

## **PHYSICAL EDUCATION PHD SYLLABUS (AREA PAPER)**

### **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 – Va-**

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

### **REFERENCE :**

1. Dr.K.S. Amtare (1999) Principles of Physical education and sports New Delhi
2. Bovard, John F, Frederick W Cozens(1949) Test and Measurement in Physical Education W.B. Sundars company
3. Garrett, H.E.(1973), Sports Psychology and Education Vakils, Feffer and Simon, Bombay
4. Mouly, A.J.(1963), The Physical Education Research Euroasia, New Delhi
5. P.Narang – Hand book of sports injuries, new delhi

## HEALTH EDUCATION AND SPORTS NUTRITION

**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. Delbert, Oberteuffer, et. al. "The School Health Education". Ghosh, B.N. "Treaties of Hygiene and Public Health". Hanlon,
3. John J. "Principles of Public Health Administration" 2003. Turner, C.E. "The School Health and Health Education".
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.

## **SPORTS MEDICINE AND INJURIES**

**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.
4. Pande. (1998). Sports Medicine. New delhi: Khel Shitya Kendra
5. The Encyclopedia of Sports Medicine. (1998). The Olympic Book of Sports Medicine, Australia

## **TEST AND MEASUREMENT IN PHYSICAL EDUCATION**

**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 Test.

### **REFERENCES :**

1. Authors Guide (2013) ACSM’s Health Related Physical Fitness Assessment Manual, USA: ACSM Publications
2. 2. Collins, R.D., & Hodges P.B. (2001) A Comprehensive Guide to Sports Skills Tests and Measurement (2 nd edition) Lanham: Scarecrow Press
3. 3. Cureton T.K. (1947) Physical F i t n e s s Appraisal and Guidance, St. Louis: The C. Mosby Company
4. 4. Getchell B (1979) Physical Fitness A Way of Life, 2 nd Edition New York, John Wiley and Sons, Inc
5. 5. Jenson, Clayne R and Cynt ha, C. Hirst (1980) Measurement in Physical Education and Athletics, New York, Macmillan Publisng Co. Inc
6. 6. Kansal D.K. (1996), “Test and Measurement in Sports and Physical Education, New Delhi: DVS Publications
7. 7. Krishnamurthy (2007) Evaluation in Physical Education and Sports, New Delhi; Ajay Verma Publication
8. 8. Vivian H. Heyward (2005) Advance Fitness Assessment and Exercise Prescription, 3 rd Edition, Dallas TX: The Cooper Institute for Aerobics Researc

## **Yoga practice and Physical Fitness**

### **UNIT –I**

**YOGASANA-** Meaning - Raja Yoga and Eight Limbs of Yoga – Methods and benefits of asanas – **Types of Yogasana** Sitting Posture – Padmasana, Mathyasana, Vajrasana, Paschimotanasana, Yogamuthra Parvathasana-Standing Posturae: Trikonasana, A Chakrasana, Padahastasana, Tadasana, Artha katti Chakrasana 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 Nadi Suddhi - Belliy Brething Nadi , Bhastika, , Pranayams, Anulom- vilom, Kapalbhati, Ujji , Seethali and Seethkari Pranyama

### **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
3. Moorthy A.M. & Alagesan. S. (2004) Yoga Therapy. Coimbatore: Teachers Publication House.
4. Yoga for Modern Age –Vethathiri Publication

## **PSYCHOLOGY AND PHYSIOLOGY OF PHYSICAL EDUCATION**

**UNIT I** – Introduction -Meaning, Definition, History, Need and Importance of Sports Psychology. Present Status of Sports Psychology in India. Motor Learning: Basic Considerations in Motor Learning– Motor Perception – Factors Affecting Perception – Perceptual Mechanism. Personality: Meaning, Definition, Structure – Measuring Personality Traits. Effects of Personality on Sports Performance.

**UNIT II** - Motivation - Meaning and Definition, Types of Motivation: Intrinsic, Extrinsic. Achievement Motivation: Measuring of Achievement Motivation. Anxiety: , Nature, Causes, Method of Measuring Anxiety. Competitive Anxiety and Sports Performance. Stress , Causes. Stress and Sports Performance. Aggression, Method of Measurement. Aggression and Sports Performance. Self- Concept: Meaning and Definition, Method of Measurement. Questionnaire: Sports Achievement Motivation Sports Competition Anxiety.

**UNIT III – Skeletal Muscles and Exercise** Structure of the Skeletal Muscle,Chemical Composition. Sliding Filament theory of Muscular Contraction. Types of Muscle fibre. Muscle Tone, Chemistr y of Muscular Contraction – Heat Production in the Muscle, Effect of exercises and training on the muscular system. Sports performance in hot climate, Cool Climate, high altitude.

**UNIT IV – Cardiovascular System and Exercise** Heart Valves and Direction of the Blood Flow – Conduction System of the Heart – Blood Supply to the Heart – Cardiac Cycle – Stroke Volume – Cardiac Output – Heart Rate – Factors Affecting Heart Rate – Cardiac Hypertrophy – Effect of exercises and training on the Cardio vascular system.

**UNIT V– Respiratory System and Exercise** Mechanics of Breathing – Respiratory Muscles, Minute Ventilation – Ventilation at Rest and During Exercise. Diffusion of Gases – Exchange of Gases in the Lungs –Exchange of Gases in the Tissues – Control of Ventilation – Ventilation and the Anaerobic Threshold. Oxygen Debt – Lung Volumes and Capacities – Effect of exercises and training on the respiratory system.

### **REFERENC ES:**

- 1.Hall Inc. John D. Lauther (1998) Sports Psychology. Englewood, Prentice Hall Inc.
- 2,Mirosław Vauks & Br yant Cratt y (1999). Psychology and the Superior Athlete. London:
- 3,Macmillan Co. Richard, J. Crisp. (2000). Essential Social Psychology. Publications4.Authors Guide (2013)
- 4 National Library of Educational and Psychological Test (NLEPT) Catalogue of Tests, New Delhi:
- 5 Shaver, L. (1981). Essentials of Exercise Physiology. New Delhi: Subject Publications.