

**MOTHER TERESA WOMEN'S UNIVERSITY KODAIKANAL - 624101**

**DOCTOR OF PHILOSOPHY (Ph.D.)**

**DEPARTMENT OF PHYSICAL EDUCATION**

**COURSE WORK EXAMINATION SYLLABUS**

<b>SL NO</b>	<b>NAME OF THE PAPER</b>
<b>1</b>	<b>RESEARCH METHODOLOGY</b>
<b>II</b>	<b>PSYCHOLOGY AND PHYSIOLOGY OF PHYSICAL EDUCATION ( COMMON PAPER }</b>
<b>III</b>	<b>(AREA PAPER}</b>
<b>1</b>	<b>SPORTS AND GAMES OF PHYSICAL EDUCATION</b>
<b>2</b>	<b>HEALTH EDUCATION AND SPORTS NUTRITION</b>
<b>3</b>	<b>SPORTS MEDICINE AND INJURIES</b>
<b>4</b>	<b>TEST AND MEASUREMENT IN PHYSICAL EDUCATION</b>
<b>5</b>	<b>YOGA PRACTICE AND PHYSICAL FITNESS</b>
<b>6.</b>	<b>SPORTS BIOMECHANISAM IN PHYSICAL EDUCATION</b>
<b>7.</b>	<b>THEORY AND METHODS OFSPORTS TRAINING</b>

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**PAPER - III**

**AREA PAPER 1. Sports And Games Of Physical Education**

**Objectives:**

- 1. To study about the importance of physical education**
- 2. To know about research process in physical education**
- 3. To study about basics of sports psychology and physiology**

**UNIT-1**

**Introduction** -Physical education meaning – definition – benefits of physical education – principles of physical education – need and importance of physical education – Rules and Regulation of Physical in sports and game.

**UNIT – II**

**Anatomy and Physiology** -Anatomy meaning – define anatomy and Physiology – classification of joints – organs of the body Motion : linear motion, angular motion, curve linear motion circular motion,Stroke Volume – Cardiac Output – Heart Rate – Factors Affecting Heart Rate – Cardiac Hypertrophy – Effect of exercises and training on the Cardio vascular system.

**UNIT – III**

**Research methodology**-Meaning – Need, Nature and scope of Research in Physical Education - Characteristics of a good research – Fundamental, applied and action research – Developing research proposal (synopsis) – Characteristics of a good research report – General format of a research report and Ethic in physical Education

**UNIT -IV**

**Sports Training**-Meaning – Characteristics and principles of sports training – training cycles-periodisation and its types **Sports psychology**: definition – need and importance of sports psychology – psychological factor affecting sports performance – stress, anxiety, tension, and aggression Ethic in Physical Education.

**UNIT -V**

**Test and Measurement**-Meaning of test – define test – criteria of test and evaluation – health related Physical fitness test ( cardio respiratory endurance, muscular endurance, muscular strength, body comparison, flexibility) Skill test : skill test for volley ball – Russell – lung volleyball test

**UNIT – VI**

**Plagiarism** – Definition – History of Plagiarism – Key to avoid Plagiarism – Different forms of Plagiarism – International – Unintentional – Non – Attribution – accidental – Common Plagiarism Problems – Six ways to avoid plagiarism in Research Report – Paraphrase – cite – Quoting – Citing Quotes – Citing one's own material – Referencing – Plagiarism checker services – Software - Write check – VAILL Tutor Tool – Plagiarism Test - Pen and Paper plagiarism Knowledge Test –etc, UGC Public notice dated 01.09.2017

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5. P.Narang – Hand book of sports injuries, New Delhi  
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### **PAPER - III**

#### **AREA PAPER      2. Health Education And Sports Nutrition**

#### **Objectives:**

- 1. To understand the importance of personal hygiene**
- 2. To promote the knowledge of environment sanitation**
- 3. To know about nutrition and weight management in sports**

#### **UNIT - I**

**Health Education Concept:** Dimensions- Spectrum and Determinants of Health -Definition of Health- Health Education- Health Instruction- Health Supervision Aim- objective - Principles of Health Education -Health Service and guidance instruction in personal hygiene

#### **UNIT – II**

**Environmental Sanitation:** Explosive- Population- Personal and Environmental Hygiene for schools -Objective of School health Service- Role of health education in schools -Health Services - Care of skin, Nails, Eye health service, Nutritional service, , Healthful school environment- first- aid

#### **UNIT- III**

**Hygiene and Health:** Meaning of Hygiene- Type of Hygiene- Dental Hygiene,-Effect of Alcohol on Health-Effect of Tobacco on Health- Life Style Management-Management of Hypertension- Management of Obesity- Management of Stress

#### **UNIT– IV**

**Introduction to Sports Nutrition:** Meaning and Definition of Sports Nutrition- Role of nutrition in sports- Basic Nutrition guidelines- Nutrients: Ingestion to energy metabolism (Carbohydrate, Protein and Fat), Role of carbohydrates-Fat and protein during exercise- Vitamins- minerals and water.

#### **UNIT V**

**Nutrition and Weight Management:** Concept of BMI (Body mass index)- Obesity and its hazard- Dieting versus exercise for weight control Maintaining a Healthy Lifestyle- Weight management program for sporty child- Role diet and exercise in weight management- Design diet plan and exercise schedule for weight gain and loss.

#### **REFERENCES:**

1. Bucher, Charles A. "Administration of Health and Physical Education Programme".
2. 2. Delbert, Oberteuffer, et. al. "The School Health Education". Ghosh, B.N. "Treaties of Hygiene and Public Health". Hanlon,
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4. 3. Moss and et. At. "Health Education" (National Education Association of U.T.A.) Nemir A. "The School Health Education" (Haber and Brothers, New York).
5. Nutrition Encyclopaedia, edited by Delores C.S. James, the Gale Group, Inc.

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**PAPER - III**

**AREA PAPER      3. Sports Medicine And Injuries**

**Objectives:**

- 1. To know about injuries during sports activities**
- 2. To know about the treatment and preventing injuries**
- 3. To aid strengthening exercises**

**UNIT I**

**Introduction:** Meaning- Definition and importance of Sports Medicine- Definition and Principles of therapeutic exercises- Coordination exercise- Balance training exercise- Strengthening exercise- Mobilization exercise-and Gym ball exercise

**UNIT II**

**Basic Rehabilitation:** Strapping/Tapping- Definition- Principles- Precautions Contraindications.- Proprioceptive neuromuscular facilitation- Definition hold-relax- repeated contractions- Show reversal technique exercises- Isotonic- Isokinetic-isometric and stretching.

**UNIT III**

**Spine Injuries and Exercise:** Head- Neck - Spine injuries- Causes, Presentational of Spinal anomalies, Flexion, Compression, Hyperextension, Rotation injuries. Spinal range of motion. Free hand exercises- stretching and strengthening exercise for head neck spine- Supporting and aiding techniques and equipment for Head- Neck and Spine injuries.

**UNIT IV**

**Upper Extremity Injuries and Exercise:** Upper Limb and Thorax Injuries: Shoulder- Sprain- Strain- Dislocation- and Strapping. Elbow: Sprain- Strain- Strapping- Wrist and Fingers: Sprain Strain- Strapping- Thorax- Rib fracture- Breathing exercises- Relaxation techniques- Free hand exercise- Stretching and strengthening exercise for shoulder- Elbow- Wrist and Hand.

**UNIT V**

**Lower Extremity Injuries:** Exercise Lower Limb and Abdomen Injuries- Hip: Adductor strain- Dislocation- Strapping- Knee: Sprain- Strain- Strapping- Ankle: Sprain- Strain- Strapping. Abdomen: Abdominal wall- Contusion- Abdominal muscle strain- Free exercises – Stretching and strengthening exercise for Hip- knee- ankle and Foot.

**REFERENCES:**

1. Christopher M. Norris. (1993). Sports Injuries Diagnosis and Management for Physiotherapists. East Kilbride: Thomson Litho Ltd.
2. James, A. Gould & George J. Davies. (1985). Physical Physical Therapy. Toronto: C.V. Mosby Company.
3. Morris B. Million (1984) Sports Injuries and Athletic Problem. New Delhi: Surjeet Publication.
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5. The Encyclopedia of Sports Medicine. (1998). The Olympic Book of Sports Medicine, Australia

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**PAPER - III**

**AREA PAPER      4. Test And Measurement In Physical Education**

**Objectives:**

- 1. To study the importance of using testing and measurement in physical education**
- 2. To know various testing methods for physical fitness**
- 3. To know about various measurement techniques**

**UNIT I**

**Introduction:** Meaning and Definition of Test, Measurement and Evaluation. Need and Importance of Measurement and Evaluation. Criteria for Test Selection – Scientific Authenticity. Meaning, Definition and establishing Validity, Reliability, Objectivity and Norms

**UNIT II**

**Motor Fitness Tests:** Meaning and Definition of Motor Fitness. Test for Motor Fitness; Indiana Motor Fitness Test - Oregon Motor Fitness Test - JCR test. Motor Ability; Barrow Motor Ability Test – Newton Motor Ability Test – Muscular Fitness – Kraus Weber Minimum Muscular Fitness Test.

**UNIT III Physical Fitness Test:** AAHPERD Health Related Fitness Battery (revised in 1984), ACSM Health Related Physical Fitness Test, Rogers' physical fitness Index. Cardio vascular test; Harvard step test, and 12 minutes run / walk test,

**UNIT IV**

**The Bruce Treadmill Test:** Protocol, 1.5 Mile Run test for college females. , Anthropometric Measurements: Method of Measuring Height: Standing Height, Sitting Height. Method of measuring Circumference: Arm, Waist, Hip, Thigh. Method of Measuring Skin folds: Triceps, Sub scapular, and Suprailiac.

**UNIT V**

**Skill Tests:** Specific Sports Skill Test: Badminton: Miller Wall Volley Test . Basketball: Johnson basketball Test, Harrison Basketball Ability Test. Hockey: Friendel Field Hockey Test, Harban's Hockey Test. Volleyball: Russel Lange Volleyball Test, Brady Volleyball test. Football: Johnson Soccer Test, Mc-Donald Volley Soccer Test. Tennis: Dyer Tennis Testhand Kabaddi skill test

**REFERENCES :**

1. Authors Guide (2013) ACSM's Health Related Physical Fitness Assessment Manual, USA: ACSM Publications
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7. Krishnamurthy (2007) Evaluation in Physical Education and Sports, New Delhi; Ajay Verma Publication
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**PAPER - III**

**AREA PAPER      5. Yoga Practice And Physical Fitness**

**Objectives:**

1. To study about importance of raja yoga concept
2. To study about different yogic practices like suryanamaskara, asanas, pranayama, mudras, and bandhas
3. To know about physical fitness and yoga practices

**UNIT I**

**Yogasana:** Meaning - Raja Yoga and Eight Iimbs of Yoga – Methods and benefits of asanas – **Types of Yogasana** Sitting Posture – Padmasana, Mathyasana, Vajrasana, Paschimotanasana, YogamuthraParvathasana-Standing Posturae: Trikonasana, A Chakrasana, Padahastasana, Tadasana, ArthakattiChakrasana Eka Pada Asana -Lying Posture : Shalabhasana, Dhanurasana, Bhujangasana, Halasana, Navukasana and Sarvangasana

**UNIT II**

**Suryanamaskar:** Surya Namaskar – Meaning, Twelve stages of Surya namaskar,-Benefits of Surya namaskar,- **Principles of Suriyanamaskara** -Preventative and Curative Effects of Suryanamasker -Mudra –Definition –Meaning –Types of Mudra Panda- Meaning –Types of Panda

**UNIT III**

**Pranayama:** Yoga Asanas prescribed by Maharshi „Patanjali“, Meaning of Pranayama - types of Pranayama Techniques - benefits of NadiSuddhi - BelliyBrethingNadi , Bhastika , Pranayams, Anulom- vilom, Kapalbhathi, Ujji , Seethali and SeethkariPranyama

**UNIT IV**

**Aerobic Exercises:** Meaning of exercise define exercise-Meaning of Aerobic exercise – meaning Anaerobic exercise- Benefits of Aerobic exercise – types of aerobic exercise

**UNIT V**

**Physical Fitness:** : Meaning -Definition -Components of Physical Fitness-Strength, Endurance, Flexibility, Explosive power -Measuring equipment of physical fitness components

**REFERENCE**

1. Aggarwal, Y.P.(1998), The Science of Educational Research, A Source book, Nirmal, Kurukshetra
2. Uppal, A.K. & Gautam, G.P.(2006). Physical Education and Health. New Delhi: Friends Publication
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**PAPER - III**

**AREA PAPER          6. Theory And Methods Of Sports Training**

**Objectives:**

- 1. To provide knowledge and concept of sports training**
- 2. To provide the role of sport sciences to achieve the research excellence**
- 3. To understand and prepare training schedule for research activities**

**UNIT I**

**Introduction of Sports Training Introduction:** Definition and aims of sports training: Characteristics of sports training, training means, Physical exercises, classification of physical exercises, Physical – technical – tactical – psychological preparations

**UNIT II**

**Sports Performance and Skill Teaching Learning Process Sports performance:** Definition of Sports performance, Performance capacity and training structure, model of sports performance. Skill teaching and learning process: definition of techniques, skill and style, types of skills, Teaching of motor skills, skill learning stages, methods of teaching skills, Methods of corrections, feedback, importance and types of feedback.

**UNIT III**

**Planning, Training load and Recovery Planning:** Definition, importance, types of plan, principles of planning, planning of competitions, training sessions, one day plan, micro cycle and meso cycle. Training load: definition and types of training load, factors of load, classification of training load, load and adaptation, adaptation models, judgement of load, over training, causes and remedy of over training, and Recovery period.

**UNIT IV**

**Periodisation and Principle of Sports Training Periodisation:** Definition, importance, macro cycles and annual plan, Periods, types, aim and contents of different periods, steps in formulation of annual plan. Principle of sports training: Principle of over load, progression, specificity, reversibility, individualization, variation, diminishing return, regulation and its application in training

**UNIT V**

**Motor Abilities, Control and Regulation of Training Process:** Motor Abilities: Strength, Speed, Endurance, Flexibility - Definition, types and factors determining Motor abilities, Programme designing and methods for the development of Motor abilities. Effect of climate changes and high altitude on performance – Control and regulation of training process. Importance, types of control and different motor test for monitoring of training process

**References:**

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**PAPER - III**

**AREA PAPER**

**7. Sports Biomechanism In Physical Education**

**Objectives:**

- 1. To gain a better understanding of the cause-effect mechanisms of sports motions**
- 2. To explain the concept of mechanical laws involved in human motion.**
- 3. Apply and analyze the factors of mechanical laws involved in human movement**

**UNIT I**

**Introduction of Sports Biomechanics and Ergonomics History**,:Meaning and definitions of Sports Biomechanics – brief history, meaning and definition of ergonomics and sports ergonomics – need and importance of biomechanics in physical education and sports – need and importance of sports ergonomics

**UNIT II**

**Kinematics and Kinetics**: Definition of Kinematics and Kinetics – Static and dynamic – vector and scalar measurements – Law of kinetics – types of kinetics – types of kinematics – Types of motion - Newton's law of motion – Distance and Displacement – impulse and momentum – Torque, mass and weight – impact and elasticity - Application of kinetics and Kinematics in sports

**UNIT III**

**Forces and Lever Force**: Meaning, units of force, effects of force/Sources of Force, Components and Resultant, Friction, Pressure. Movement of Force, magnitude of forces, centrifugal and centripetal forces – Friction force – classes of Levers – center of gravity – center of mass – line of gravity – kinetic and potential energy - Work, Power and Energy

**UNIT IV**

**Fluid Mechanism and Projectile Motion**: Freely falling bodies, Projectiles, Equilibrium principles, factors affecting Stability – fluid mechanism – Characteristics and nature of fluids - Buoyancy – dynamic fluid force – relative motion – specific weight – drag and lift forces - initiating rotation in the air, water resistance and air resistance – Laminar and turbulent flow – aerodynamics - principles and types of spin and Magnus effect

**UNIT V**

Movement analysis and Ergonomics Analysis of fundamental skills: Walking, Running, Jumping, Throwing, Lifting, Pulling, Pushing, Catching, and Climbing - Analysis of Sports Skills: Athletics, Gymnastics, Swimming, Football, Hockey, Basketball, Volleyball and Kabaddi – analysis of external forces and their effects on the body and its movements - Ergonomics in health and safety – Ergonomics in physical activity and its effect on health – Video analysis of biomechanics principles in sports

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2. Blazevich, A. (2007). Sports biomechanics. London: A. & C. Black. ISBN 9780713678710
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