



# TEERTHANKER MAHAVEER UNIVERSITY

(Established under Govt. of U. P. Act No. 30, 2008)

Delhi Road, Moradabad (U.P.)

## Ph.D. PROGRAMME

### SYLLABUS FOR DISCIPLINE-SPECIFIC COURSE

#### PHYSICAL EDUCATION

Course Code: PDS240102	ESSENTIALS OF PHYSICAL EDUCATION	L	T	P	C
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<b>Objective:</b>	1. To recapitulate the concepts of Physical Education 2. To regain a basic understanding of the subject. 3. To apply different concepts of physical education in a multidimensional approach.				
<b>Course Outcomes:</b>					
<b>CO 1:</b>	Remembering the concepts of anatomy & Physiology, yogic science, biomechanics & kinesiology, sports training, health education & Sports Nutrition.				
<b>CO 2:</b>	Understanding the concepts of anatomy & Physiology, yogic science, biomechanics & kinesiology, sports training, health education & Sports Nutrition.				
<b>CO 3:</b>	Applying the concepts of anatomy & Physiology, yogic science, biomechanics & kinesiology, sports training, health education & Sports Nutrition.				
<b>CO 4:</b>	Creating the concepts of anatomy & Physiology, yogic science, biomechanics & kinesiology, sports training, health education & Sports Nutrition.				
<b>CO 5:</b>	Evaluating the concepts of anatomy & Physiology, yogic science, biomechanics & kinesiology, sports training, health education & Sports Nutrition.				
<b>Course Content:</b>					
<b>Unit 1: ANATOMY &amp; PHYSIOLOGY</b>	Meaning & Definition of Exercise Physiology and its Role in the Field of Physical Education and Sport, The arrangement of the skeleton – Function of the skeleton – Ribs and Vertebral column and the extremities – joints of the body and their types, Blood Supply to the Heart, Heart Rate, Cardiac Cycle, Stroke Volume, Cardiac Output, Anaerobic and Aerobic Metabolism, Effect of Exercises and Training on the Muscular System, Circulatory System & Respiratory System.				
<b>Unit 2: YOGIC SCIENCES</b>	Meaning and Definition of Yoga, Astanga Yoga: Bahiranga Yoga & Antarang Yoga, Asanas- Types, Techniques, and Benefits, Pranayama- Types, Methods, and Benefits, Meaning, Techniques, and Benefits of Meditation.				
<b>Unit 3: SPORTS BIOMECHANICS AND KINESIOLOGY</b>	Meaning and Definition of Mechanics, Biomechanics & Kinesiology, Meaning, Definition, and Types: Axis and Planes, Centre of Gravity and Line of Gravity & its use in sports,				

	Newton's Law of Motion- Law of Inertia, Law of Acceleration, and Law of Action-Reaction and it's used in sports, Leverage- Definition and Classes of Lever and its uses in sports.
<b>Unit 4: SCIENTIFIC PRINCIPLES OF SPORTS TRAINING</b>	Principles of Sports Training, Training Load- Definition, Component of Training Load, Periodisation- Meaning and Aim of Periodisation, Phases of Periodization, Training Plan- Micro Cycle, Meso-Cycle, Macro Cycle, Causes of Overload, Symptoms of Overload, and Methods of Tackling Overload.
<b>Unit 5: HEALTH EDUCATION AND SPORTS NUTRITION</b>	Meaning & definition of Health & Health Education, Concept of Communicable and Non-Communicable Diseases, Types of Nutrients, Role of nutrition in sports, Concept of BMI (Body mass index).
<b>Textbooks:</b>	<ol style="list-style-type: none"> <li>1. William, D. McArdle. Exercise Physiology, Energy, Nutrition, and Human Performance. Philadelphia: Lippincott Williams and Wilkins Company</li> <li>2. Koulalyananda Swami &amp; S.L. Vinekar, Yogic Therapy – Basic Principles and Methods. New Delhi: Govt. of India, Central Health Education and Bureau.</li> <li>3. Nutrition Encyclopedia, edited by Delores C.S. James, The Gale Group, Inc. Boyd-Eaton S., et al</li> <li>4. Uppal A. K., Science of Sports Training, Friends Publication, New Delhi.</li> <li>5. Uppal A.K. Lawrence Mamta MP Kinesiology (Friends Publication India)</li> </ol>
<b>Reference Books:</b>	<ol style="list-style-type: none"> <li>1. Swami Satyananda Saraswathi, Kundalini and Tantra, Bihar: Yoga Publications Trust</li> <li>2. Sandhya Tiwari. Exercise Physiology. Sports Publishers</li> <li>3. Terras S. Stress, How Your Diet Can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorns</li> <li>4. Bunn, J.N. Scientific Principles of Coaching, New Jersey Engle Wood Cliffs, Prentice Hall Inc.</li> <li>5. Hoffman S.J. Introduction to Kinesiology (Human Kinesiology publication.</li> </ol>