cha).
2. Mirror (Walk or March, Touch out, Step touch, Cap step).
3. Shapes (A, V, L, Jazz square, Diamond, Mambo, Clock step, Grape Wine).
4. Power move (Launches, Gallop, Jazz walk, Squats).

## RECREATION, CAMPING AND SUPERVISION IN PHYSICAL EDUCATION

Semester : II  
Code : 23UPHS 02

DSE : II  
Credit : 3

**Learning Objectives** :To enable the students to Gain **knowledge** of organizing outdoor camping and relative recreation activities. **Understand** about concepts of supervision.

### UNIT – 1 5hrs.

#### Recreation

1. Meaning and Definition of recreation.
2. Scope and Significance of recreation.
3. Objectives of recreation – Relationship between work, Play and Leisure.
4. Types of recreational activities.

### UNIT - 2 5hrs.

#### Recreation agencies

1. Agencies providing recreation. (Municipal Agencies, Public, Private, Voluntary, Youth serving Agencies).
2. Rural, Urban community and Industrial recreation.
3. Leadership – Qualities and Qualification of good leader.
4. Types of Leaders and their roles.

### UNIT - 3 6hrs.

#### Camping

1. Definition, Aims and Objectives.
2. Scope and Significance of Camping.
3. Types of Camps.
4. Selection and layout of Camp size.

### UNIT - 4 7hrs.

#### Administration of Camp

1. Organisation and Administration of Camp
2. Camp programme and activities.
3. Organisation setup in Camping, Organising outdoor camp, Picnic/Tours.
4. Evaluation of camp work

### UNIT – 5 7hrs.

#### Supervision

1. Meaning, Need and Scope of Supervision.
2. Modern concept of Supervision.
3. Techniques of Supervision.
4. Evaluation of Supervision.

## REFERENCE BOOKS:

1. Mangal S.K. and Chandra, P.C. Health and Physical Education, R.D. Tandon Brothers, Ludhiana, 1979.
2. Moss, R. and et.al, Health education, National educational annual, U.S.A.
3. Neiniah, School Health Education, Harper and Brothers.
4. Park, J.E. Text Book of Preventive and social Medicine.
5. Dr. S.K. Mangal and Dr.P.C.Chandha Health and Physical Education Ludhiana, R.D.Tandon Brothers, 1979.
6. Ford H.G. Recreation in the American Community, Harper and Brothers Publishers, New York, 1953.
7. Butler G.D. Introduction of Community Recreation McGraw Hill Book Company, Inc., New York, 1949.
8. Royappa D.J. and Govind Rajulu L.K., Camping and Education, Jupiter Press Private Ltd., Madras, 1973.
9. Rubin, R. Book of Camping, N.V. Assn Press, 1949.
10. Torkildsen, G., Leisure and Recreation Management, E and F.N. Span Ltd., New York, 1986.

## FITNESS AND NUTRITION

**Semester : II**

**SEC : II**

**Code : 23UPHS03**

**Credit : 2**

**Learning Objectives :** To enable the students to gain **knowledge** of effect of exercise on various system of human body. Obtain **knowledge** of fitness and nutrition.

### **UNIT – 1**

**5hrs.**

#### **Introduction of Physical fitness**

1. Fitness – Meaning, Definition and Types.
2. Aims and Objectives of fitness.
3. Importance and Scope of fitness.
4. Factors affecting physical fitness.

### **UNIT - 2**

**6hrs.**

#### **Components of Fitness**

1. Modern concept of physical fitness.
2. Components of physical fitness.
3. Skill related components.
4. Health related components.

### **UNIT - 3**

**5hrs.**

#### **Exercise for Fitness**

1. Principles, Importance and benefits of exercise.
2. Aerobic – Definition, Design and variations
3. Anaerobic – Definition, Design and variations.
4. Principles of healthy weight reduction.

### **UNIT – 4**

**7hrs.**

#### **Nutrition**

1. Essential Nutrients – Types, Functions.
2. Dietary sources - Carbohydrates, Proteins, Fat, Vitamins, Minerals and Water.
3. Food and Diet - Balanced diet.
4. Basic Food groups.

### **UNIT – 5**

**7hrs.**

#### **Sports Nutrition**

1. Meaning, Definition of Sports nutrition.
2. Importance of sports nutrition, Factors to consider for developing nutrition plan.
3. Energy requirement for exercise.
4. Role of nutrition in sports.

## REFERENCE BOOKS :

1. Judy A. Driskell, "Sports Nutrition Fats and Proteins", CRC Press (2007).
2. Robert E. C. Wildman, Barry S. Miller, "Sports and Fitness Nutrition", Thomson (2004).
3. Ira Wolirsky and Judy A. Driskell, "Sports and Nutrition", 1996.

## **RULES, REGULATIONS AND OFFICIATING IN SPORTS AND GAMES – I (ATHLETICS-TRACK & FIELD EVENTS)**

**Semester : III**  
**Code : 23UPHCO5**

**Core : V**  
**Credit : 4**

**Learning Objectives :** To enable the students to gain **knowledge** of the rules, regulations and officiating in Athletics Track & Field events.

### **UNIT – 1**

**20hrs.**

#### **Athletics - Track Events**

1. Types of tracks – Standard and Non-standard
2. Track marking and Layout- RDR, CDR, MDR, Total length, Total Width, Area, Stagger, Relay Zones.
3. Sprint – 100m, 200m and 400m, Middle distance – 800m, 1500m and 3000m, Long distance – 5000m and 10000m
4. Hurdles – 100m, 110m and 400m and Relay events - 4 X 100mts relay and 4 X 400mts relay.

### **UNIT – 2**

**15hrs.**

#### **FIELD EVENTS (JUMP)**

1. Specific drills and warm-up.
2. Technique of Long Jump – (Sailing and Hang Technique) Approach Run, Take off, Flight and Landing.
3. Technique of High Jump – (Straddle Role, Fosbeury Flop) Approach Run, Take off, Bar Clearance and Landing.
4. Technique of Triple Jump – Approach Run, Take off, Hop step and Jump.

### **UNIT – 3**

**15hrs.**

#### **FIELD EVENTS (THROWS)**

1. Specific drills and warm-up.
2. Technique of Shot-put (Parry O' Brien Technique, Grip, Stands, Glide, Release and Reverse.
3. Technique of Discus Throw – Grip, Stands, Swing, Release and Reverse.
4. Technique of Javelin Throw – Grip, Carry, Approach and Five stride rhythm.

### **UNIT – 4**

**15hrs.**

#### **COMBINED EVENTS**

1. Specific drills and warm-up.
2. Pentathlon – Long Jump, Javelin Throw, 200m race, Discus throw and 1500 race.
3. Decathlon – 100m race, Long Jump, Shot-put, High Jump and 400m race in day one – 110m hurdles, Discus throw, Pole vault, javelin throw and 1500m race in day two.
4. Heptathlon – 100m hurdles, High jump, Shot put and 200m in day one – Long jump, javelin and 800m race in day two.

### **UNIT – 5**

**10hrs.**

#### **Rules, Regulations and Officiating**

1. Rules, Regulations and Officiating of above events.
2. Duties and Responsibilities of Officials of above events.
3. Qualities and Qualifications of Officials

4. Tie breaking system in Throws and Field events.

**REFERENCE BOOKS:**

1. Federation rules books of above mentioned games.
2. H.C.Buck, Rules of Games and Sports, Madras, Y.M.C.A. Publication, 1992.
3. Bonder J.B., How to be a successful Coach, New York, Prentice Hall, 1984.
4. Dunn J.W. The Basketball Coaches Guide to Success, Prentice Hall, New York, 1951.
5. R.L. Anand, Play Field Manual, Patiala, NIS Publication, 1990.

## Practical-2 Athletics - Track & Field Events

Semester : III  
Code : 23UPHC06

Practical - II

Core : VI  
Credit :4

**Learning Objectives :** To enable the students to gain **knowledge** of Track and Field events and their usage. It can be practiced in their day-today life to lead a healthy life.

**UNIT – 1** **15hrs.**

### **Athletics - Track Events**

1. Drills and warm-up
2. Starting Techniques – Standing start, crouch start and Bullet start and its variations.
3. Finishing Techniques – Run through, Shoulders shrug, Forward Lounge.
4. Specific exercises for Sprint events.

**UNIT – 2** **15hrs.**

### **Relay Races**

1. Technique of Relay Race - 4 X 100mts relay.
2. Technique of Relay Race 4 X 400mts relay.
3. Various methods of Baton exchange.
4. Specific exercises for Relay races.

**UNIT – 3** **15hrs.**

### **Hurdles**

1. Technique of 100m Hurdle Race.
2. Technique of 110m Hurdle Race.
3. Technique of 400m Hurdle Race.
4. Specific exercises for Hurdle Race.

**UNIT – 4** **15hrs.**

### **Field Events - Throws**

1. Specific drills and warm-up.
2. Technique of Shot-put (Parry O' Brien Technique, Grip, Stands, Glide, Release and Reverse.
3. Technique of Discus Throw – Grip, Stands, Swing, Release and Reverse.
4. Technique of Javelin Throw – Grip, Carry, Approach and Five stride rhythm.

**UNIT – 5** **15hrs.**

### **Field Events - Jumps**

1. Specific drills and warm-up.
2. Technique of Long Jump – (Sailing and Hang Technique) Approach Run, Take off, Flight and Landing.
3. Technique of High Jump – (Straddle Role, Fosbeury Flop) Approach Run, Take off, Bar Clearance and Landing.
4. Technique of Tripple Jump – Approach Run, Take off, Hop step and Jump.



## **REFERENCE BOOKS:**

1. Federation rules books of above mentioned games.
2. H.C.Buck, Rules of Games and Sports, Madras, Y.M.C.A. Publication, 1992.
3. Bonder J.B., How to be a successful Coach, New York, Prentice Hall, 1984.
4. Dunn J.W. The Basketball Coaches Guide to Success, Prentice Hall, New York, 1951.
5. R.L. Anand, Play Field Manual, Patiala, NIS Publication, 1990.

**DRILL AND MARCHING – CALISTHENICS-LIGHT APPARATUS AND YOGA**  
**Semester : III** **Practical- III** **Core : II**  
**Code : 23UPHE03** **Credit :4**

**Learning Objectives :** To enable the students to gain **knowledge** of Marching, calisthenics, Light apparatus and Yoga and their benefits. It can be practiced in their day-to-day life to lead a healthy life.

**UNIT - 1** **15hrs.**

**Drill and Marching :**

1. Attention – Stand-at-ease
2. Mark time march – Quick march
3. Eye right
4. Turnings (About turn, Right turn, Left turn)

**UNIT - 2** **15hrs.**

**Calisthenics :**

1. Freehand Exercises- Light apparatus- Dumbbell – Indian clubs – Wands – Hoops – Lezium exercises
2. Standing series – Sitting series
3. Launching series – Twisting series
4. Jumping series – Clapping series

**UNIT - 3** **15hrs.**

**Asanas**

- |                      |                     |                       |
|----------------------|---------------------|-----------------------|
| 1. Padmasana         | 7. Garudasana       | 13. Sarvangasana      |
| 2. Vajrasana         | 8. Natarajasana     | 14. Padmasarvangasana |
| 3. Paschimottanasana | 9. Vatayanasana     | 15. Bhujangasana      |
| 4. Baddhakonasana    | 10. Veerabardrasana | 16. Salabasana        |
| 5. Navasana          | 11. Vriksasana      | 17. Halasana          |
| 6. Janusirasasana    | 12. Ardachandrasana | 18. Dhanurasana       |

**UNIT - 4** **15hrs.**

**Pranayama and Suriyanamaskar**

**UNIT - 5** **15hrs.**

**Mudhras :**

1. Gnyan(Mudra of Knowledge)
2. Vaayu Mudra (Mudra of Air)
3. PraanaMudra (Mudra of life)
4. ShoonyaMudra (Mudra of Emptiness)
5. Apaana Mudra (Mudra of Digestion)
6. Soorya Mudra (Mudra of the Sun)
7. Varuna Mudra (Mudra of Water)
8. Linga Mudra (Mudra of Heat)

## ELEMENTARY STATISTICS

Semester : III  
Code : 23UPHS04

SEC : IV  
Credit : 2

**Learning Objectives : Learning Objectives :** To enable the students to gain **knowledge** of administration and of various types of physical fitness tests and specific sports tests. **Acquire knowledge** about elementary statistics and research methods.

**UNIT - 1** **5hrs.**

### **Introduction**

1. Definitions and meaning of statistics.
2. Need and Importance of Statistics.
3. Meaning of Population.
4. Meaning of Sample.

**UNIT – 2** **6hrs.**

### **Types of Statistical Process**

1. Descriptive Statistics
2. Comparative Statistics
3. Inferential Statistics
4. Predictive Statistics

**UNIT – 3** **5hrs.**

### **Frequency Distribution**

1. Frequency Distribution – Meaning of Raw data and Continuous data
2. Procedure of computing frequency table,
3. Merits and demerits of Frequency distribution.
4. Cumulative frequencies.

**UNIT - 4** **7hrs.**

### **Measures of Central Tendency**

1. Measures of Central Tendency-Meaning
2. Discreet series and Continuous series.
3. Computation of Mean, Median, Mode - Grouped and Ungrouped data
4. Merits and demerits.

**UNIT – 5** **7hrs.**

### **Measures of Variability**

1. Measures of Variability – Range
2. Mean deviation
3. Quartile deviation
4. Standard deviation

## REFERENCE BOOKS :

1. Clark H. Harrison and Clarke. H. David., Research Process in Physical Education, Eaglewood, New Jersey, Prentice Hall, Inc., 1984.
2. Wilks. S.S., Elementary Statistical Analysis, Calcutta, Oxford and IBH Publishing Company. 1964.
3. Wills, S.S., Elementary Statistical Analysis, Calcutta, Oxford and IBH, Publishing and Co., 1964.
4. B.L.Agarwal, Basic Statistics, 2009.
5. Yogesh Kumar Singh, Fundamentals of Research Methodology and Statistics, New age International Publisher, 2006.

## SPORTS MANAGEMENT IN PHYSICAL EDUCATION

Semester : III  
Code : 23UPHS05

SEC : V  
Credit : 2

**Learning Objectives** :To enable the students to gain **knowledge** on need and importance of facilities and planning of physical education curriculum. Preparation of Finance budget and utilization of games fund.

### UNIT - 1 7hrs.

#### Introduction

1. Meaning and Definition – Organisation and Administration.
2. Need and Importance of Organisation and Administration.
3. Guiding principles of Organisation.
4. Organisation scheme of Physical Education in Schools, Colleges, Universities, Districts, State, Nationals and Internationals.

### UNIT - 2 7hrs.

#### Physical Education Facilities

1. Facilities and Standards for out-door and in-door activities in educational institutions.
2. Gymnasium – Construction, Factors, Care and Allied facilities.
3. Swimming Pool - Construction, Factors, Care and Allied facilities.
4. Staff and Leadership – Needs for trained leadership, qualification of Physical Education Teacher, Workload and Teacher Pupil Ratio.

### UNIT - 3

#### Programme Planning

6hrs.

1. Curriculum - Need and Importance of Syllabus preparation and development of course of studies.
2. Types of programme –Sports meet, Intramural, Extramural Activities and preparation of Time-tables.
3. Types of Physical Education periods.
4. Public relations – Conferences/Seminars, Clinics and Workshops.

### UNIT – 4

5hrs.

#### Office Management

1. Maintaining various types of records.
2. Registers – Stock Register, Condemned Register, Issue Register and Consumable register.
3. Reports.
4. Filing methods.

### UNIT – 5

5hrs.

#### Finance and Budget

1. Sources of Income.
2. Approved items of expenditure.
3. Rules for the utilization of games fund.
4. Preparation and administration of budget and accounting.

**REFERENCE BOOKS:**

1. Hughes, LW. and French, E. The Administration of Physical Education, Ronald Press Co.
2. Joseph, P, M. Organisation of Physical Education, Old students association, TIPE, Kandivilli, Bombay.
3. Nash, J.B. and et.all. Organisation and Administration of Physical Education, A.S. Bamers& Co.
4. Thomas J.P., Organisation and Administration of Physical Education, Gnanodaya Press, Anderson Street, Chennai-1.
5. Velter B. and Esslinger, A. A. Organisation and Administration of Physical Education, Appleton-Century Crafts.

**RULES, REGULATIONS AND OFFICIATING IN SPORTS AND GAMES – II**  
**KHO-KHO, TABLE TENNIS, BALL BADMINTON AND CRICKET**

**Semester : IV**  
**Code : 23UPHC07**

**CORE : VII**  
**Credit : 4**

**Learning Objectives** :To enable the students to gain **knowledge** of Rules, Regulations and Officiating in Kho-Kho, Table Tennis, Badminton and Field events.

**UNIT - 1** **15hrs.**  
**Introduction**

1. History and Development of the Games - Important Terminologies.
2. Association – State, National and International.
3. Important Tournaments and meets held at National and International levels.
4. Warm-up and Warm-down - its importance in Sports.

**UNIT – 2** **15hrs.**  
**KHO-KHO**

1. Fundamental skills.
2. Court measurement marking - Post
3. Various lead-up games.
4. Rules and Interpretations – Duties of Referees and Officiating Signals.

**UNIT – 3** **15hrs.**

**TABLE TENNIS**

1. Basic skills.
2. Grip, Forehand, Backhand – Drive.
3. Table Measurements and Equipments used-Bat, Ball, Net.
4. Rules and Interpretations – Duties of Referees and Officiating Signals.

**UNIT - 4** **15hrs.**

**BADMINTON**

1. Fundamental skills.
2. Court measurements, Equipments - Racquet, Cock, Net and Post.
3. Grip, Stance, Service, Strokes - Forehand, Backhand Drive
4. Rules and Interpretations – Duties of Referees and Officiating Signals.

**UNIT - 5** **15hrs.**  
**CRICKET**

1. Batting – Forward and Backward defensive strokes.
2. Bowling and its techniques.
3. Fielding, Stopping, Catching, Throwing and Wicket Keeping techniques.
4. Rules and Interpretations – Duties of Referees and Officiating Signals.

## PRACTICAL – 4 KHO-KHO AND TABLE TENNIS

Semester : IV  
Code : 23UPHC08

CORE : VIII  
Credit : 5

**Learning Objectives :** To enable the students to gain **knowledge** of Kho-Kho and Table Tennis,

**Course Outcomes :** At the end of the course the student will be able to :

**Knowledge level – K1 (Remembering), K2 (Understanding), K3 (Applying),  
K4 (Analyzing), K5 (Evaluating), K6 (Creating)**

**K1 and K2 \*Throughout the course, retention of all the concepts is emphasized after thorough understanding. (GMEET, GC SESSIONS <https://longomatch.com/en/> (k6) -PO7)**

**UNIT - 1** **20hrs.**

### **KHO-KHO**

1. Specific drills and warm-up.
2. Offensive Skills -Touching with hand, various kicks.
3. Defensive Skills - Chain formation, different catches.
4. Specific exercises lead up activities

**UNIT – 2** **18hrs.**

1. Method of Scoring
2. Tie breaking
3. Officiating signals
4. Teaching progression for each technique.

**UNIT – 3** **20hrs.**

### **TABLE TENNIS**

1. Specific drills and warm-up.
2. Grip, Stance, Service.
3. Strokes - Forehand, Backhand – Drive and Push.
4. Specific exercises lead up activities.

**UNIT – 4** **17hrs.**

1. Scoring system.
2. Tie breaking.
3. Officiating signals.
4. Teaching progression for each technique.



## PRACTICAL – 4 KHO-KHO AND TABLE TENNIS

Semester : IV  
Code : 23UPHC08

CORE : VIII  
Credit : 5

Knowledge level – K1 (Remembering), K2 (Understanding), K3 (Applying),  
K4 (Analyzing), K5 (Evaluating), K6 (Creating)

K1 and K2 \*Throughout the course, retention of all the concepts is emphasized after thorough understanding. (GMEET, GC SESSIONS <https://longomatch.com/en/> (k6) -PO7)

<b>CO1</b>	<b>Apply Acquired knowledge</b> of running and chasing skills in Kho-Kho, assess the playing techniques of opponents. Practice sessions : (PO2, PO3, PO4, PO5, PO6, PO7, PO9 PO10)	<b>K1</b> <b>K2</b> <b>K3</b> <b>K4</b> <b>K6</b>
<b>CO2</b>	<b>Apply Acquired knowledge</b> of Method of Scoring in Kho-Kho, Tie breaking, Officiating signals and able to teach the techniques for the beginners.	<b>K1</b> <b>K2</b> <b>K3</b> <b>K6</b>
<b>CO3</b>	<b>Apply Acquired knowledge</b> of Specific drills and warm-up <b>Learn</b> the techniques of Grip, Stance and Service, forehand and backhand drive in Table Tennis, <b>Assess</b> the defensive movement of the opponents. Practice sessions : (PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10)	<b>K1</b> <b>K2</b> <b>K3</b> <b>K4</b>
<b>CO4</b>	<b>Apply Acquired knowledge</b> of Method of Scoring in Table Tennis, Tie breaking, Officiating signals and able to teach the techniques for the beginners.	<b>K1</b> <b>K2</b> <b>K3</b> <b>K6</b>

## CARE AND PREVENTION OF SPORTS INJURIES

Semester : IV  
Code : 23UPHE04

DSE : IV  
Credit : 3

**Learning Objectives** :To enable the students to obtain **knowledge** of classification of injuries and treatment. Gain **knowledge** of remedial measures of massage.

### UNIT - 1

10hrs.

#### Introduction

1. Care and Prevention – Definition and meaning.
2. Corrective physical education-Definition and objectives.
3. Posture and body mechanics-Standards of standing posture, values of good posture, Drawbacks and causes of bad postures.
4. Postural deformities and corrective exercises.

### UNIT - 2

10hrs.

#### Classification of Injuries

1. Sports Injuries – Tendon Ligament
2. Classification of Injuries - Open and Closed Injuries.
3. Open Injuries – Abrasion, Laceration, Incision, Puncture.
4. Closed Injuries – Sprain, Strain, Subluxation, Dislocation, Fracture, Contusion, Cramp.

### UNIT - 3

10hrs.

#### Warming up and conditioning

1. Physical conditioning and over load principle
2. SAID general and specific
3. Cool down, Flexibility, Static and Dynamic stretching.
4. Contraction – Isometric, Isotonic, Isokinetics, Concentric and Eccentric.

### UNIT - 4

15hrs.

#### Sports injuries Care and Treatment

1. Principles pertaining to the prevention of sports of injuries.
2. Care and treatment of exposed and unexposed injuries
3. Principles and techniques of Strapping and Bandages.
4. Principles of application of cold and heat, infra-red rays, ultrasonic Therapy- Shortwave Diatherapy.

### UNIT – 5

15hrs.

#### Massage

1. History of massage and remedial exercise.
2. Contraindication and Indication of massage.
3. Points to be considered in giving massage. Physiological effects of massage.
4. Classification of the manipulations used in massage. Stroking manipulation – Stroking, Kneading, Effleurage, Friction, Hacking, Clapping, Beating and Pounding.

## **REFERENCE BOOKS :**

1. Rathborne . J. I. W.B., Corrective Physical Education, Sauders and Co., 1965.
2. Prof. E.M.Narow., Manual of Massage and Movement, Faber and Faber Ltd.,
3. Doral M.N., Sports Injuries, Springer, 2011.
4. Thomas E.H., Conservative Management of Sports Injuries, Johns and Bartlett Publishers, 2007.
5. Stafford and Kelly, Preventive and Corrective Physical Education, New York, The Ronald Press, 1968.

## SPORTS PSYCHOLOGY

Semester : IV  
Code : 23UPHS06

SEC : VI  
Credit : 2

**Learning Objectives** :To enable the students to **understand** and gain the **knowledge** of sports psychology.

<b>UNIT - 1</b> <b>Introduction of Sports Psychology</b> <ol style="list-style-type: none"><li>1. Meaning, Definition.</li><li>2. Scope and Nature of Psychology.</li><li>3. Importance of Psychology in Physical Education.</li><li>4. Sports Psychology and Performance Enhancement.</li></ol>	<b>5hrs.</b>
<b>UNIT - 2</b> <b>Learning Process</b> <ol style="list-style-type: none"><li>1. Types of learning.</li><li>2. Loss of learning.</li><li>3. Theories of learning.</li><li>4. Factors affecting learning and learning curve.</li></ol>	<b>5hrs.</b>
<b>UNIT - 3</b> <b>Personality</b> <ol style="list-style-type: none"><li>1. Personality - Meaning, Definition and nature of personality.</li><li>2. Various traits of personality and relation to performance in physical Education.</li><li>3. Personality dimensions.</li><li>4. Factors influencing personality.</li></ol>	<b>6hrs.</b>
<b>UNIT – 4</b> <b>Motivation</b> <ol style="list-style-type: none"><li>1. Motivation - Meaning, Definition,</li><li>2. Types of motivation, Condition of developing achievement motivation.</li><li>3. Motivation and its roles in Sports and Games.</li><li>4. Techniques of sports motivation.</li></ol>	<b>7hrs.</b>
<b>UNIT – 5</b> <b>Emotion</b> <ol style="list-style-type: none"><li>1. Meaning, Definition, Causes and Types of Emotion</li><li>2. Stress – Meaning, Definition, Causes and Types</li><li>3. Anxiety – Meaning, Definition, Causes and Types</li><li>4. Aggression – Meaning, Definition, Causes and Types</li></ol>	<b>7hrs.</b>

## **REFERENCE BOOKS :**

1. Stephaine J. Hanrahan, Mark B. Anderson, Handbook of Applied Sports Psychology, Taylor and Francis, 2010.
2. Mangal S.K. and Shubhra Mangal, Sports Psychology, Sage publishing, 2021.
3. Alison and Robinson.(2018), Excelling in Sport Psychology: Planning, Preparing, and Executing Applied Work, Sean Fitzpatrick.
4. Coumbe-Lilley,(2018), Complex Cases in Sport Psychology, Routledge.

## VALUE EDUCATION

Semester : IV  
Code : 23UVED

Credit : 3

**Learning Objectives :** To acquire the knowledge of values to be a better individual in the society. To impart citizenship values among the students. To understand the role of social institutions in inculcating social values.

### UNIT - 1 3hrs.

#### Values:

1. Meaning, Definition,
2. Nature and scope of Values
3. Concepts of Values: Personal Values, Social Values, Moral Values, Religious Values, Spiritual Values, Cultural Values

### UNIT - 2 3hrs.

#### Value Education:

1. Meaning of Value Education
2. Need and Purpose of Value Education
3. Self-Discipline, Companion, forgiveness, Honesty, Self Confidence, Self-Awareness, Sympathy, Empathy, Courage.

### UNIT - 3 3hrs.

#### Role of Social Institution in Value Formation:

1. Family
2. Schools
3. Peer group, Mass Media

### UNIT – 4 3hrs.

#### Constitutional Values:

1. Meaning of Constitution
2. Constitutional Values
3. Types of Constitutional Values

### UNIT – 5 3hrs.

#### Fundamental Rights:

1. Fundamental Rights
2. List of Fundamental Rights
3. Classification of Fundamental Rights.

## REFERENCE BOOKS

1. Murugesan R. Value Education, Millennium Publishers and Distributers, Madurai, 2019.
2. Nelson P. Value Education, Vasan's Publishing House, Madurai.

## WEB RESOURCES

1. <https://www.iberdrola.com/talent/value-education>
2. <https://www.collegesearch.in/articles/importance-of-value-education>  
<https://navsarjantrust.org/human-rights-value-education/>
3. [https://www.hurights.or.jp/archives/human\\_rights\\_education\\_in\\_asian\\_schools/section2/2001/03/human-rights-education-in-indian-schools-curriculum-development.html](https://www.hurights.or.jp/archives/human_rights_education_in_asian_schools/section2/2001/03/human-rights-education-in-indian-schools-curriculum-development.html)
4. <https://www.rajras.in/role-of-family-society-educational-institutions-in-inculcating-values>

## ENVIRONMENTAL STUDIES

Semester : IV  
Code : 23UEVS

Credit : 3

**Learning Objectives :** To introduce the student to the various aspects of environmental studies. To provide knowledge about the scope of biodiversity and its conservation. Environment studies have become significant for the sustainability of life on earth. Environment studies is a multidisciplinary subject where different aspects are dealt with in a holistic approach.

### UNIT - 1 6hrs.

#### **Introduction:**

1. Natural resources and associated problems.
2. Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forest and tribal people.
3. Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

### UNIT - 2 5hrs.

#### **Ecosystems:**

1. Concept of an ecosystem.
2. Structure and function of an ecosystem.
3. Producers, consumers and decomposers.
4. Energy flow in the ecosystem. Pond, grassland, Estuary ecosystem.

### UNIT - 3 6hrs.

#### **Biodiversity and its conservation:**

1. Introduction – Definition: genetic, species and ecosystem diversity.
2. Bio geographical classification of India
3. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
4. Biodiversity at global, National and local levels.
5. India as a mega-diversity nation, Hot-spots of biodiversity.

### UNIT – 4 7hrs.

#### **Environmental Pollution:**

1. Definition and Cause of pollution.
2. Effects and control measures of : a) Air pollution, b) Water pollution c) Soil pollution d) Marine pollution e) Noise pollution f) Thermal pollution g) Nuclear hazards
3. Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
4. Role of an individual in prevention of pollution.

### UNIT – 5 6hrs.

#### **Human Population and the Environment:**

1. Population growth, variation among nations. Population explosion – Family Welfare Program. Environment and human health.
2. Role of Information Technology in Environment and human health. EPA Environment Protection Act.
3. Air, Water (Prevention and control of Pollution) Act.
4. Wildlife Protection Act, Forest Conservation Act and Public awareness.



## **TEXT BOOKS**

1. Sharma, P.D. 1994. Ecology and Environment. Ashish Publications, Wagner, K.D. 1998. Environment Management. W.B. Saunders Co, Philadelphia, USA.
2. Fundamentals-of-ecology- Odum. Cengage Learning India Private Limited, 2005.
3. Scott Kleinberg Anne H. Toomey Content type: Original Article Published: 06 June 2023 Pages: 367 – 375.

## **REFERENCE BOOKS**

1. Sharma, P.D. 2005. Environmental Microbiology, Narosa Publishing House Pvt. Ltd., New Delhi.
2. Raina Maier M. Iran Pepper L., Charles P. Gerba, 2000, Environmental Microbiology, Academic press, U.K.
3. Alexander N. Glazer and Hiroshi Nikaido. 1994. Microbial Biotechnology
4. Special issue on Bioremediation and biodegradation. Indian Journal of Experimental Biology, September 2003. Vol. 41(9). National Institute of Science Communication and Information Resources, CSIR New Delhi.
5. Keddy, P.A. 2017. Plant Ecology: Origins, processes, consequences. 2nd ed. Cambridge University Press. ISBN. 978-1107114234.

## **WEB RESOURCES**

1. [http://india.gov.in/sectors/environment/environmental\\_education.php](http://india.gov.in/sectors/environment/environmental_education.php)
2. [en.wikipedia.org/wiki/Environmental science](https://en.wikipedia.org/wiki/Environmental_science)
3. <https://gouldguides.carleton.edu/c.php?g=147210&p=964085>
4. <https://link.springer.com/journal/13412/volumes-and-issues>

**RULES, REGULATIONS AND OFFICIATING IN SPORTS AND GAMES – III**  
**VOLLEYBALL, HANDBALL, HOCKEY AND KABADDI**

Semester : V  
Code : 23UPHCO9

Core : IX  
Credit : 5

**Learning Objectives :** To enable the students to gain **knowledge** of the rules, regulations and officiating in Volleyball, Handball, Hockey and Kabaddi.

**UNIT - 1** **15hrs.**

**Introduction**

1. History and Development of the Games - Important Terminologies.
2. Association – State, National and International.
3. Important Tournaments and meets held at National and International levels.
4. Warm-up and Warm-down - its importance in Sports.

**UNIT – 2** **15hrs.**

**Volleyball**

1. Fundamental skills.
2. Court Measurements Marking - Post, Net, Ball.
3. Playing regulations and violations – Fouls. Various Lead-up games.
4. Rules and Interpretations – Duties of Referees and officiating signals in Volleyball.

**UNIT - 3** **15hrs.**

**Hand Ball**

1. Fundamental skills.
2. Field Measurements Marking –Goal Post, Net, Ball.
3. Playing regulations and violations – Fouls. Various Lead-up games in Hand ball.
4. Rules and Interpretations – Duties of Referees and officiating signals in Hand ball.

**UNIT - 4** **15hrs.**

**Hockey**

1. Fundamental skills and Strokes.
2. Field Measurements Marking – Goal Post, Net, Hockey Stick, Ball.
3. Playing regulations and violations – Fouls. Various Lead-up games in Hockey.
4. Rules and Interpretations – Duties of Referees and officiating signals in Hockey.

**UNIT - 5** **15hrs.**

**Kabaddi**

1. Fundamental skills-Riding, Catching the rider (offence and defense)
  2. Court measurements and markings
  3. Drills and lead up activities in Kabaddi.
  4. Rules and Interpretation and Duties of the officials, Officiating Signals.
1. Layout – Circle / Sector / Pit / Runway.

**REFERENCE BOOKS :**

1. Federation rules books of above mentioned games.
2. H.C.Buck, Rules of Games and Sports, Madras, Y.M.C.A. Publication, 1992.
3. Bonder J.B., How to be a successful Coach, New York, Prentice Hall, 1984.
4. R.L. Anand, Play Field Manual, Patiala, NIS Publication, 1990.
5. <http://www.bwfbadminton.org/page.aspx?id=14914>
6. [http://www.fivb.org/en/refereeing-rules/documents/fivb-volleyball\\_rules2013-en\\_210121214.pdf](http://www.fivb.org/en/refereeing-rules/documents/fivb-volleyball_rules2013-en_210121214.pdf)

## FUNDAMENTALS OF SPORTS TRAINING

Semester : V  
Code : 23UPHC10

CORE : X  
Credit : 5

**Learning Objectives** :To enable the students to gain **knowledge** of fundamental concepts of sports training. Gain **knowledge** about training schedule.

**UNIT - 1** **15hrs.**

### **Introduction**

1. Meaning, Definition – Sports Training.
2. Aim and Characteristics of Sports Training.
3. Need and importance of Sports Training.
4. Principles of Sports Training.

**UNIT – 2** **15hrs.**

### **Training Methods and Load :**

1. Classification of Training – Continuous, Fartlek, Interval, Circuit and Plyometric.
2. Types of training load –Internal and External.
3. Factors of training load - Intensity, Frequency and Density.
4. Over Load – Meaning, Causes and Symptoms of Overload.

**UNIT - 3** **20hrs.**

### **Development of Important Motor Components :**

1. Strength – Types of strength, Characteristics of strength, Means and methods to improve strength.
2. Endurance – Types of endurance, Characteristics of endurance, Means and methods to improve Endurance.
3. Speed – Types of speed, Characteristics of speed, Means and methods to improve speed.
4. Flexibility – Types of flexibility, Characteristics of flexibility, Basic methods of development of flexibility. Agility – Characteristics of agility, Methods of development of agility. Co-ordination – Methods to improve Co-ordination.

**UNIT - 4** **13hrs.**

### **Technical and Tactical Preparation :**

1. Definition – Skill, Technique, Tactics and Strategy.
2. Fundamental and methods for the development of technique in sports.
3. Technical Preparation – Aims, Stages of technical development.
4. Tactical Preparation – Aims of Tactics - Methods of tactical development.

**UNIT - 5** **12hrs.**

### **Training Plans and Periodisation:**

1. Planning - Long term, Short term plan-Macro-Meso-Micro, High attitude and off season.
2. Periodisation - Meaning, Concepts of periods, Single and Multiple.
3. Training Periods – Preparatory period, Competition period, Transitional period.
4. Preparation for competitions - Cyclic process of training.

## REFERENCE BOOKS :

1. Gatty. B., Perceptual and motor development in Infants and Children, Prentice Hall, 1979.
2. Matweyew. L.P. Fundamentals of Sports Training (Translation from Russian, Moscow, Mir Publishers), 1981.
3. Singh.H., Sports Training, General Theory and Methods, Patiala. N.I.S. 1984.
4. Widmore. J.H., Athletic Training and Physical Fitness, Sydney, Allyn and Badon, Inc., 1977.
5. Dich. F.W., Sports Training Principles, London Lepues., 1980.
6. Joyce, David, High Performance Training for Sports, Lewindon, Dan – 2014.
7. T.R. Baechle, Essential of Strength Training and Conditioning, Human Kinetics, 2008.
8. Hardy Singh, Science of Sports Training, ND: DAV Pub, 1993.

## EXERCISE PHYSIOLOGY

Semester : V  
Code :23UPHC11

Paper : XI  
Credit : 5

**Learning Objectives** :To enable the students to gain **knowledge** of effect of exercise on various system of human body. Obtain **knowledge** of sources of energy and nutrition.

### UNIT - 1

15hrs.

#### Exercise physiology

1. Definition, Meaning, Nature and scope of Exercise Physiology.

#### Effect of Exercise on Muscular system

2. Microscopic structure of voluntary muscle, Sliding filament theory.
3. Energy for muscular contraction – Types of muscular contraction – Isometric – Isotonic - Isokinetic.
4. Types of Muscle fibre – Influence of exercise on muscular system.

### UNIT – 2

15hrs.

#### Effect of Exercise on Circulatory system

1. Heart – Structural properties and circulation.
2. Cardiac output –Factors influencing Cardiac output.
3. Heart rate-Stroke volume factors influencing on heart rate and stroke volume.
4. Blood pressure and Blood flow– factors influencing blood pressure and blood flow - nervous regulation – chemical regulation.

### UNIT – 3

15hrs.

#### Effect of Exercise on Respiratory system

1. Respiratory muscles of inspiration and expiration.
2. Pulmonary ventilation or minute ventilation –lung volumes –lung capacity.
3. Tidal – residual – vital capacity.
4. Dead space – inspiratory capacity – functional residual capacity.

### UNIT –4

15hrs.

#### Factors affecting

1. Structure and function of Neuron-Reflex action – Reflex Arc.
2. Autonomous nervous system-Sympathetic and Para Sympathetic.
3. Neuromuscular junction- Synapse-Transmission of nervous impulse.
4. Effects of exercise on the nervous system.

### UNIT –5

15hrs.

#### Sources of Energy

1. Metabolism – Carbohydrate.
2. Protein Metabolism.
3. Fats Metabolism.
4. Anaerobic and Aerobic Metabolism - Energy metabolism during rest – exercise and recovery.

**REFERENCE BOOKS :**

1. Guyton, A.C. Functions of the Human Body, London W.B. Saunders Company Latest Edn.
2. Srivastara et al. Text Book of Practical Physiology, Calcutta Scientific Book Agency.
3. More House and Miller, Physiology of Exercise, St. Louis, C.V. Mosby Company Latest Edn.
4. Karporich and Sinning, Physiology of Muscular Activity, London W.B. Saunders Company, 1955.
5. Shaver. L., Essentials of Exercise Physiology.
6. Judy A. Driskell, "Sports Nutrition Fats and Proteins", CRC Press (2007).
7. Robert E. C. Wildman, Barry S. Miller, "Sports and Fitness Nutrition", Thomson (2004).
8. Ira Wolirsky and Judy A. Driskell, "Sports and Nutrition", 1996.

## PRACTICAL – 5 VOLLEYBALL AND KABADDI

Semester : V

Code : 23UPHC12

Paper : XII

Credit : 5

**Learning Objectives :** To enable the students to gain **knowledge** of Volleyball and Handball.

**UNIT - 1** **20hrs.**

### **VOLLEYBALL**

1. Specific drills and warm-up.
2. Player's stance – Parallel stance, Forward Backward stance.
3. Passing – Under hand pass, Upper hand pass.
4. Service – Under arm, Overhand Floating service, Side arm.

**UNIT – 2** **18hrs.**

1. Dives and rolls
2. Offensive skill – Smash, Defensive skill – Block (Single, Double, Triple).
3. Tactics of Offense and Defense.
4. Teaching progression for each technique – specific exercises lead up activities

**UNIT – 3** **20hrs.**

### **KABADDI**

1. Specific drills and warm-up.
2. Offensive Skills -Touching with hand, various kicks.
3. Defensive Skills - Chain formation, different catches.
4. Specific exercises lead up activities

**UNIT – 4** **17hrs.**

1. Scoring system.
2. Tie breaking.
3. Officiating signals.
4. Teaching progression for each technique.



## PRACTICAL – 6 HANDBALL

Semester : V  
Code : 23UPHE05A

DSE : V  
Credit : 3

**Learning Objectives** :To enable the students to gain **knowledge** of Volleyball and Handball.

**UNIT - 1** **15hrs.**

### Handball

1. Specific drills and warm-up.
2. Various passing.
3. Dribbling.
4. Catching and Faking.
5. Blocking.

**UNIT - 2** **15hrs.**

1. Shooting-Jump shot long, high.
2. Straight shot with blocking step.
3. Straight shot without blocking step.
4. Hip shot, Lob.

**UNIT – 3** **15hrs.**

### THROW IN

1. Throw in from a standing position.
2. Throw off from a standing position.
3. Penalty shot.
4. Pivot and Goal keeping.

**UNIT – 4** **15hrs.**

1. Drill and lead up games.
2. Scoring system-Tie breaking.
3. Officiating signals.
4. Teaching progression for each technique.

## CURRICULUM IN PHYSICAL EDUCATION

Semester : V  
Code : 23UPHE05B

DSE : V  
Credit : 4

**Learning Objectives : Learning Objectives :** To enable the students to gain knowledge of Designing the Curriculum in Physical Education.

- UNIT - 1** **15hrs.**
- Introduction**
1. Definition and Meaning of Curriculum
  2. Principles of Curriculum construction – Students centered, Community centered, Activity centered.
  3. Theories of Curriculum development, Curriculum Frame work.
  4. Approaches to Curriculum – Subject centered, Learners centered and Community centered.
- UNIT - 2** **15hrs.**
- Basic principles of Curriculum Development**
1. Major steps in Curriculum development – Formulation, Aims and Objectives.
  2. Selecting Curriculum content.
  3. Criteria for Curriculum content.
  4. Evaluation of Curriculum – Methods of Evaluation.
- UNIT - 3** **15hrs.**
- Sources of Curriculum**
1. Sources of Curriculum materials – Textbooks - Journals.
  2. Dictionaries, Encyclopedia, Magazines, Internet.
  3. Materials for Curriculum activities.
  4. Factors that affecting Curriculum.
- UNIT – 4** **15hrs.**
- Integration of Physical Education with other Branches**
1. Principles of Integration
  2. Integration of Physical Education with other Sport Sciences – Anatomy and Physiology, Sports Medicine, Physiotherapy, Anthropology.
  3. Integration of Physical Education with other Branches – Philosophy, Psychology, Sociology, History, Statistics, Physical Chemistry.
  4. Satisfaction and Integration of Curriculum content.
- UNIT – 5** **15hrs.**
- Curriculum Research**
1. Definition of Curriculum Research.
  2. Objectives of Curriculum Research.
  3. Importance of Curriculum Research.
  4. Curriculum Applied Research, Curriculum Experimental Research.

## REFERENCE BOOKS :

1. Agarwal J.C., Curriculum Reform in India – World Over views, Doaba World Education Series – 3, Doaba House, Delhi, 1990.
2. Arrora G.L., Reflections on Curriculum, NCERT, New Delhi, 1984.
3. Carl.E., Willgoose etal., Curriculum in Physical Education, London, Prentice Hall, 1982.
4. John.E, Nixon and Ann. E, Jewett, Physical Education Curriculum, The Ronald Press Company, 1964.
5. McKeman, James, Curriculum and Imagination process, Theory, Pedagogy and Action Research, U.K. Routledge, 2007.

## PRACTICAL – 7 HOCKEY

Semester : V  
Code : 23UPHE06A

Paper : XII  
Credit : 3

**Learning Objectives** :To enable the students to gain **knowledge** of Volleyball and Handball.

### **UNIT - 1** **15hrs.** **Hockey**

1. Specific drills and warm-up.
2. Player's stance.
3. Ball handling – Flicking, Scooping, Tackling and Dodging
4. Stopping.

### **UNIT - 2** **15hrs.**

1. Hitting – Straight foot hit
2. Reverse hit
3. Wrong foot hit
4. Wrist hit and Turn around hit

### **UNIT – 3** **15hrs.**

1. Passing techniques - Parallel and Triangle passing.
2. Through, Diagonal, Square, Cross and Reverse passing.
3. Dribbling – Forehand dribble and Indian dribble
4. Shooting

### **UNIT – 4** **15hrs.**

1. Scoring system.
2. Tie breaking.
3. Officiating signals.
4. Teaching progression for each technique.

## PHYSIOTHERAPY

Semester : V  
Code : 23UPHE06B

DSC : 6  
Credit : 3

**Learning Objectives** :To enable the students to **understand** and gain the **knowledge** of Physiotherapy.

- UNIT - 1** **12hrs.**  
**Introduction to Physiotherapy**
1. Meaning, Definition.
  2. Guiding principles of Physiotherapy.
  3. Importance of Physiotherapy.
  4. Introduction and demonstration of treatment – Electrotherapy – Infrared rays- Short wave diathermy- Ultrasonic rays.
- UNIT - 2** **12hrs.**  
**Hydrotherapy**
1. Meaning, Definition of Hydrotherapy.
  2. Importance of Hydrotherapy.
  3. Introduction and demonstration of treatment of Cryotherapy – Thermotherapy.
  4. Contrast bath – Whirlpool bath – Steam bath – Sauna bath. Hot water fermentation.
- UNIT – 3** **12hrs.**  
**Massage**
1. Massage - Meaning, Definition.
  2. Classification of the manipulations used in massage. Stroking manipulation – Stroking, Kneading, Effleurage, Friction, Hacking, Clapping, Beating and Pounding.
  3. Physiological effects of massage.
  4. Contraindication and Indication of massage.
- UNIT - 4** **12hrs.**  
**Therapeutic Exercises**
1. Definition and scope.
  2. Principles of therapeutic exercise.
  3. Classification, Effects and uses of therapeutic exercises.
  4. Passive movements – Relaxed, Forced and Passive stretching, Active movements – Concentric, Eccentric and Static.
- UNIT – 5** **12hrs.**  
**Application of Therapeutic Exercises**
1. Free mobility exercise –Shoulder, Elbow, Wrist and Fingers.
  2. Hip, Knee, Ankle and Foot joints.
  3. Trunk
  4. Head and Neck

## **REFERENCE BOOKS :**

1. Christine. M.D., Physiology of sports and exercise, U.S.A. Human Kinetics, 1999.
2. Conley. M, Bioenergetics of exercise training. In T. R. Baechle, and R.W.Earle, (Eds.), 2000.
3. Khanna. G.L., Exercise Physiology and Sports Medicine, Delhi, Lucky Enterprises, 1990.
4. Mathew.D.K. and Fox.E.L., Physiological basis of physical education and athletics, Philadelphia, W. B. Saunders, Co., 1971.
5. Pandey. P.K., Outline of sports medicine, New Delhi, J.P. Brothers Publishing, 1987.
6. Williams. J.G.P., Sports medicine, London, Edward Arnold Ltd., 1962.

## RESEARCH METHODOLOGY

Semester : V  
Code : 23UPHS07

SEC : VII  
Credit : 2

**Learning Objectives :** To enable the students to Gain **knowledge** of research methodology. **Understand** about methods in research, Sampling, Proposal and Report.

**UNIT - 1** **5hrs.**

### **Introduction**

1. Meaning and Definition of Research.
2. Need and Scope of research in Physical education.
3. Classification of Research.
4. Criteria for selection of problem.

**UNIT - 2** **7hrs.**

### **Methods of Research**

1. Descriptive methods of research; Survey study, Case study.
2. Introduction of historical research.
3. Sources of historical research-primary and secondary data,
4. Historical Criticism internal and external criticism.

**UNIT - 3** **5hrs.**

### **Experimental Research**

1. Meaning, Nature and importance of Experimental research.
2. Experimental design; single group, Reverse group.
3. Repeated measure design, static group comparison design.
4. Equated design, Factorial design.

**UNIT - 4** **7hrs.**

### **Sampling**

1. Meaning and definition of Sample and Population.
2. Types of Sampling-Probability and Non Probability methods.
3. Probability methods; Systematic, Cluster, Stratified, Area, Multistage.
4. Non Probability methods; Convenient, judgment, quota sampling.

**UNIT – 5** **6hrs.**

### **Research Proposal and Report**

1. Method of writing research proposal.
2. Method of writing abstract.
3. Method of writing research report.
4. Foot Note and Bibliography writing.

## REFERENCE BOOKS:

1. Best J.W. Research in Education, New Jersey, Prentice Hall, Inc. 1971.
2. Clarke David. H and Clarke H. Harrison, Research processes in Physical Education, New Jersey, Prentice Hall Inc. 1984.
3. Craig Williams and Chris Wragg, Data Analysis and Research for Sport and Exercise Science, London, Routledge Press, 2006.
4. Jerry R TRhomas and Jack K Nelson, Research Methods in Physical Activities, Illonosis, Human Kinetics, 2000.
5. Kamlesh M.L., Research Methodology in Physical Education and Sports, New Delhi, 1999.
6. Moses A.K., Thesis writing Format, Chennai, Poompugar Pathippagam, 1995.
7. Rothstain A., Research Design and Statistics for Physical Education, Eaglewood Cliffs, Prentice Hall, Inc., 1985.
8. Subramanian R., Thirumalai Kumar S. and Arumugam C., Research Methods in Health, Physical Education and Sports, New Delhi, Friends Publication, 2010.
9. Moorthy A.M., Research Processes in Physical Education, Friends Publication, New Delhi, 2010.



**RULES, REGULATIONS AND OFFICIATING IN SPORTS AND GAMES– IV  
(FOOTBALL, BASKETBALL, BADMINTON AND SWIMMING)**

Semester : VI  
Code : 23UPHC13

CORE : XIII  
Credit : 4

**Learning Objectives: Learning Objectives:** To enable the students to gain **knowledge** of the rules, regulations and officiating in Football, Basketball, Badminton and Swimming.

**UNIT - 1** **15hrs.**

**Introduction**

1. History and Development of the Games - Important Terminologies.
2. Association – State, National and International.
3. Important Tournaments and meets held at National and International levels.
4. Warm-up and Warm-down - its importance in Sports.

**UNIT -2** **20hrs.**

**Foot Ball**

1. Field Measurements Marking – Goal Post, Corner flag, Net, Ball.
2. Playing regulations and violations – Fouls. Various Lead-up games in Football.
3. Rules and Interpretations – Duties of Referees and officiating signals in Football.
4. Fundamental skills and Teaching procedures.

**UNIT - 3** **20hrs.**

**Basketball**

1. Fundamental skills.
2. Court Measurements Marking - Post, Backboard, Ring, Net, Ball.
3. Playing regulations and violations – Fouls. Various Lead-up games.
4. Rules and Interpretations – Duties of Referees and officiating signals.

**UNIT - 4** **15hrs.**

**Badminton**

1. Fundamental skills.
2. Court Measurements Marking – Goal Post, Net, Cock, Racquet.
3. Playing regulations and violations – Fouls. Various Lead-up games.
4. Rules and Interpretations – Duties of Referees and officiating signals.

**UNIT - 5** **20hrs.**

**Swimming**

1. Fundamental skills and Drills for the various strokes-Breathing, Kicking and Arm action.
2. Dimensions and measurements of Swimming pool of various types.
3. Various styles and strokes.
4. Rules and Interpretation and Duties of the officials, Officiating Signals.

## **E-RESOURCES:**

1. <https://www.usms.org/-/media/usms/pdfs/volunteer%20central/rule%20book/part%201.pdf>
2. [https://resources.fina.org/fina/document/2023/01/04/65961a45-bde5-4217-b666-ca1f5dc2d1f0/1\\_Swimming-Technical-Rules.04.01.2023.pdf](https://resources.fina.org/fina/document/2023/01/04/65961a45-bde5-4217-b666-ca1f5dc2d1f0/1_Swimming-Technical-Rules.04.01.2023.pdf)
3. <https://www.britannica.com/biography/Michael-Phelps>
4. <https://en.wikipedia.org/wiki/Swimming>
5. <https://www.betterhealth.vic.gov.au/health/healthyliving/swimming-health-benefits>

## TEST, MEASUREMENT AND EVALUATION

Semester : VI  
Code : 23UPHC14

CORE : XIV  
Credit : 5

**Learning Objectives : Learning Objectives :** To enable the students to gain knowledge of administration and of various types of physical fitness tests and specific sports tests.

### UNIT - 1 20hrs.

#### Introduction

1. Definition, Meaning, Need and importance of test measurement.
2. Criteria of good test (Scientific authenticity - reliability, objectivity, validity, standard and availability of Norms).
3. Administrative feasibility.
4. Educational applications.

### UNIT - 2 20hrs.

#### Physical Fitness Test

1. Physical fitness – Definition and Components.
2. Types of Physical fitness - Health related.
3. Types of Physical fitness - Skill related.
4. Test for physical fitness –
  - New York State physical fitness test,
  - Cardiovascular test- Harward step test,
  - Motor fitness test- AAHPER Test,
  - Youth fitness test – JCR Test.

### UNIT - 3 20hrs.

#### Specific sport skill test

1. Basket Ball – Knox basketball test, Johnson basketball test. Badminton – French short serve test, Badminton smash test.
2. Football – Mac Donald Soccer Test, Mor-Christian general Soccer Ability Test.
3. Hockey – Champeman Ball control test, Henry Friedal Field Hockey Test.
4. Tennis – Broier Miller Forehand and Backhand drive test, Hewitt's Service placement test. Volleyball – Russell – Lange Volleyball test, Brady volleyball test.

### UNIT – 4 15hrs.

#### Test Administration

1. Classification of Test – Standardised and Teacher made test.
2. Objective and Subjective test.
3. Administration of Test – Advance preparation.
4. Duties during and after testing.

### UNIT – 5 15hrs.

#### Evaluation

1. Types of Evaluation – Formative and Summative.
2. Principles of Evaluation.
3. Basic methods of evaluation – Observation, Interview, Test and Measurements.

4. Self-evaluation, Co-operative evaluation by pupils and teachers.

#### **REFERENCE BOOKS :**

1. Barrow, Harold. M and Rose Mary. M. Gee, A practical Measurement in Physical Education, Philadelphia, Lea and Gabier.
2. Camphell. R. and Tucker N.M., An Introduction to Test and Measurement in Physical Education, London, G. Bell and Sons Ltd.,
3. Clark. H. Harrison, Application of Measurement to Health and Physical Education, Eaglewood Cliffs. N.J., Prentice Hall Inc.
4. Hunsiker Paul and Monotoye, Henry. J., Applied Test and Measurement in Physical Education, New York., Prentice Hall Inc.
5. Clark H. Harrison and Clarke. H. David., Research Process in Physical Education, Eaglewood, New Jersey, Prentice Hall, Inc., 1984.
6. Wilks. S.S., Elementary Statistical Analysis, Calcutta, Oxford and IBH Publishing Company. 1964.
7. Prof. A. Yobu., Test, Measurement and Evaluation in Physical Education, Friends Publication, 2010.
8. A. Mahaboojan, Test, Measurement and Evaluation in Physical Education, Kalpaz Pub., 2010.
9. Wills, S.S., Elementary Statistical Analysis, Calcutta, Oxford and IBH, Publishing and Co., 1964.
10. B.L.Agarwal, Basic Statistics, 2009
11. Yogesh Kumar Singh, Fundamentals of Research Methodology and Statistics, New age International Publisher, 2006.

## **PRACTICAL – 8 TEACHING PRACTICE AND INTERNSHIP TRAINING PROGRAMME**

**Semester : VI**

**Paper : XV**

**Code : 23UPHC15**

**Credit : 4**

**Learning Objectives :** To enable the students to prepare and teach Ten general lesson plans and Ten particular lesson plan.

### **TEACHING PRACTICE**

- ❖ Ten general lesson plans and Ten particular lesson plan should be prepared by each student.

### **INTERNSHIP TRAINING PROGRAMME**

- ❖ The students are sent to various schools in and around Chennai for 3 weeks intensive Teaching practice training.
- ❖ The student will handle the class allotted.
- ❖ The Physical Education teacher / Director will be the supervisor in monitoring and guiding the students.

## PRACTICAL – 9 FOOT BALL

Semester : VI  
Code : 23UPHE07A

DSE : VII  
Credit : 3

**Learning Objectives :** To enable the students to gain **knowledge** of Basketball and Football.

**UNIT - 1** **20hrs.**

### Football

1. Kicking – Inside of the foot, Instep of the foot.
2. Trapping and rolling the ball with the inside sole and instep of the foot.
3. Dribbling with instep of the foot.
4. Combination of inner instep and outer instep.

**UNIT - 2** **20hrs.**

1. Heading in standing position.
2. Heading while running.
3. Heading while jumping.
4. Diving Heading.

**UNIT – 3** **20hrs.**

1. Throw in.
2. Tackling – Front block, From side(Sliding tackle)
3. Attacking Techniques.
4. Goal Shooting and Goalkeeping Techniques.

**UNIT – 4** **15hrs.**

1. Scoring system.
2. Tie breaking.
3. Officiating signals.
4. Teaching progression for each technique.

## BIOMECHANICS

Semester : VI  
Code : 23UPHE07B

DSE : VII  
Credit : 3

**Learning Objectives:** To enable the students to gain **knowledge** of Biomechanics and Kinesiology. Obtain **knowledge** of Friction, Forces and Equilibrium, joints and Application of kinesiology in daily life and physical activities.

### UNIT - 1 15hrs.

#### Introduction

1. Meaning - Definition
2. Aims, Objectives of biomechanics in physical education.
3. Need and importance of biomechanics in sports.
4. Principles of biomechanics.

### UNIT - 2 15hrs.

#### Motion, Lever

1. Definition and Meaning of Motion
2. Newton's Laws and Types of motion.
3. Linear Kinematics
4. Angular Kinematics – speed, acceleration, velocity.

### UNIT – 3 15hrs.

#### Lever and Friction

1. Lever – Definition and Meaning
2. Different types of Lever.
3. Definition and meaning of Friction
4. Types of Friction– Static, sliding, rolling, Application to sports activities.

### UNIT - 4 15hrs.

#### Force

1. Definition, Meaning of Force
2. Types of force – centripetal and centrifugal force.
3. Factors affecting force
4. Role of force in sports.

### UNIT - 5 15hrs.

#### Equilibrium

1. Definition, Meaning of Equilibrium
2. Types of Equilibrium - stable, unstable and neutral.
3. Factors affecting equilibrium
4. Role of equilibrium in sports

## **REFERENCE BOOKS :**

1. Sundarajan, Biomechanics of Sports and Games, Roshan Publications, Madras-1
2. Roger Bartlett. Introduction of sports Biomechanics, Milton Park, 2007.
3. James Watkins, An Introduction to Biomechanics of sports and exercise, Churchill Livingstone, Elsevier, 2007.
4. Uppal A.K. Biomechanics in Physical Education and Exercise Science, Friends Publications, 2012.
5. Anderson M C Elusg, Human Kinetics and Analysis of Body Movements, William Heinnana, London.
6. Broor, Efficiency of Human Movements, Sanunder and Co.



## PRACTICAL – 10 BASKETBALL AND BADMINTON

Semester : VI

DSE : VIII

Code : 23UPHE08A

Credit : 5

**Learning Objectives** :To enable the students to gain **knowledge** of Volleyball and Handball.

**UNIT - 1** **20hrs.**

### **Basket Ball**

1. Specific drills and warm-up.
2. Dribbling.
3. Passing.
4. Shooting.

**UNIT - 2** **25hrs.**

1. Rebound - Offense and Defense.
2. Individual defense- Guarding the man with and without ball.
3. Pivoting
4. Fouls and Penalties

**UNIT - 3** **15hrs.**

### **Badminton**

1. Specific drills and warm-up-Grip, Stance and foot work.
2. Service – Short serve and High serve.
3. Strokes – Forehand and Backhand - Overhead and Under Arm and Smash.
4. Drive shot and Drop shot.

**UNIT – 4** **15hrs.**

1. Scoring system.
2. Tie breaking.
3. Officiating signals.
4. Teaching progression for each technique.

## KINESIOLOGY

Semester : VI  
Code : 23UPHE08B

DSE : VIII  
Credit : 3

**Learning Objectives** :To enable the students to gain **knowledge** of Kinesiology. Obtain **knowledge** of Friction, Forces and Equilibrium, joints and Application of kinesiology in daily life and physical activities.

**UNIT - 1** **15hrs.**

### **Introduction to Kinesiology**

1. Meaning and Definition of Kinesiology
2. Brief history and development.
3. Nature and scope of Kinesiology.
4. Role of Kinesiology in physical education.

**UNIT – 2** **15hrs.**

### **Muscle Action**

1. Functional and Structural classification of muscles.
2. Origin, insertion and action of muscles – Pectoralis major and minor, Deltoid biceps, Triceps(Anterior and Posterior)
3. Trapezius, Serratus, Sartorius
4. Rectus Femoris, Abdominis, Quadriceps, Hamstring, Gastrocnemius

**UNIT – 3** **15hrs.**

### **Contractions of muscles**

1. Meaning of Contraction
2. Types of contractions – concentric
3. Eccentric
4. Static.

**UNIT – 4** **15hrs.**

1. Muscle tone – Reciprocal innervations
2. Reciprocal inhibition
3. Action of two joint muscles.
4. Angle of pull and its significance

**UNIT – 5** **15hrs.**

1. Line of gravity – axis and planes of motion centre of gravity.
2. Terminologies of fundamental muscle movements.
3. Application of Kinesiology to motor skills of daily activities.
4. Application of Kinesiology to motor skills in various sports activities.

## **REFERENCE BOOKS :**

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2. Laura K.Smith, Elizabeth Lawrence Weiss, L.Don Lehmkuhi, Brunnstrom's Clinical Kinesiology, Jaypee Brothers Medical Publishers(P) Ltd., New Delhi, 1998.
3. K.C.Shekar, Kinesiology, Khel Sahitya Kendra, New Delhi, 2005.
4. David I. Kelly, Kinesiology and fundamentals of motion description, Prentice Hall.
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