

Syllabus for the CBT Exam of Teacher (Physical Education) to be conducted by HPRCA

1. SUBJECTS AS PER ESSENTIAL QUALIFICATION

A. History, Principles and Foundation of Physical Education

- Meaning, Definition and Scope of Physical Education
- Aims and Objectives of Physical Education
- Importance of Physical Education in present era
- Misconceptions about Physical Education
- Relationship of Physical Education with General Education.

i. Historical Development of Physical Education in India

- Indus Valley Civilization Period (3250 BC – 2500 BC)
- Vedic Period (2500 BC – 600 BC)
- Early Hindu Period (600 BC – 320 AD)
- Later Hindu Period (320 AD – 1000 AD)
- Medieval Period (1000 AD – 1757 AD)
- British Period (Before 1947)
- Physical Education in India (After 1947)
- Contribution of Akhadas and Vyayamshalas
- YMCA and its contributions.

ii. Philosophical Foundations

- Idealism, Pragmatism, Naturalism, Realism, Humanism, Existentialism, Indian Philosophy and Culture
- Fitness and wellness movement in contemporary perspectives
- Sports for all and its role in fitness promotion.

iii. Principles of Physical Education

- Biological growth and development, age and gender characteristics
- Psychological aspects: learning types, learning curve, laws of learning, attitude, interest, cognition, emotions
- Sociological foundations: Physical Education and sports as a social need and institution
- Leadership
- Recent government policies for promoting physical education and sports in India.

B. Human Anatomy and Physiology

- Introduction to anatomy and physiology in physical education
- Cell, tissue, organ, system – structure and functions.

i. Skeletal System

- Structure, classification, functions of bones
- Location of bones, joints and their classification.

ii. Circulatory System

- Blood constituents and functions
- Heart: location, structure, function
- Major blood vessels, circulation mechanisms
- Blood pressure, cardiac cycle, cardiac output, pulse rate, athlete's heart.

iii. Histology

- Cell, blood, skeletal muscle, skin, nephron, neuron
- Measurement of blood pressure, vital capacity, pulse rate.

iv. Digestive System

- Structure and mechanism of digestion.

v. Muscular System

- Types, structure, functions of muscles
- Skeletal muscle contraction mechanism.

vi. Nervous System

- Brain parts, spinal cord, neuron structure and types
- Reflex action and reflex arc.

C. Olympic Movement

- Origin, philosophy, early history, development stages
- Educational and cultural values
- Modern Olympic Games: ideals, rings, flag, protocol, ethics, Olympism in action, Sports for All
- Types of Olympic Games: Para, Summer, Winter, Youth
- Committees: IOC, NOCs, Olympic commission, medal winners of India
- Commonwealth Games and Asian Games.

D. Yoga Education

- Meaning, definition, aims, objectives
- Types: Raja, Mantra, Bhakti, Karma Yoga
- Importance in physical education and sports

- Ashtanga Yoga philosophy: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, Samadhi
- Hatha Yoga: meaning, philosophy, constituents
- Shudhi Kriyas: Neti, Dhوتي, Kapalabhati, Nauli
- Asanas: classifications, techniques, benefits (Bhujanga, Shalabha, Dhanush, Hal, Matsya, Ushtra, Paschimottan, etc.)
- Bandhas and Mudras: Jalandhar, Uddiyana, Mool, Sirsha, Sarvanga, Viparita, Yoga Mudras
- Pranayama: Ujjai, Bhastrika, Kapal Bharti, Shitali, Sheetkari, Bhramari
- Role of yoga in sports and modern life

E. Kinesiology and Biomechanics

- Meaning, definition, importance
- Fundamental movements terminology
- Concepts: axes, planes, centre of gravity, equilibrium, line of gravity
- Anatomy and physiology basics
- Classification of joints and muscles
- Its application to sports activities Lever - Meaning, definition, types and its application to human body.
- Newton's Laws of Motion - Meaning, definition and its application to sports activities.
- Projectile - Factors influencing projectile trajectory.
- Kinematics and Kinetics of Human Movement
- Concept of Kinetic and Kinematics.
- Application of Biomechanics in the field of sports.
- Mechanical analysis of the following: Walking, Running, Jumping, Throwing
- Massage: Meaning, definition and a brief history of massage; Massage as means of relaxation and points to be considered while giving massage; General effects of massage; Classification of the manipulation and movements in the massage

F. SPORTS TRAINING

- Meaning and Definition of Sports Training. Aim and Objectives of Sports Training.
- Principles of Sports Training. System of Sports Training - Basic Performance, Good Performance and High, Performance Training Components.
- Strength - Mean and Methods of Strength Development
- Speed - Mean and Methods of Speed Development
- Endurance - Mean and Methods of Endurance Development
- Coordination - Mean and Methods of coordination Development
- Flexibility - Mean and Methods of Flexibility Development

- Training Process: Training Load- Definition and Types of Training Load; Principles of Intensity and Volume of stimulus
- Technical Training - Meaning and Methods of Technique Training.
- Tactical Training - Meaning and Methods of Tactical Training
- Training programming and planning
- Periodization - Meaning and types of Periodization, Aim and Content of Periods - Preparatory, Competition, Transitional etc.
- Planning - Training session. Talent Identification and Development

G. SPORTS PSYCHOLOGY AND SOCIOLOGY

- Meaning, Importance and scope of Educational and Sports Psychology
- General characteristics of Various Stages of growth and development
- Types and nature of individual differences;
- Factors responsible -Heredity and environment
- Psycho-sociological aspects of Human behavior in relation to physical education and sports.
- Sports Psychology: Nature of learning, theories of learning, Laws of learning, Plateau in Learning; & transfer of training.
- Meaning and definition of personality, characteristics of personality, Dimension of personality, Personality and Sports performance
- Nature of motivation: Factors influencing motivation; Motivation and techniques and its impact on sports performance.
- Mental Preparation Strategies: Attention focus, Self- talk, Relaxation, Imaginary. Aggression and Sports,
- Meaning and nature of anxiety, Kinds of anxiety.
- Meaning and nature of stress; Types of stress, Anxiety, Stress, Arousal and their effecting sports performance
- Group dynamics group cohesion and leadership in sports cognitive process-memory and thinking.
- Principles of motor skills learning; transfer of training and its types with its implications in sports.

H. Test, Measurement and Evaluation

- Meaning, need, importance, principles
- Criteria of good test: reliability, objectivity, validity, norms
- Administration: preparation, duties during and after testing
- Physical fitness tests: AAHPER, National, Indiana Motor Fitness Test
- Sports skill tests: badminton, basketball, soccer, volleyball, hockey
- Tests for fitness, motor ability, psychological variables (anxiety, aggression, cohesion, toughness, self-efficacy)
- Physiological testing: BP, breathing frequency, vital capacity, HR, pulse, body temperature, body composition

I. Sports Medicine, Physiotherapy and Rehabilitation

- Meaning, aims, objectives, importance
- Athlete care and rehabilitation
- Sports injuries: prevention, diagnosis, first aid, treatment (laceration, blisters, contusion, strain, sprain, fracture, dislocation, cramps)
- Bandages, supports
- Physiotherapy: principles, hydrotherapy, cryotherapy, thermotherapy, contrast bath, whirlpool, sauna, massage (Swedish system)
- Therapeutic exercise: passive and active movements, applications for joints and trunk
- Common injuries: sprain, strain, fracture, dislocation, abrasion, bruise, blister, corn, athlete's foot, footballer's knee/ankle
- Preventive and treatment measures

J. Health Education and Nutrition

- Concept, meaning, scope, objectives, principles, need
- Personal hygiene: care of skin, hair, eyes, ears, nose, teeth, feet, clothes
- Rest, sleep, relaxation, effects of alcohol and smoking
- School health programme and nutrition: infrastructure, safety measures, medical exams, inspections, communicable disease centres
- Nutrition: balanced diet, elements, daily energy requirements
- Communicable diseases: influenza, malaria, smallpox, TB, typhoid, cholera, measles

K. Exercise Physiology

- Meaning, importance
- Energy sources: ATP, creatine phosphate, metabolism
- Effects of altitude, heat, dehydration, acclimatization
- Posture: meaning, types, causes, importance, principles, tests
- Postural deformities: kyphosis, lordosis, scoliosis, bow legs, knock knee, flat foot
- Preventive and remedial measures, corrective exercises, physiotherapy

L. Sports and Games Specialisation

- Measurement, skills, history, terminology of:
- Track and field (sprint, middle, long distance, jumps, throws)
- Badminton, basketball, volleyball, kabaddi, kho-kho, judo, wrestling

- Sports awards, international medal winners

M. Research in Physical Education

- Importance, classification, ethical issues
- Methods: descriptive, historical, experimental
- Research designs, problem identification, hypothesis formulation and testing
- Tools: questionnaires, interviews, observation
- Literature search: library, databases, internet, journals
- Sampling techniques: probability, non-probability
- Data types, collection, grading scales, normal probability curve
- Statistical techniques: parametric, non-parametric
- Preparation of research proposal, report, abstract, paper for publication/presentation

2. GENERAL AWARENESS

- (a) **General knowledge:** General Knowledge including General knowledge of HP.
- (b) **Current Affairs .**
- (c) **Everyday Science.**
- (d) **Logical Reasoning .**
- (e) **Social Science** (10th standard).
- (f) **General English** (10th standard)
- (g) **General Hindi** (10th standard)