

PHYSICAL EDUCATION



CLASS XII

Comprehensive
**PHYSICAL
EDUCATION**

FOR CLASS XII

By

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PREFACE

Citizenship qualities which are learned in the early years of a child's life will make him into a good responsible citizen and the Physical Education program provides practical experiences to prepare children who are the future citizens of this country, to become healthy, responsible and law abiding individuals. This book has given a broader knowledge of physical education from the scientific point of view and a deeper understanding that physical education is not only playing and developing a body but something deeper and more sustaining than that.

Today's citizens are becoming aware of the need for achieving good health and vitality in order to cut down on doctors bills and also to be able to give their best to their jobs and society. So if during the formative years of the child's life the foundation is laid and gradually knowledge imparted it will help the child to achieve and live a better quality of life.

This book I do hope will not only assist the children in their physical education syllabus but also throw light on the depth of the subject.

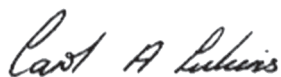
—AUTHOR

FOREWORD

This new book, commissioned by the Central Board of Secondary Education (CBSE), has been written specifically to provide background knowledge for those students in class 12 who have opted to pursue a course of study in physical education. It will be of particular help in preparing for the examination associated with this course of study. The study of physical education is as theoretical as it is practical. The intention of this book is to explore the understanding the theoretical principles through practical examples taken from various games and sports. It will help students learn about and understand the important knowledge, concepts and principals that underpin sport and physical education including developing an understanding of the physical, nutritional and psychological factors which influence and impact on young people's involvement in sport and activity. Principally the theoretical elements explore the areas of fitness and well being, planning in sports, sports environments, postures, yoga, sports and nutrition and the psychological aspects of physical education. Included in these sections are references to specific terminology, definitions, explanations and concepts.

The range of games and activities that students can play is almost limitless. This book focuses on the fundamental techniques, tactics, strategies and rules needed to attain a high level of skill in some of the more well known, popular games and activities played by Indian students. These include the games of basketball, cricket, hockey, football, handball, volleyball, kabaddi and kho kho.

The author, a senior Professor of Physical Education at Lakshmi Bai National University of Physical Education, Gwalior, has used her extensive experience and in-depth knowledge of this wide ranging subject to produce a comprehensive manual that will assist students in the scholarly pursuit of understanding and extending their knowledge of this multifaceted subject. My hope is that it will engage and motivate the reader to pursue the study of physical education beyond the examination into one of the new sports related careers emerging in the Indian workplace. I commend it to you.



Carol Lukins MA (UEA) BEd CertEd (Lond)
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SYLLABUS

IV. PHYSICAL EDUCATION

Class XII – Theory

Max. Marks : 70

PART–A

UNIT 1 : PHYSICAL FITNESS AND WELLNESS

- 1.1. Meaning and Importance of Physical Fitness and Wellness
- 1.2. Components of Physical Fitness and Wellness
- 1.3. Factors Affecting Physical Fitness and Wellness
- 1.4. Principles of Physical Fitness Development
- 1.5. Means of Fitness Development—Aerobic and Anaerobic, Games and Sports, Yoga and Recreational Activities

UNIT 2 : PLANNING IN SPORTS

- 2.1. Fixtures—Knock Out; League, Seeding and Bye
- 2.2. Intramurals and Extramurals
- 2.3. Formation of Committees for Organizing Sports Events
- 2.4. Specific Sports Programmes—Health Runs; Run for Fun; Run for Unity; Run for Awareness; Run for Specific Causes

UNIT 3 : SPORTS ENVIRONMENT

- 3.1. Meaning and Need for Sports Environment
- 3.2. Essential Elements of Positive Sports Environment
- 3.3. Role of Individual in Improvement of Sports Environment for Prevention of Sports Related Accidents
- 3.4. Role of Spectators and Media for Creating Positive Sports Environment

UNIT 4 : POSTURES

- 4.1. Meaning and Concept of Correct Postures—Standing and Sitting
- 4.2. Advantages of Correct Posture

- 4.3. Common Postural Deformities—Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scolioses
- 4.4. Physical Activities as Corrective Measures

UNIT 5 : YOGA

- 5.1. Meaning and Importance of Yoga
- 5.2. Yoga as an Indian Heritage
- 5.3. Elements of Yoga
- 5.4. Role of Yoga in Sports—Asanas, Pranayam and Mediation

UNIT 6 : SPORTS AND NUTRITION

- 6.1. Balanced Diet
- 6.2. Elements of Diet
- 6.3. Components of Diet
- 6.4. Role of Diet on Performance

UNIT 7 : TRAINING METHODS

- 7.1. Meaning, Concept and Principles of Training
- 7.2. Methods of Flexibility Development
- 7.3. Methods of Strength Development—Isometric and Isotonic
- 7.4. Methods of Endurance Development—Continuous Method, Interval Training and Fartlek.
- 7.5. Methods of Speed Development
- 7.6. Circuit Training

UNIT 8 : PSYCHOLOGICAL ASPECTS OF PHYSICAL EDUCATION

- 8.1. Definition and Importance of Sports Psychology
- 8.2. Types and Techniques of Motivation
- 8.3. Development Characteristics at Different Stages of Growth
- 8.4. Adolescent Problems and its Management
- 8.5. Ethics in Sports
- 8.6. Anxiety and its Management

PART B

Following sub topics related to any one Game/Sport of choice of student out of: Basketball, Cricket, Football, Handball, Hockey, Kabaddi, Kho Kho and Volleyball.

UNIT 1

- 1.1. History of the Game/Sport
- 1.2. Latest General Rules of the Game/Sport
- 1.3. Specifications of Play Fields and Related Sports Equipments
- 1.4. Important Tournaments and Venues
- 1.5. Sports Personalities
- 1.6. Proper Sports Gear and its Importance

UNIT 2

- 2.1. Fundamental Skills of the Game/Sport
- 2.2. Specific Exercises of Warm-up and Conditioning
- 2.3. Related Sports Terminologies
- 2.4. Sports Awards
- 2.5. Common Sports Injuries and its Prevention
- 2.6. SGFI and its Organizational Set-Up

PART C

The Practical Syllabus has been divided into five parts & the marks allotted for each part are as follows:

(i) Physical Fitness Test (<i>Compulsory</i>)	:	10 Marks
(ii) Skill of Chosen Sport/Game	:	05 Marks
(iii) Any Five Asanas	:	05 Marks
(iv) Viva	:	05 Marks
(v) Record Book (File)*	:	05 Marks

*Record Book (File) must include other than the details of Game/Sport of your choice the following :

- (i) BMI calculation of minimum ten Students
- (ii) AAHPHER Test Score of minimum ten students



PART A

PHYSICAL FITNESS AND WELLNESS

1

1.1. MEANING AND IMPORTANCE OF PHYSICAL FITNESS AND WELLNESS

Physical Fitness

Physical fitness has been defined as an adequate amount of muscular strength and endurance to meet the needs of everyday life.

To achieve significant health benefits, regular physical activity of appropriate frequency, intensity and duration should be undertaken by the individual. Physical fitness and wellness is freedom from diseases which is more on the rampant today as a result of stressful and inactive lives. Heart disease, back pain, diabetes, osteoporosis are the diseases which old and young suffer from in the modern day.

In the olden days physical fitness denoted:

- (i) Resistance to diseases
- (ii) Muscular strength and endurance
- (iii) Cardiovascular endurance
- (iv) Muscular power

- (v) Flexibility
- (vi) Speed
- (vii) Agility
- (viii) Balance
- (ix) Accuracy.

With the advancement of research in physical education and medical science there has been a change in the concept of physical fitness. This concept is useful to professionals of sport, fitness and physical educationists since they are involved in designing fitness programmes for the people who are interested in this area.

Today fitness is viewed as a series of components each of which is specific in terms of its development and maintenance. Fitness components are divided into two basic categories the ones related to health and those related to motor skill performance. Health components are concerned with prevention and remediation of disease and illness but on the other hand motor performance components are concerned with improved sports performance.

Health fitness components are general, since, it is expected that every individual should improve their quality of life by remaining fit and maintain certain levels of health fitness, in order to stay healthy throughout their life time. Health fitness is related to better living, resistance to diseases and even living longer. Motor performance fitness is very specific and functional, as, every game requires that its player has different amounts of motor performance components.

Wellness

Health is the means to the goal of self actualisation which is the quality living experience, the lifestyle that one adapts *i.e.*, the efforts that one makes to preserve and develop his capacities. These efforts will not only enhance ones functioning but will also create feelings of a quality living experience. Wellness is a health promoting lifestyle *i.e.*, the efforts and the choices that a person makes from moment to moment to develop ones abilities.

Importance of Physical Fitness and Wellness

Today, everyone wants to live a dignified and independent life specially during old age and hence they start preparing for this phase of their life right from the young age. Even during our youth we should participate in a fitness programme in order to remain healthy and happy. Participation in physical fitness and

wellness programmes will help in developing positive attitudes so that people will be able to all the possibilities in life and work towards achieving them, so, that there is personal fulfillment and satisfaction. The advantages of physical fitness and wellness are:

1. Condition of the heart and lungs improves as the oxygen available to the body is increased and the heart can use the oxygen more efficiently.
2. The physical fitness components such as strength, endurance, speed, agility, flexibility are improved.
3. The physical appearance and posture is improved.
4. An individual learns to use his leisure time in a constructive manner.
5. There is a decrease in the risk to cardiovascular diseases and the person is able to recover quickly from illness/injuries. There is freedom from diseases and infirmity and an individual is able to lead a life without suffering from any kind of simple and life threatening diseases.
6. Recovers quickly after a vigorous workout.
7. Self confidence is improved and slows down the ageing process.
8. Healthy life style—As a result of adapting a physical fitness programme all the organs of the body function effectively.

1.2. COMPONENTS OF PHYSICAL FITNESS AND WELLNESS

Components of Physical Fitness

1. *Health Related Fitness*

- (a) *Cardio respiratory fitness.* This is the combined abilities of the respiratory and the circulatory system for providing sufficient oxygen to the muscles during continuous exercise for a long period of time. This is the most important component of fitness. The other term used for cardio respiratory fitness is aerobic fitness.
- (b) *Body composition.* This is the amount of body fat in comparison to the other tissues. An excess of body fat results in obesity which can cause many diseases like diabetes, heart diseases etc.
- (c) *Strength and muscular endurance in the major muscle groups, especially in the abdominal region.* Strength is the capacity of a muscle group to exert force in maximal conditions. Muscle endurance is the ability of the muscle to participate in continuous exercise for long periods of time without getting tired. Adequate strength and endurance in the major muscles of the body is an important aspect of health. In our daily life we do small things

such as carrying, lifting and holding articles of different sizes, shapes and weights, when we are able to do this without any stress and strain, this makes a big difference in our lives and gives us independence.

- (d) *Flexibility of the low back and hip region.* Flexibility is the ability of the body segments to move through a wide range of motion. When there is poor flexibility in the lower regions of the body combined with a poor range of motions of the hip this causes low back pain which temporarily or chronically disables people. Low back pain is one of the most common ailments among old and young persons today.

2. *Performance Related Fitness*

These are non-athletic fitness components:

- (a) *Speed and Agility*—speed is the ability to perform fast movements in the shortest possible time, whereas, agility is the ability to change directions of movements quickly.
- (b) *Power*—is the ability to exert force explosively. A combination of force and speed results in power.
- (c) *Flexibility*—having sufficient flexibility throughout the body is a very important aspect of fitness.

Components of Wellness

1. Achieve and maintain a healthy life
 - (a) Becoming physically fit
 - (b) Eating a nutritious and well balanced diet
 - (c) Taking adequate rest and relaxation.
 - (d) Protecting one's self from the physical hazards of the environment.
2. Develop love for yourself and for others
 - (a) Accepting and expressing your feelings in a constructive manner.
 - (b) Respecting and expressing affection for others.
3. Interacting with other people
 - (a) Showing an interest in other people.
 - (b) Identifying people with whom you enjoy talking and doing things.
4. Developing and applying intellectual capabilities.
5. Developing a philosophy of life.

1.3. FACTORS AFFECTING PHYSICAL FITNESS AND WELLNESS

Physical fitness and wellness are partly genetic and partly as a result of one's own initiative. Only when an individual is aware of the main factors that affect his physical fitness that can he work hard towards it, because today

fitness has become a craze and people from all walks of life are participating in fitness activities not only to look good but also to remain healthy and free from diseases.

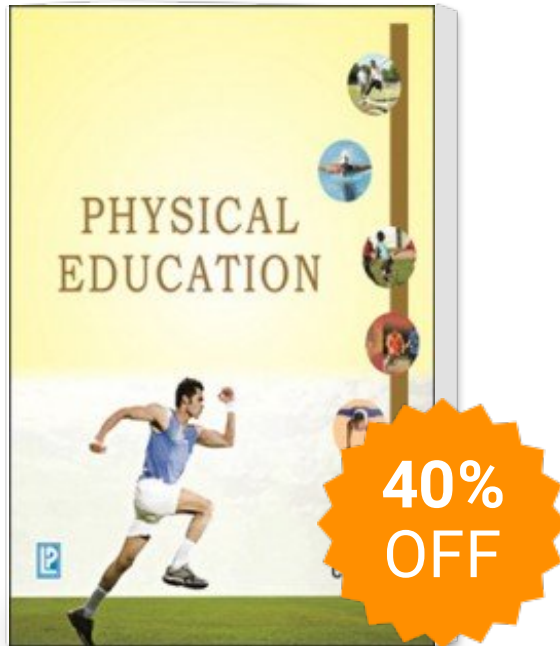
1. **Body type.** People fall into three body type categories *i.e.*, ectomorph, endomorph and mesomorph. The ectomorph has a lean and slim build, as they are long boned and light in weight they are suitable for long distance events. The endomorphs are heavier and stronger, with a rounder appearance than ectomorphs. Mesomorphs are those with large bones and well defined muscles. They are good at strength events like lifting, sprinting and throwing.
2. **Age.** When an individual starts aging this has negative effects on his physical fitness and physical performance as the muscles, ligaments and tendons shorten, bones become brittle, joints wear out and the heart muscles become weak. The only way to solve these problems and reverse the process is exercise.
3. **Genetic disposition.** Genetic differences make people react differently to training. Each body has different capabilities depending on the genetic makeup, but it is only through exercise that these areas can be used to overcome the areas of weakness.

4. **Health.** There are many reasons for not participating in an exercise program like heart disease, asthma, injuries etc., but there are programs which can solve these problems so that an individual can lead a more active life. All the training programs may not be suitable for a particular individual's health problem, so an expert in the area may be able to decide which program is appropriate and which isn't.
5. **Lifestyle.** Bad habits like smoking, taking alcohol, not eating nutritious food and not exercising can lead to a weak body. In order to reverse the process of the damages to the body and build up a strong body which is fit, a healthy diet and exercising will help.

1.4. PRINCIPLES OF PHYSICAL FITNESS DEVELOPMENT

1. **Warming-up.** It is essential to warm up before exercise as the blood flow to the muscles will increase, thus, heating them up, making them flexible and less resistant to injuries.
2. **Regularity.** Physical Fitness is a biological necessity. It is necessary to participate regularly in physical activity for developing as well as maintaining physical fitness.
3. **Progression.** This is the amount of exercise that should be increased in a progressive manner for improving the physical fitness level of the individual. The dosage of exercise that the individual starts with will depend on his ability.
4. **Total body involvement.** Every part of the body should be properly exercised so that proportional body development will take place.
5. **Specificity.** Exercises should be selected according to component of physical fitness that is to be developed *e.g.*, if flexibility is to be developed then exercises for flexibility should be given. If general fitness is to be achieved then the fitness programme should include a variety of exercises.
6. **Tolerance.** Exercises should be selected according to the tolerance level of the individual and should neither be too easy or too difficult as there will be no effect on the body.
7. **Limbering down.** After exercising cooling down is very important, this should be done till breathing and the pulse rate become normal.

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