DIRECTORATE OF EDUCATION
Govt. of NCT, Delhi

SUPPORT MATERIAL
(2024-2025)

Class : XI

PHYSICAL EDUCATION

Under the Guidance of

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Secretary (Education)

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ASHOK KUMAR
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DE.5\228\Exam\Message/SM\2018\555
Dated: 01/07/2024

MESSAGE

In the profound words of Dr. Sarvepalli Radhakrishnan, **"The true teachers are those who help us think for ourselves."**

Every year, our teams of subject experts shoulder the responsibility of updating the Support Material to synchronize it with the latest changes introduced by CBSE. This continuous effort is aimed at empowering students with innovative approaches and techniques, thereby fostering their problem-solving skills and critical thinking abilities.

I am confident that this year will be no exception, and the Support Material will greatly contribute to our students' academic success.

The development of the support material is a testament to the unwavering dedication of our team of subject experts. It has been designed with the firm belief that its thoughtful and intelligent utilization will undoubtedly elevate the standards of learning and continue to empower our students to excel in their examinations.

I wish to extend my heartfelt congratulations to the entire team for their invaluable contribution in creating this immensely helpful resource for our students.

Wishing all our students a promising and bright future brimming with success.

(ASHOK KUMAR)

R.N. SHARMA, IAS
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Dated: 04/07/2024

MESSAGE

It brings me great pleasure to present the support material specifically designed for students of classes IX to XII by our dedicated team of subject experts. The Directorate of Education remains resolute in its commitment to empower educators and students alike, extending these invaluable resources at no cost to students attending Government and Government-Aided schools in Delhi.

The support material epitomizes a commendable endeavour towards harmonizing content with the latest CBSE patterns, serving as a facilitative tool for comprehending, acquiring and honing essential skills and competencies stipulated within the curriculum.

Embedded within this initiative is a structured framework conducive to nurturing an analytical approach to learning and problem-solving. It is intended to prompt educators to reflect upon their pedagogical methodologies, forging an interactive conduit between students and academic content.

In the insightful words of Rabindranath Tagore, **"Don't limit a child to your own learning, for he was born in another time."**

Every child is unique, with their own interests, abilities and potential. By allowing children to learn beyond the scope of our own experiences, we support their individual growth and development, helping them to reach their full potential in their own right.

May every student embrace the joy of learning and be empowered with the tools and confidence to navigate and shape the future.

(R. N. SHARMA)

Dr. RITA SHARMA
Additional Director of Education
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D.O. No. DE.5/228/Exam/Message/SM/2018/570
Dated: 02/07/2024

MESSAGE

"Children are not things to be molded, but are people to be unfolded." - Jess Lair

In line with this insightful quote, the Directorate of Education, Delhi, has always made persistent efforts to nurture and unfold the inherent potential within each student. This support material is a testimony to this commitment.

The support material serves as a comprehensive tool to facilitate a deeper understanding of the curriculum. It is crafted to help students not only grasp essential concepts but also apply them effectively in their examinations. We believe that the thoughtful and intelligent utilization of these resources will significantly enhance the learning experience and academic performance of our students.

Our expert faculty members have dedicated themselves to the support material to reflect the latest CBSE guidelines and changes. This continuous effort aims to empower students with innovative approaches, fostering their problem-solving skills and critical thinking abilities.

I extend my heartfelt congratulations to the entire team for their invaluable contribution to creating a highly beneficial and practical support material. Their commitment to excellence ensures that our students are well-prepared to meet the challenges of the CBSE examinations and beyond.

Wishing you all success and fulfilment in your educational journey.

(Dr. Rita Sharma)

DIRECTORATE OF EDUCATION
Govt. of NCT, Delhi

SUPPORT MATERIAL
(2024-2025)

PHYSICAL EDUCATION
Class : XI

NOT FOR SALE

PUBLISHED BY : DELHI BUREAU OF TEXTBOOKS

भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक [1][**संपूर्ण प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य**] बनाने के लिए, तथा उसके समस्त नागरिकों को :

सामाजिक, आर्थिक और राजनैतिक **न्याय,**

विचार, अभिव्यक्ति, विश्वास, धर्म

और उपासना की **स्वतंत्रता,**

प्रतिष्ठा और अवसर की **समता**

प्राप्त कराने के लिए,

तथा उन **सब में**

व्यक्ति की गरिमा और [2][**राष्ट्र की एकता और अखंडता**] सुनिश्चित करने वाली **बंधुता**

बढ़ाने के लिए

दृढ़संकल्प होकर **अपनी इस संविधान सभा में** आज तारीख 26 नवंबर, 1949 ई. को **एतद्द्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।**

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1. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977 से) ''प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य'' के स्थान पर प्रतिस्थापित।
2. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977 से) ''राष्ट्र की एकता'' के स्थान पर प्रतिस्थापित।

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a [1]**[SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC]** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the [2][unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949 do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

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1. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Sovereign Democratic Republic" (w.e.f. 3.1.1977)
2. Subs. by the Constitution (Forty-second Amendment) Act, 1976, Sec.2, for "Unity of the Nation" (w.e.f. 3.1.1977)

भारत का संविधान

भाग 4क

नागरिकों के मूल कर्तव्य

अनुच्छेद 51 क

मूल कर्तव्य - भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह -

(क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करे;

(ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;

(ग) भारत की संप्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण बनाए रखे;

(घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;

(ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभावों से परे हो, ऐसी प्रथाओं का त्याग करे जो महिलाओं के सम्मान के विरुद्ध हों;

(च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका परिरक्षण करे;

(छ) प्राकृतिक पर्यावरण की, जिसके अंतर्गत वन, झील, नदी और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणिमात्र के प्रति दयाभाव रखे;

(ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;

(झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;

(ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत् प्रयास करे, जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई ऊँचाइयों को छू सके; और

(ट) यदि माता-पिता या संरक्षक है, छह वर्ष से चौदह वर्ष तक की आयु वाले अपने, यथास्थिति, बालक या प्रतिपाल्य को शिक्षा के अवसर प्रदान करे।

Constitution of India

Part IV A (Article 51 A)

Fundamental Duties

It shall be the duty of every citizen of India —

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers, wildlife and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;

*(k) who is a parent or guardian, to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.

Note: The Article 51A containing Fundamental Duties was inserted by the Constitution (42nd Amendment) Act, 1976 (with effect from 3 January 1977).

*(k) was inserted by the Constitution (86th Amendment) Act, 2002 (with effect from 1 April 2010).

PHYSICAL EDUCATION

CLASS XI (2024-25)

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Under the Guidance of

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PHYSICAL EDUCATION (XI)

COURSE STRUCTURE

UNIT NO.	UNIT NAME	NO. OF PERIODS (190 HRS)	THE WEIGHTAGE (MARKS) ALLOTTED
UNIT 1	Changing Trends & Career in Physical Education	15	04 + 04***b****
UNIT 2	Olympic Value Education	10	05
UNIT 3	Yoga	14	06+01***b****
UNIT 4	Physical Education & Sports for CWSN	13	04+03***b****
UNIT 5	Physical Fitness, Wellness and Lifestyle	10	05
UNIT 6	Test, Measurements & Evaluation	15	08
UNIT 7	Fundamentals of Anatomy and Physiology in Sports	15	08
UNIT 8	Fundamentals of Kinesiology and Biomechanics in Sports	15	04+04***b****
UNIT 9	Psychology and Sports	13	07
UNIT 10	Training & Doping in Sports	14	07
PRACTICAL (LAB)#	**Including 3 Practical**	56	30
TOTAL	**Theory 10 + Practical 3**	**134 + 56 = 190hrs**	**Theory 70 + Practical 30 = 100**

Note: b*are the Concept based questions like Tactile diagram/data interpretation/case base study for visually Impaired Child.

CLASS XI
SYLLABUS (2024-25)

Unit No.	Unit Name & Topics	Specific learning objectives	Suggested Teaching Learning process	Learning Outcomes with specific Competencies
Unit 1	**Changing Trends and Careers in Physical Education** 1. Concept, Aims & Objectives of Physical Education 2. Development of Physical Education in India – Post Independence 3. Changing Trends in Sports- playing surface, wearable gear and sports equipment, technological advancements 4. Career options in Physical Education 5. Khelo-India Program and Fit – India Program	• To make the students understand the meaning, aims, and objectives of Physical Education. • To Teach students about the development of physical education in India after Independence. • To educate students about the development of sports surfaces, wearable gear, sports equipment, and technology. • To make students know the different career options available in the field. • To make them know about the Khelo India Program	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Recognize the concept, aim, and objectives of Physical Education. • Identify the Post-independence development in Physical Education. • Categorize Changing Trends in Sports- playing surface, wearable gear, sports equipment, technological • Explore different career options in the field of Physical Education. • Make out the development of Khelo India and Fit India Program.

Unit 2	**Olympism Value Education** 1. Olympism – Concept and Olympics Values (Excellence, Friendship & Respect) 2. Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind 3. Ancient and Modern Olympics 4. Olympics - Symbols, Motto, Flag, Oath, and Anthem 5. Olympic Movement Structure - IOC, NOC, IFS, Other members	• To make the students aware of Concepts and Olympics Values (Excellence, Friendship & Respect) • To make students learn about Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind • To make students understand ancient and modern Olympic games. • To make the students aware of Olympics - Symbols, Motto, Flag, Oath, and Anthem • To make students learn about the working and functioning of IOC, NOC and IFS, and other members.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Incorporate values of Olympism in your life. • Differentiate between Modern and Ancient Olympic Games, Paralympics, and Special Olympic games • Identity the Olympic Symbol and Ideals • Describe the structure of the Olympic movement structure

Unit 3	**Yoga** 1. Meaning and importance of Yoga 2. Introduction to Astanga Yoga 3. Yogic Kriyas (Shat Karma) 4. Pranayama and its types. 5. Active Lifestyle and stress management through Yoga	• To make the students aware of the meaning and importance of yoga • To make them learn about Astanga yoga. • To teach students about yogic kriya, specially shat karmas. • To make the learn and practice types of Pran • To make them learn the importance of yoga in stress management.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Recognize the concept of yoga and be aware of the importance; of it • Identify the elements of yoga • Identify the Asanas, Pranayama's, meditation, and yogic kriyas • Classify various yogic activities for the enhancement of concentration • Know about relaxation techniques for improving concentration
Unit 4	**Physical Education and Sports for Children with Special Needs** 1. Concept of Disability and Disorder 2. Types of Disability, its causes & nature (Intellectual disability, Physical disability). 3. Disability Etiquette 4. Aim and objectives of	• To make the students aware concept of Disability and Disorder. • To make students aware of different types of disabilities. • To make students learn about Disability Etiquette • To make the students Understand the aims and objectives Adaptive Physical	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Identify the concept of Disability and Disorder. • Outline types of disability and describe their causes and nature. • Adhere to and respect children with special needs by following etiquettes.

	Adaptive Physical Education. 5. Role of various professionals for children with special needs (Counselor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist, and Special Educator)	Education • To make students aware of role of various professionals for children with special needs.		• Identify possibilities and scope in adaptive physical education • Relate various types of professional support for children with special needs along with their roles and responsibilities.
Unit 5	**Physical Fitness, Wellness, and Lifestyle** 1. Meaning & importance of Wellness, Health, and Physical Fitness. 2. Components/Dimensions of Wellness, Health, and Physical Fitness 3. Traditional Sports & Regional Games for promoting wellness 4. Leadership through Physical Activity and Sports	• To make the students understand the Meaning & importance of Wellness, Health, and Physical Fitness • To make students aware of the Components/ Dimensions of Wellness, Health, and Physical Fitness • To make students learn Traditional Sports & Regional Games to promote wellness • To develop Leadership qualities through Physical Activity and Sports in students	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Explain wellness and its importance and define the components of wellness. • Classify physical fitness and recognize its importance in life. • Distinguish between skill-related and health-related components of physical fitness. • Illustrate traditional sports and regional games to promote wellness.

	5. Introduction to First Aid – PRICE	• To make students learn First Aid and its management skills		• Relate leadership through physical activity and sports • Illustrate the different steps used in first aid - PRICE.
Unit 6	**Test, Measurement & Evaluation** 1. Define Test, Measurements and Evaluation. 2. Importance of Test, Measurements and Evaluation in Sports. 3. Calculation of BMI, Waist – Hip Ratio, Skin fold measurement (3-site) 4. Somato Types (Endomorphy, Mesomorphy & Ectomorphy) 5. Measurements of health-related fitness	• To Introduce the students with the terms like test, measurement and evaluation along with its importance • To Introducing them the methods of calculating BMI, Waist- hip ratio and Skin fold measurement. • To make the students aware of the different somatotypes. • To make the students learn the method to measure health-related fitness.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the student s will be able to:** • Define the terms test, measurement, and evaluation, • Differentiate norm and criterion referenced standards, • Differentiate formative and summative evaluation, • Discuss the importance of measurement and evaluation processes, • Understand BMI: A popular clinical standard and its computation • Differentiate between Endomorphy, Mesomorphy & Ectomorphy h describe the procedure of Anthropometric

				Measurement
Unit 7	**Fundamentals of Anatomy, Physiology in Sports** 1. Definition and importance of Anatomy and Physiology in Exercise and Sports. 2. Functions of Skeletal System, Classification of Bones, and Types of Joints. 3. Properties and Functions of Muscles. 4. Structure and Functions of Circulatory System and Heart. 5. Structure and Functions of Respiratory System.	• The students will learn the meaning and definition & identify the importance of anatomy, physiology, and kinesiology. • Students will understand the main functions and Classification of Bone and the Types of Joints. . • The students will learn the Properties and Functions of Muscles. • The students will learn the Structure and Functions of the Circulatory System and Heart. • The students will learn the Structure and Functions of Respiratory System.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game - based learning and Expeditionary learning.	**After completing the unit, the students will be able to:** • Identify the importance of anatomy and physiology. • Recognize the functions of the skeleton. • Understand the functions of bones and identify various types of joints. • Figure out the properties and functions of muscles and understand how they work. • Understand the anatomy of the respiratory system and describe it's working. • Identify and analyses the layout and functions of Circulatory System.
Unit 8	**Fundamentals Of Kinesiology And Biomechanics in Sports** 1. Definition and Importance of	• The students will learn the meaning and definition & identify the importance of Kinesiology and Biomechanics in sports.	• Lecture-based instruction, • Technology-based learning, • Group learning,	**After completing the unit, the students will be able to:** • Understand Kinesiology and Biomechanics with their

	Kinesiology and Biomechanics in Sports. 2. Principles of Biomechanics 3. Kinetics and Kinematics in Sports 4. Types of Body Movements - Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation 5. Axis and Planes – Concept and its application in body movements	• To make the students learn the principles of biomechanics. • To make the students understand the concept of Kinetics and Kinematics in Sports • To make the students learn about different types of body movements. • To make the students understand the concept of Axis and Planes and its application in body movements.	• Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	application in sports. • Explain biomechanical principles and their utilization in sports and physical education. • Illustrate fundamental body movements and their basic patterns. • Learn about the Axis and Planes and their application with body movements.
Unit 9	**Psychology and Sports** 1. Definition & Importance of Psychology in Physical Education & Sports; 2. Developmental Characteristics at Different Stages of Development; 3. Adolescent Problems & their management 4. Team cohesion and sports 5. Introduction to psychological Attributes: Attention, Resilience, Mental toughness	• The students will identify the definition and importance of Psychology in Physical Education and sports. • The students will be able to differentiate characteristics of growth and development at different stages.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and	**After completing the unit, the students will be able to:** • Identify the role of Psychology in Physical Education and Sports • Differentiate characteristics of growth and development at different stages.

Unit-10	Training and Doping in Sports 1. Concept and Principles of sports training 2. Training load: Overload, Adaptation & Recovery 3. Warming up and Limbering Down-types, method and Importance 4. Concept of skill, Technique, Tactics and strategies. 5. Concept of Doping and its disadvantages	students. • To make students aware of the doping substances and their disadvantages in sports.		• Interpret concept of doping.

GUIDELINES FOR INTERNAL ASSESSMENT
(PRACTICAL/ PROJECTS ETC.)

PRACTICAL (Max. Marks 30)	
Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT)*	6 Marks
Proficiency in Games and Sports (Skill of any one IOA recognized Sport/Game of Choice)**	7 Marks
Yogic Practices	7 Marks
Record File ***	5 Marks
Viva Voce (Health/ Games & Sports/ Yoga)	5 Marks

- *Test for CWSN (any 4 items out of 27 items. One item from each component: Aerobic Function, Body Composition, Muscular strength & Endurance, Range of Motion or Flexibility)
- **CWSN (Children with Special Needs – Divyang): Bocce/ Boccia, Sitting Volleyball, Wheel Chair Basketball, Unified Badminton, Unified Basketball, Unified Football, Blind Cricket, Goalball, Floorball, Wheel Chair Races and Throws, or any other Sport/Game of choice.
- **Children with Special Needs can also opt any one Sport/Game from the list as alternative to Yogic Practices. However, the Sport/ Game must be different from Test - 'Proficiency in Games and Sports'

******Record File shall include:***

- ***Practical-1:*** Fitness tests administration. (SAI Khelo India Test)
- ***Practical-2:*** Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.
- ***Practical-3:*** Anyone one IOA recognized Sport/Game of choice. Labelled diagram of Field & Equipment. Also mention its Rules, Terminologies & Skills.

CONTENT

Unit - 1

Changing Trends and Career in Physical Education

Key Point :-

- ✍ 1.1 Concept, Aims & objectives of Physical Education.
- ✍ 1.2 Development of Physical Education in India - Post Independence.
- ✍ 1.3 Changing Trends in Sports - playing surface, wearable gear and sports equipment, technological advancements.
- ✍ 1.4 Career options in Physical Education.
- ✍ 1.5 Khelo - India Program and Fit - India Program.

"Both Participation and study are vital to Physical Education"

—Dr. M.L. Kamlesh

1.1 Concept of Physical Education :-

Physical		Education
↓		↓
Body and its embedded	+	Knowledge and its embedded
↓		↓
Mind, Spirit, Organ etc.		Development, Knowledge, Preparation etc.

"Physical and Physical Activities are the process, Education is their result"

"Physical and Physical Activities are the cause, Education is their effect"

So, physical education can be referred to an education process which aims to develop human personality through activity.

Or, We Can Say that:-

Physical Education is that part of Education which study the health, sports, athlete, tournaments, nutrition, injuries and body with its embedded – Mind, organs and muscles etc. to makes a person all rounder.

Physical Education is a process through which an individual obtain optimal physical, mental, social skills and fitness through physical activity.

- Lumpkin

Definition of Physical Education

- **According to D.Oberteuffer's—**"Physical Education is the sum of those experiences which come to the individiual through movements."
- **According to J.B. Nash—**"Physical Education is that phase of the whole field of education that deals with big muscle activities and their related responses."

Aim :-

To makes wholesome personality of a person / all round development.

Objectives of Physical Education

Aim is highest general purpose, objectives are specific. So, after study physical educators, philosophers, international and national association on physical

education, we can conclude the following main objective to achieve the ultimate aim. They are given below:

- **Physically Strong:-** Physical education enhance this aspect which include the fitness-strength, speed, flexibility, endurance along with proper functioning of organs with strong muscles and bones.
- **Mental Development:-** Mental alertness, concentration requires in sports and games along with theoretical study of physical education as subject. So, it improves and develops thinking, intelligence, knowledge, analysis, cognitive and intellectual abilities etc.
- **Social Adjustable:-** Physical Education gives the platform of competition and co-operation with wide scope to learn honesty, socialization, leadership, discipline work ethics through sports and physical activities.
- **Emotional Balance:-** Win, defeat, aggression, fear, pleasure, love, anger, patience etc. are involved in physical education and its embedded part of sports. So, anyone can learn, how to get through it and balance himself/ herself by learning physical education.
- **Spiritually Development :-** Peace, moral values, forgiveness develops with the help of Physical Education.

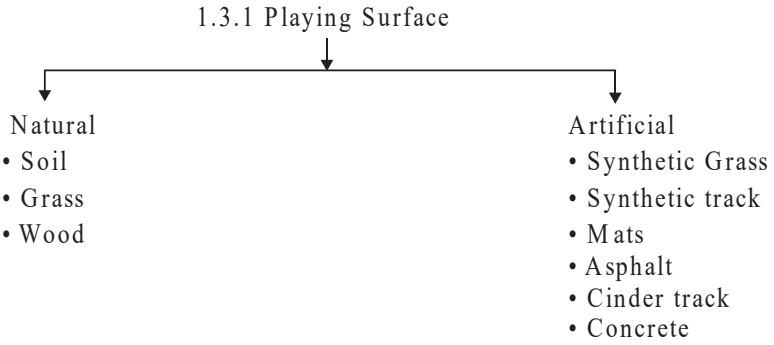
1.2 Development of Physical Education in India - Post independence Government of India was setup Central Government Physical Education Committtee "Tara Chand Committee" in 1948 which recommends central Instiute of Physical Education and Recreation and improvement of standards of games and sports in India. In 1950 central Advisory Board of Physical Education was set up. First Asian Games were held in 1951 at New Delhi which motivate Indian youth to participate in games and sports at International level. In 1954 All India council of sports came in to existance with a purpose to liasion between Govt. and National Sports Federations in order to assistant in financial matters. Lakshmibai college of Physical Education was established in 1957 at Gwalior M.P. National Institute of Sports (NIS) was setup in 1961 at Moti Bagh, Patiala, Punjab.

In 1982 Asian Games were held in India which give huge boost in infrastructure and facilities related with sports.

1984 sports Authority of India (SAI) was established. XIX common wealth Games 2010 Games was conducted in New Delhi. In 2018 CBSE launched Physical Education as compulsory subject in class IX to XII as mainstreaming Health, PHysical Education.

1.3 Changing Trends in Sports

1.3.1 Playing Surface

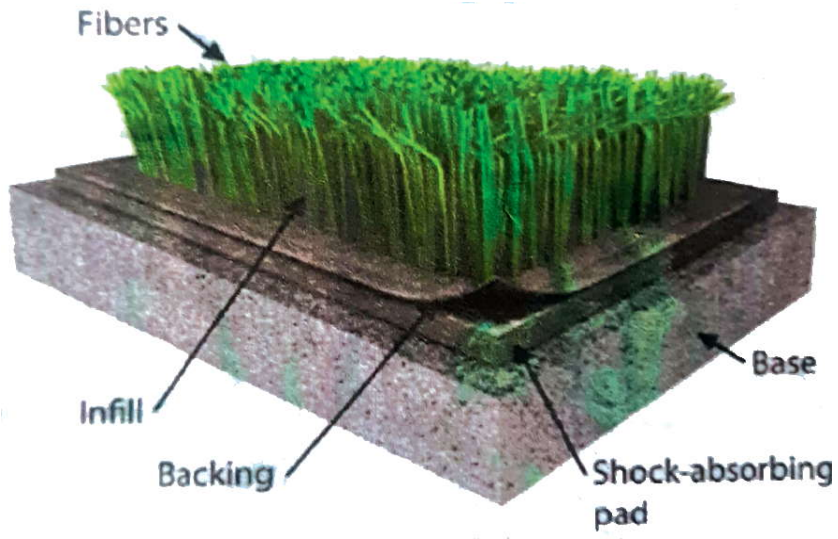


Acc. to A Research study Artificial turf Industry (Playing surface industry) is Expected to Reach 12.6 Billion Dollars By 2027.

The world is changing from postcard to Internet text. Today the sports is progressing. Innovating and changing day by day. The synthetic grass come in place of natural grass. The athletics events started on soil track goes to grass track than change to cinder track now it switch to synthetic track. Artificial grass came to prominence in 1966, when astro turf was installed in astrodome in Texas (U.S.A). Artificial turf has gained recognition from several bodies – IOC, NOC, IFS, NFS etc. We can understand the reason of artificial turf recognition of differentiation below

		Natural turf	Artificial turf
Durability	–	Less	More
Cost of Maintenence	–	More	Less
Drainage	–	Crucial	Proper
Maintain	–	Difficult	easier
Water	–	Needs more	Needs less

Needs to give Rest	Endure Extensive use
Friction – More	Friction – Less
Become Muddy in rainy season	Not much effects of weather

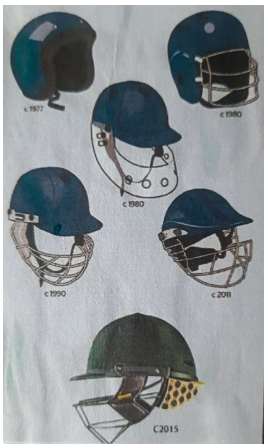


1.3.2. Wearable Gears

Attire
- Foot Wear
- Leotard
- Cap
- T-Shirt
- Track Pants
- Shorts

Protective
- Helmet
- Knee Guards
- Gloves
- Mouth Guards
- Wrist Guards
- Elbow Guards
- Shin Guards
- Chest Guards
- Show Guards

Technology
- Smart Watch
- Pulse tracker
- Calorie Burn tracker
- Activity tracker



Right gear for right sports – does improve the protection and performance in sports. Cricket in shooting shoes is lot harder and less fun. With time sports scientist come to know that every different sports need different attire and wearable gear. So, athletics and cricket shoes has spikes, basketball shoes have high ankle and tennis, badminton shoes are having less friction. Likewise gymnast needs tight leotards and cagers needs loose attire. The outdoor games attire fabrics are also change with time from bamboo, cotton, wool, nylon to polyster, tencel, dryfit etc.

The Revenue of Nike is 36.39 billion Dollar in 2021

1.3.3. Sports Equipments

Sports Equipments

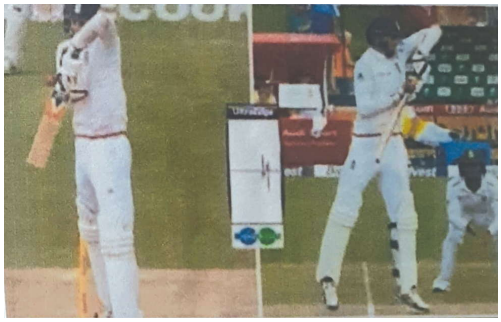
Game Equipments	Training Equipments	Player Equipments
• Balls	• Swiss Ball	• Footwear
• Goal Posts	• Weights	• Helmet
• Nets	• Rope	• Mouth guard
• Wickets	• Chin-up Bars	• Shin pads
• Racquets	• Tread mill	• Elbow pads
• Bat	• Gym Equipments	• Shoulder pads
• Clubs		• gloves
• Sticks		
• Mats		

Sports equipments are the tools, materials, apparel and gear used to compete in sports varies according to sports. The equipment ranges from balls, nets and protective gears like helmet over time sports equipment has evolved because of technology, Innovation, Spectators, Competition, Advancement and Protection. Global Market Size of sports equipment is at 331.4 billion Dollar in 2021.

The changing trends in sports equipment bringing the performance improvement, safety, fun, positive way of competition, spectators attraction, beautification, proper decision, business etc. in sports.

1.3.4. Technology Advancements

Technology is a huge thing within sports, from telecasting of sports to the correct decision. From performance improvement to injury savers. From Physical watch of sports match on T.V. Mobile and OTT Telecast of matches. From man made equipments to machines HD equipments monitor health gadgets and many most advancements and changes took place with time.



Technology Advancement Examples!

- Artificial intelligence
- Smart bails in cricket
- Snicko or edge detector
- Hawk eye
- Flying drones and camera movements
- Photo finish camera
- Video assistant reference
- Athlete's clothing and equipments
- Player and game graphics
- GPS tracker, RFID chips
- Fantasy league e-sports
- Fully Automatic Timing

1.4 Career Options in Physical Education

Although, all careers depend on Health. Even, many careers directly related to Physical Education for e.g. Teacher, Coach, Business, Official, Equipment Design, Sportsperson, Administrator, Technology, Video-Biomechanics Analyser, fitness, wellness etc. And almost all careers depends on physical education indirectly, where physical education works as synergy to them e.g. – Defence, Doctor, Engineer, Scientist, Pilot etc. Physical education is helping all. Along this, many job has special quota for sportsperson in jobs with age relaxation too.

Below is the list for career option in Physical Education directly :-

1. In Teaching Sector	2. In Training Sector (Coaching)	3. (In Hearth/ Fitness related Sector	4. In Performance related Sector	5. In Media Sector	6. Tecrmology	7. Officials
At Primary Level • Instructor • Teacher	**In Schools, colleges, University** • Coach	**Sports Fitness/ Trainer /** Medicine Sports Dietician	**Professional Players Partner/Training Players**	Sports Journalism Book Author	**Technology Engg.**	**Referee**
At Middle • Teacher • Demonstrator	**In Various Sports Institutions** • Ground Employees	**Sports Psychologist**	**Sports Planning Officer**	Sports videography/ photography	**Technology Assistant**	**Umpires**
At Secondary level • Lecturer	**Industrial Recreation,** Masseur	**Sport Nutritionist**	**Sports Management Event manager**	Sports Broadcasting	**Equipment Designer**	**Judges**
At College and University level • Professor Teaching at other	**Sports Facility Management**	**In Gym as Athletic Trainer**	**Recreational Sport Management**	**Sports advertising (Sports equipments marketing)**	**Movement (Bio-Analyser)**	
Professional institution • Sports Scientist • Researcher	**Administration** • Director • Sports officer	**Health/Fitness/ W ellness Industry Weight management Yoga**	**Performance Talent (sports) identification**		**Laboratory**	

There are many new careers in physical education for e.g. – Practice and Training Partner, Athlete Promotion Management Company, International League Competition, Coaching to foreign country team. (Iran Team Women Kabaddi trained by Indian Coach which won Asian Gold 2018).

1.5 Khelo India Programme :-

It is a national level programme started by Govt. of India for the development of sports with mass participation and promotion of excellence. It was launched in the year 2018. The inaugural 2018 games had students competing for 209 Gold Medals across 16 sports in Delhi. Telecast on national and international sports channel like Star Sports with all international facilities to the players.

Change in Name: Formerly Khelo India School Games (KISG) now called Khelo India Youth Games (KIYG).

Categories : Two categories namely under-17 years School students and under 21 years college students.

Scholarship : Priority Sports and Identified players will be given an annual scholarship of Rs. 5 lakh (US$7000) for 8 years to prepare them for international sports events.

Edition, Medals & Sports :-

I Edition — 31 Jan. to 08 Feb. 2018 at Delhi in 16 sports, Haryana was the overall champion, followed by Maharashtra and Delhi with 38, 36, 25 Gold Medals respectively.

II Edition — 09 Jan. to 20 Jan. 2019 at Pune, Maharashtra with total for 403 Gold, Maharashtra was the overall champion, followed by Haryana and Delhi with 85, 62, 48 Gold Medals respectively.

III Edition — Jan. 10 to Jan. 22, 2020 at Guwahati, Assam with total for 447 Gold in 20 sports Maharashtra was the Champion, followed by Haryana and Delhi with 78, 68, 39 Gold Medals respectively.

IV Edition — 4th Edition in June. 2022 is held in Haryana where four indigenous games are added - Gatka, Kalaripayattu, Thang-ta and Mallakhamb. Haryana become champion followed by Maharashtra and Karnatka.

Khelo India Winter Games : Khelo India Winter Games are also started in 2020 for winter games in India at Leh and Gulmarg in 17 sports for 49 Gold Medals, Jammu and Kashmir was the overall champion.

Khelo India University Games : A multi-sport event among the Universities

of India the inaugural edition held in from 22 feb to 01 March 2020 in age group of 18 to 25 years in 17 sports for 206 Gold, where Panjab University Chandigarh was the overall champion with 17 gold and 19 silver followed by Savitribai Phule Pune university Maharashtra with 17 gold and 11 silver, third spot won by Punjabi University Patiala with 13 gold medals. IInd Khelo India Unversity games held at Banglore in 2022 where Jain University–Banglore, Lovely Professional University Ludhiana and Panjab University Chandigarh got Ist, IInd and IIIrd Place Respecitively.

Vision :- Infuse sports culture and achieve sporting excellence in the country.

Mission :-

- Encourage sports for all across gender and all age group.
- Holistic Development of children and youth.
- Community Development
- Social integration
- Gender equality
- Healthy lifestyle
- National pride and economic opportunities related to sports development
- Support to academies (At least one for Para. Athlete)

Objectives:-

- Mass Participation
- Promotion of excellence in sports.

Merger:-

- Rajiv Gandhi Khel Abhiyan
- Urban Infrastructure Scheme

- National Sports Talent Search Scheme

Fit India Programme

Fit India programme was launched on 29th August, 2019 by Honourable Prime Minister with a view to make fitness an integral part of our daily lives. The mission of the Movement is to bring about behavioural changes and move towards a more physically active lifestyle. Towards achieving this mission, fit Indiaproposes to understake various initiatives and conduct events to achieve the following objectives:

- To promote fitness as easy, fun and free.
- To spread awareness on fitness and various physical activities that promote fintess through focused campaign.
- To encourage indigenous sports.
- To make fitness reach every school, college/university, panchayat/village, etc.
- To create a platform for citizens of India to share information, drive awareness and encourage sharing of personal fitness stories.

SHORT QUESTIONS (OBJECTIVE) (1 MARK)

Q.1 Assertion (A) : Right gear for right sports does improve the protection and performance in sports.

Reason (R) : Sports gears protect from injuries.

Codes:

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true, but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

Ans. (a) Both A and R are true and R is the correct explantion of A.

Q.2 Where did first Khelo India Winter Games held?

(a) Leh and Gulmarg

(b) Shimla and Manali

(c) Srinagar

(d) Chamoli and Auli

Ans. (a) Leh and Gulmarg

Q.3 What is the aim of physical Education?

(a) Physical development of a person

(b) Motor development of a person

(c) Mental Devclopment of a person

(d) All Round development of a person

Ans. (d) All Round development of a person

Q.4 Sports management is bassed upon....?

(a) Efficient and Talented officials

(b) Smart and clever officials

(c) Weak and Greedy officials

(d) None of these

Ans. (a) Efficient and Talented officials

Q.5 For a Reporter what qualities are desired most?

(a) Sweet Speaking skills

(b) Soft Speaking skills

(c) Excellent Speaking skills

(d) Beautiful Personality

Ans. (c) Excellent Speaking skills

Q.6 What is the scope of Coaching?

(a) Social Parks - Fitness Camp

(b) Sports Clubs

(c) Hotels - Gym

(d) All of the above

Ans. (d) All of the above

Q.7 Thomas cup is related to which Game?

(a) Hockey

(b) Judo

(c) Badminton

(d) Football

Ans. (c) Badminton

Q.8 Where did first 'Khelo India Games' were held?

(a) Mumbai

(b) Delhi

(c) Hyderabad

(d) Kolkata

Ans. (b) Delhi

Q.9 Which state of India stood first in first 'Khelo India Games' in 2018?

(a) Delhi

(b) Punjab

(c) Kerala

(d) Haryana.

Ans. (d) Haryana

Q.10 How many sports discipline will be there in fourth 'Khelo India Games'?

(a) 12

(b) 24

(c) 16

(d) 18

Ans. (b) 24

Q.11 When did the first 'Khelo India Games' were held?

(a) 2016

(b) 2018

(c) 2017

(d) 2019

Ans. (b) 2018

Q.12 What is the word 'Physical' in Physical Education? Describe.

(a) Body only

(b) Participation in exercise

(c) Physical Tranining Related

(d) Body with all its embedded mind, spirit, organs with physical activity.

Ans. (d) Body with all its embedded mind, spirit, organs etc. with physical activity.

Q.13 Match the following

List I	List II
(A) National Institute of sports	1. Health related career
(B) B. P. Ed	2. Administration related career
(C) District sports Officer	3. Coaching
(D) Weight Control Club	4. Teaching

Codes

	A	B	C	D
(a)	4	2	3	1
(b)	3	1	2	4
(c)	3	4	2	1
(d)	2	1	4	3

Ans. (c) 3 4 2 1

SHORT - ANSWER TYPE QUESTION (2 MARKS)

Q.1 Define Physical Education.

Ans. Physical Education is that part of education which deals with health, sports, athlete, tournament, recreation, body and its embedded muscles, organ, mind, spirit to make a person all-rounder.

According to Lumpkin:-

It is a process through which an individual obtains optimal physical, mental, social skill and fitness through physical activity.

Q.2 Write about New Games under Khelo India Programme.

Ans. 1. Khelo India Winter Games : Started in 2020 for winter sports e.g. Ice Hockey, Ice Skating in Leh and Gulmarg.

2. Khelo India University Games : Multi-Sports Event among the universities of India started in 2020 in Bhuvneswar (Orissa)

Q.3 Write the purpose of established of NIS.

Ans. National Institute of Sports (NIS) was established in 1961 at Moti Bagh, Patiala, Punjab to produce qualified coaches in different games and sports. The purpose is to streamline coaching program in India.

Q.4 Define Social Adjustable objective of Physical Education.

Ans. Physical Education enhance this aspect by giving the platform to participate in play, physical activity which develop the sense of socialization, discipline, loyalty, honesty, leadership etc.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

Q.1 What do you mean by sports journalism?

Ans. Through sports journalism we mean that we can gather information regarding all sports acitivites and to callect different types of material required for physical education. Such physical education teachers who have skill in communicating by oral or writing can avail the career option in the field of sports journalism.

Q.2 What is the objective of physical education?

Ans.
- Physically Strong
- Mental Development
- Socially and Adjustable
- Emotionally Balance
- Spiritually Develop

Q.3 Discuss the teaching career in physical education.

Ans.
- Elementary School :- Teacher, Demonstrator
- Middle School :- Teacher
- Sr. Secondary School :- Lecturer
- Collage and University :- Professor, Researcher, Director

CASE STUDY QUESTION

Q.1 Rahul has won Gold Medal in Khelo India Games 2020, Principal ask him to speech on stage about his glory. By study above case answer the following

1. How many Khelo India Sports events in edition 2020 ?

   (a) 18 (b) 19 (c) 20 (d) 21

   Ans. (c) 20

2. What is Khelo India Games ?

   Ans. National level multi-disciplinary grass root games in India.

3. How much scholarship national level programme for development of sports an Athlete recieve, if selected

   (a) 5 Lakh for 8 years (b) 8 Lakh for 5 years

   (c) 5 Lakh for 1 year (d) 3 Lakh for 2 years

   Ans. (a) 5 Lakh for 8 years

LONG - ANSWER TYPE (5 MARKS)

Q.1 Write a short note on the following :

(*i*) Book Publishing

(*ii*) Sports Photography

Ans. (*i*) Book Publishing: There are a number of publishing houses who publish books concerning physical education.

They need highly qualified Physical Education experts who possess extraordinary knowledge in this field. Alongwith its sub-discipline health education is developing and in all these disciplines publishing houses need persons to take care of books in the process. Editorial workers are also needed by most of the publishing houses. They need such persons who are aware of publication needs. These personnels should have knowledge of physical education writing and Editorial skill. Personnels are also required for direct sales. The person doing the sale job should have a good knowledge of the field of physical education and comparative value of the available books. They should have the idea of market and experience in organising sales and convincing power.

Thus, there are a lot of opportunities in every field to step in. Sales opportunities are available almost on similar lines in the fields of magazines and journal particularly those which are related with sports.

(*ii*) Sports Photography: This is again a vast open field but this field again needs physical education experts who have particular interest in photography. They should have the capacity to communicate with the masses through clear and illustrative photographs. The photographs should be self-explanatory.

These are scopes of journals, newspapers which require such photographers. At therefore, here we see lot of scope available for physical education experts who have aptitude to be a photographer. Courses in photography coupled with experience is a must for these kind of jobs.

Q.2. Discuss administration careers in detail.

Ans. (*i*) Department of Physical Education. There are many universities and some colleges in India, where various courses of physical education is studying. In such departments, the administration lies in the hands of chairman or head. He is the sole administrator of the teaching department. Teachers of physical education and other clerical staff work under the chairman/head. The senior teachers of the department usually acts as the chairman. There is no need for separate management qualifications for such post, because it is based on the seniority many of times.

There are always a number of people and organisations who want to have sports facilities where they can exercise to remain healthy, fit and for the purpose of recreation. They desire facilities of gymnasium, health club, fitness centre, stadium, sports complexes, ice arenas, and aquatic centre or swimming pool. In such fields, facilities managers are required.

Q. 3. Write the advantages of changing trends in sports equipment

Ans.
1. Performance upliftment
2. Correct decision
3. Injury saver
4. Spectators attraction
5. Sports business industry progression
6. Beautification of sports
7. Sports broadcasting
8. Competition sprit development
9. Olympic sprit development

Q.1 Write the objectives of Physical Education.

Ans. Objectives of Physical Education

Aim is highest general purpose, objectives are specific. So, after study physical educators, philosophers, international and national association on physical education, we can conclude the following main objective to achieve the ultimate aim. They are given below:

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- **Emotional Balance:-** Win, defeat, aggression, fear, pleasure, love, anger, patience etc. are involved in physical education and its embedded part of sports. So, anyone can learn, how to get through it and balance himself/ herself by learning physical education.
- **Spiritually Development :-** Peace, moral values, forgiveness develops with the help of Physical Education.

Unit - 2

Olympism Value Education

Key Point :-

- ✍ 2.1 Olympism - Concept and Olympic values (Excellence, Friendship and Respect.)
- ✍ 2.2 Olympic value Education - Joy of Effort, Fair Play, Respect for others, Pursuit of Excellence, Balance Among Body, Will and Mind.
- ✍ 2.3 Ancient and Modern Olympics.
- ✍ 2.4 Olympic - Symbols, Motto, Flag, Oath and Anthem.
- ✍ 2.5 Olympic Movement Structure - IOC, NOC, IFS, Other members. (IOC - International Olympic Committee, NOC - National Olympic Committee, IFS - International federation of Sports)

2.1 Olympism: Concept and Olympic Values

Concept of Olympism

Olympism is a philosphy of life it balance the body as whole, will and mind. The practice of sport is a Human Right. Every individual must have the possibility of practising sports without discrimination with olympic spirit. The goal of olympism is to place sports for harmonious development of human kind. The olympic movement is the concerted, organised, universal and permanent action under the supreme authority of the IOC

Olympism Values :

- Excellence
  - Respect
  - Friendship
- **Excellence :-** Means doing the best we can on the field of play or in Professional life. The important thing is not winning, but taking part, enjoy the healthy combination of body, will and mind.
- **Respect :-** This include respect for yourself and your body, for other people, for rules and regulation for sports and for the environment.
- **Friendship :-** Friendship is heart of Olympic movement. it encourages us to see sports as an instrument for mutual understanding between individuals and between people all over the world.

2.2 Olympic Value Education

- **Joy of Effort :** Every human being has a fundamental right to access to physical Education and sport. Sports or physical activities should be promoted with appropriate opportunity to enjoy the energy and effort with relative outcomes.
- **Fair Play:** Fair play refers to playing by the rules. There are many ways through which the concept of fair play can be reflected like shaking hands with the opponent of the end of the game, appreciating the opponent's extraordinary performance etc. Learning fair play behaviour in sport can lead to the development and reinforcement of similar behaviour in one's everyday life and towards the community he/she lives in.

- **Respect for Others:** We need to accept and respect diversity and promote peace. We should appreciate the worth of all peoples and all cultures, irrespective of race, age, gender and ability. This acceptance can be achieved through sport, because a sports team may consist of people form different cultures, all focused on one goal, that is victory for the team.
- **Pursuit of Excellence:** Sports provide an opportunity to players to become the best or to make healthy choices in safe social and physical surroundings. Sports provide an environment free from discrimination, harassment and fear. It is also a place in which individual differences and cultural traditions are valued and respected.
- **Balance Among Body, will and Mind:** The focus of the modern Olympic movement extends beyond Sports, embracing cultures, artistic works, environmental awareness and education. All of these can play their part in helping young people to build a balanced approach to life. Physical learning took place in both body and mind but it could not be done without will. Sport is a medium of balancing body, will and mind.

2.3 Ancient and Modern Olympics

a) **Ancient Olympics:** Ancient Olympics started in 776 B.C. and abolished in 394 A.D. by Roman Emperor Theodosius-I, the games were held in honour of God Zeus and only for born Greek. The winner of first Olympic in 776 B.C. was corebus mile wreath made from the leaves of sacred olive tree was awarded to winner.

b) **Summer Olympics / Modern Olympic Games:** Modern Olympic games started in 1896 in Athens (Greece). 16 June 1894 in Paris with 75 representatives of 13 countries conference headed by father of modern Olympic games (Baron Pierre De-Coubertin) decided to organized the Olympics in every four years. There time Olympics cancelled due to World War-I in 1916 & World War-II in 1940 & 1944. One time Olympic games postponed from July 2020 to the July 2021 due to World Pandemic Corona Virus held at Tokyo (Japan) Gold, Silver, Bronze medal with diploma awarded to winners. Paris and New York are schedule for 2024 and 2028 Olympics.

Difference and similarities between Ancient and Modern Olympics

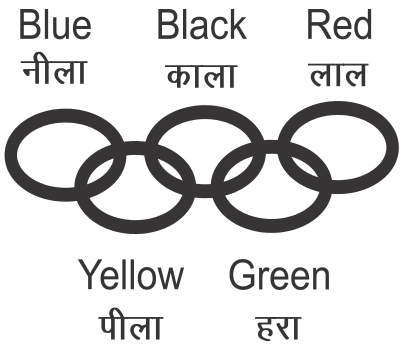
Ancient Olympic	Modern Olympic
1. Held only at Olympia in Greece	1. Held at different cities of the world.
2. Participant must be free born Greek	2. Participant shall be natural born of member country.
3. Religious festival for Greek in the Honour of God Zeus	3. International Sports gathering for peaceful and better world.
4. Conduct for five days.	4. Conduct for sixteen days.
5. Once in four year with Amateur Players	5. Once in four year with Amateur Players.

2.4 Olympics - Symbols, Motto, Flag, Oath and Anthem

Olympic Symbol :- According to Olympic Charter, the Olympic Symbol consists of five interlaced rings of equal dimensions (the Olympics rings). When use in five colour version, these colours shall be from left to right, blue, black and red rings are situated at the top. The yellow and green rings at the bottom. The Olympic symbol expresses the activity of the Olympic movement and represent the union of the five continents and the meeting of athletes from throughout the world at the Olympic Games.

Olympic Motto :- The olympic motto is made of four latin words—"citius, Altius, Fortius and Communiter" means — "Faster, Higher, Stronger and Together" communiter word added in 'Tokyo 2020 olympics held in 2021 at Tokyo.

Olympic Flag :- The olympic flag is a white rectangular banner with a length - to - width ratio of 3 : 2. It features the olympic symbol of five interlocking rings in the center, positioned on a white background. The rings are coloured in blue, yellow, black, green and red, representing the five continents of the world. It is sued first time in 1920 Antwerp Olympics.



Olympism Oath :- New Oath Effective From Sydeny Qlympics-2002: "In the name of all the competitors I promise that we will take part in these Olympic games respecting and abiding by the rules which govern them without the use of doping and drugs in the true spirit of sportsmanship for the glory of sport and the honour of our teams."

Olympic Anthem:

The Olympic Anthem is Musical work entitted olympic Anthem' Composed by Spiro Samara.

2.5 Olympic Movement Structure

Olympic Movement Structure

International Olympic Committee (IOC)	National Olympic Committee (NOC) e.g Indian Olympic Association	International Federation of Different Sports e.g Fifa (IFS)	Organising Committee of Olympic Games (OCOG)

Mission and Role of the International Olympic Committee (IOC) Eastablishment Year - 23 June 1894

Headquarter - Lausanne Switzerland

The mission of the IOC is to promote Olympism throughout the world and to lead the Otympic Movement. The IOC's role is :

1. To encourage and support the promotion of ethics and good governance in sport as well as education of youth through sport and to dedicate its efforts to ensuring that, in sport, the spirit of fair play prevails and violence is banned.

2. To encourage and support the organisation, development and coordination of sport and sports competitions.
3. To ensure the regular celebration of the Olympic Games.
4. To cooperate with the competent public or private organisations and authorities in the endeavour to place sport at the service of humanity and thereby to promote peace.
5. To take action to strengthen the unity of the Olympic Movement, to protect its independence, to maintain and promote its political neutrality and to preserve the autonomy of sport.
6. To act against any form of discrimination affecting the Olympic Movement.
7. To encourage and support elected representatives of athletes within the Olympic Movement, with the IOC Athletes' Commission acting as their supreme representative on all Olympic Games and related matters.
8. To encourage and support the promotion of women in sport at all levels and in all structures with a view to implementing the principle of equality of men and women.
9. To protect clean athletes and the integrity of sport, by leading the fight against doping, and by taking action against all forms of manipulation of competitions and related corruption.
10. To encourage and support measures relating to the medical care and health of athletes.
11. To oppose any political or commercial abuse of sport and athletes.
12. To encourage and support the efforts of sports organisations and public authorities to provide for the social and professional future of athletes.
13. To encourage and support the development of sport for all.
14. To encourage and support a responsible concern for environmental issue, to promote sustainable development in sport and to require that the Olympic Games are held accordingly:

15. To promote a positive legacy from the Olympic to the host cities, regions and countries;

16. To encourage and support initiatives blending sport with culture and educations:

Mission and Role of the National Olympic Comittee (NOC's)

1. The mission of the NOCs is to develop, promote and protect the Olympic Movement in their respective countries, in accordance with the Olympic Charter.

2. The NOCs' role is:

    - To promote the fundamental principles and values of Olympism in their countries, in particular, in the fields of sport and education, by promoting Olympic educational programmes in all levels of schools, sports and physical education institutions and universtities, as well as by encouraging the creation of institutions dedicated to Olympic education, such as National Olympic Academies, Olympic Museums and other programmes, including cultural, related to the Olympic Movement.
    - To ensure the observances of the Olympic Charter in their countries:
    - To encourage the development of high performance sport as well as sport for all;
    - To help in the training of sports administrators by organising courses and ensuring that such courses contribute to the propagation of the Fundamental Principles of Olympism.
    - To take action against any form of discrimination and violence in sport;
    - To adopt and implement the World Anti-Doping Code:
    - To encourage and support measures relating to the medical care and health of athletes.

3. The NOCs have the exclusive authority for the representation of their respective countries at the Olympic Games and at the regional, continental or world multi-sports competitions patronised by the IOC. In addition,

each NOC is obliged to participate in the Games of the Olympiad by sending athletes.

4. The NOCs have the exclusive authority to select and designate the interested hosts which may apply to organise Olympic Games in their respective countries.
5. In order to fulfil their mission, the NOCS may cooperate with governmental bodies, with which they shall achieve harmonious relations. However, they shall not associate themselves with any activity which would be in contradiction with the Olympic Charter The NOCs may also cooperate with non-govemmental bodies.
6. The NOCs must preserve their autonomy and resist all pressures of any kind, including but not limited to political, legal, religious or economic pressures which may prevent them from complying with the Olympic Charter.
7. NOCS have the right to:
    - designate, identify or refer to themselves as "National Olympic Committees ("NOCS"), which designation or identification shall be included or referred to in their name,
    - send competitors, team officials and other team personnel to the Olympic Games in compliance with the Olympic Charter,""7.3 benefit from the assistance of Olympic Solidarity.

Mission and Role of the IFs within the Olympic Movement

International Federation of Different Sports

1. Mission and role of the IFs within the Olympic Movement
    - To establish and enforece, in accordance with the Olympic spirit, the reules concerning the practice of their respective sports and to ensure their application;
    - To ensure toe development of their sports throughout the world;
    - To contributes to the achievement of the goals set out the Olymple Charter, in particular by of the spread of Olympism and Olympic education;

- To support the IOC in the review of candidatures for organising the Olympic Games for their respective sports:
- To assume the responsibility for the control and direction of their sports at the Olympic games:
- For other internationa multisport competitions held under the patronage of the IOC, IFs can assume or delegate responsibility for the control and direction of their sports;
- To provide technical assistance in the practical implementation of the Olympic Solidarity programmes;
- To encourage and support measures, relating to the medical care and health of athletes.

2. In addition, the IFs have the right to:
   - To formulates proposals addressed to the IOC concerning the Olympic Charter and the Olympic movement;
   - Collaborates in the preparation of Olympic Congresses;
   - Particles, on request from the IOC, in the activities of the IOC commissions.

Oraganising Committee of Olympic Games (OCOG)

The host of the olympic games shall be responsible for the establishment of an Organising Commitee ("OCOG"), for the purpose of the organisation of the Games and in acordance with the provisions of the Olympic Host Control.

From the time of contitution to the end of its liquidation, the OCOG and conduct all its activities in accordance with the Olympic Charter, with the agreement entered into between the IOG, the NOG and the host and with any other regulations or instruction of the IOC Executive Board.

OBJECTIVE TYPE QUESTIONS (1 MARK EACH)

Q.1. When was communiter word added to the olympic motto?

(a) 1920 (b) 2020

(c) 2000 (d) 2010

Ans. (b) 2020

Q.2. I.O.C. was formed in -

(a) 1886 (b) 1894 (c) 1892 (d) 1880

Ans. (b) 1894

Q.3. Ancient Olympic Games were organised in the honour of God _____

(a) Hercules (b) Theodosious

(c) Posedon (d) Zeus

Ans. (d) Zeus

Q.4. How many rings Olympic symbol has -

(a) Three (b) Two (c) Five (d) One

Ans. (d) Five

Q.5. Where is the headquarters of IOC.

(a) New York (b) Switzerland

(c) Paris (d) France

Ans. (b) Switzerland

Q.6. Who is the first president of Indian Olympic Association (IOA)?

(a) Sir Dorabji Tata (b) Jawaharhal Nehru

(c) Sardar Vallabh Bhai Patel (d) M.K. Gandhi

Ans. (a) Sir Dorabji Tata

Q.7. When was I.O.A. established?

(a) 1937 (b) 1935 (c) 1925 (d) 1927

Ans. (d) 1927

Q.8. When was the first Modern Olympics held?

(a) 1966 (b) 1896 (c) 1970 (d) 1876

Ans. (b) 1896

Q.9. Who is known as the father of modern Olympics?

(a) Prof Jigaro kano (b) Sir Dorabji Tata

(c) Pierre Barron De Coubertin (d) Joce Rogges

Ans. (c) Pierre Barron De Coubertin

Q.10. Match the following

	List I		List II
A	Africa	1	Red
B	America	2	Yellow
C	Asia	3	Black
D	Australia	4	Green

Codes

	A	B	C	D
(a)	2	1	4	3
(b)	3	1	2	4
(c)	3	4	2	1
(d)	1	3	4	2

Ans. (b) 3 1 2 4

Q.11. Assertion (A) : The first ancient Olympic Games Started in 776 BCE

Reason (R) : Father of Modern Olympic Games was Pierre, Baron De coubertin codes :

(a) Both A and R are true and R is the correct explanation of A

(b) Both A and R are true, but R is not the correct explanation of A

(c) A is true but R is false.

(d) A is false but R is true

Ans. (b) Both A and R are true, but R is not the correct explanation of A.

SHORT TYPE QUESTIONS (02 MARKS)

Q.1. Does Olympic symbol ring colour represent particular continent?

Ans. No, The coloured rings do not represent any Continent Individually (for e.g some believe Red to America) as erroneously believed by some people. Nothing has written about this in Olympic charter.

Q.2. What is Olympic Oath?

Ans. At the beginning of the game, the host country representative will take oath on behalf of all participating athletes. That is "we swear that will take part in the Olympic games in loyal competition respecting and abiding by the rule which govern them without the use of doping and drugs in the true spirit of sportsman ship for the glory of sports and the honour of our teams". The flag bearers of the competing nations also take up their positions at the time of oath taking ceremony.

SHORT TYPE QUESTIONS (03 MARKS)

Q.1 Write a short note on the Olympic flag.

Ans. Olympic flag were created in 1913 on the suggestion of Barron de coubertin. It was hoisted for the first time in 1920 Antwarp Olympic Games. Olympic flag is made of white silk and contains interlocking rings/circles in five colours which express the activity of the olympic movement and represents the five continents of the world. The interlocking rings Symbolises cooperation and friendship.

Q.2. Mention the rules for competition in Ancient Olympic Games.

Ans.

1. The competitor must be only a Greek, completely from a Hellenic race and must be physically fit.
2. Savages and punished persons weren not allowed to participate in these games.
3. The competitor had to stay in Olympic for one month before the begining of Olympic Games. They had to take an oath that they had already taken the training for 10 months in their state.
4. Women were not allowed to participate in competitions or see these games.
5. Only amateur sport persons could participate in these games and not the professionals.

SHORT TYPE QUESTIONS (03 MARKS)

Q.1. Difference and similarities between Ancient and Modern Olympics

Ans.

	Ancient Olympic		Modern Olympic
1.	Held only at Olympia in Greece	1.	Held at different cities of the world.
2.	Participant must be free born Greek	2.	Participant shall be natural born of member country.
3.	Religious festival for Greek in the Honour of God Zeus	3.	International Sports gathering for peaceful and better world.
4.	Conduct for five days.	4.	Conduct for sixteen days.
5.	Once in four year with Amateur Players	5.	Once in four year with Amateur Players.

Q.2. Give a brief account of the ancient Olympic Games.

Ans. The Sports was by no means a Greek invention. Despite severe condition of life; athletes down the history, men found time to enjoy a variety of sports. According to available history, the first ancient Olympic games were started in Olympic valley in 776 B.C. at that time that the games were held in honour of God Zeus, later on. Hercules, started the games and sports in the honour of his father. Although there was a lot of stories about the origin of ancient Olympic games. According to some other learned person there was wrestling competition between God Zeus and God Koronus in which the organization of games and sports was started. Whatever the reason behind the beginning of the game Olympic game was in beautiful valley named Olympia, due to this feet these games were called Olympic Games. During the games period or month any war or dispute might be taking place, would be stopped at once and a true would be declared.

The games were conducted in following way:

1. Opening Ceremony 2. Assembly 3. Oath

4. Events 5. Awards

The Ancient Olympic Games continued and was held for approximately thousand fears. In 394 A.D. The king of Rome stopped the organization of games, Stadiums were destroyed and revived after many decades, that called Modem Olympic Games.

Q.3 Discuss the main functions of International Olympic Committee (IOC).

Ans.

1. The place where the olympic will be organised is decided by this committee. The right to decide the days on which the games will be held also rests with the committee.
2. For conducting the competition and general programers for the olympics, fundamental rules and regulations are set up by this committee.
3. It also encourges and supports the promotion of ethics in sports as well as education of youth through sports.
4. It also ensures the regular conduct of the Olympic Games.
5. It takes action in order to strenghten the unity and to protect the independence of the Olympic movement.
6. It also acts against any form of discrimination affecting the olympic movement.
7. It encourages and supports the promotion of women in sports at all levels.
8. It deals the fight against doping in sports.
9. It encourages the development of sports for all.
10. It opposes any political or commercial abuse of sports and athletes.

Unit - 3

Yoga

Main Point :-

- ✍ 3.1 Meaning and Importance of Yoga
- ✍ 3.2 Introduction to Ashtanga Yoga
- ✍ 3.3 Introduction to Yogic Kriyas (Shat Karma)
- ✍ 3.4 Pranayama & its types
- ✍ 3.5 Active Lifestyle and Stress management through yoga

3.1 Meaning and Importance of Yoga

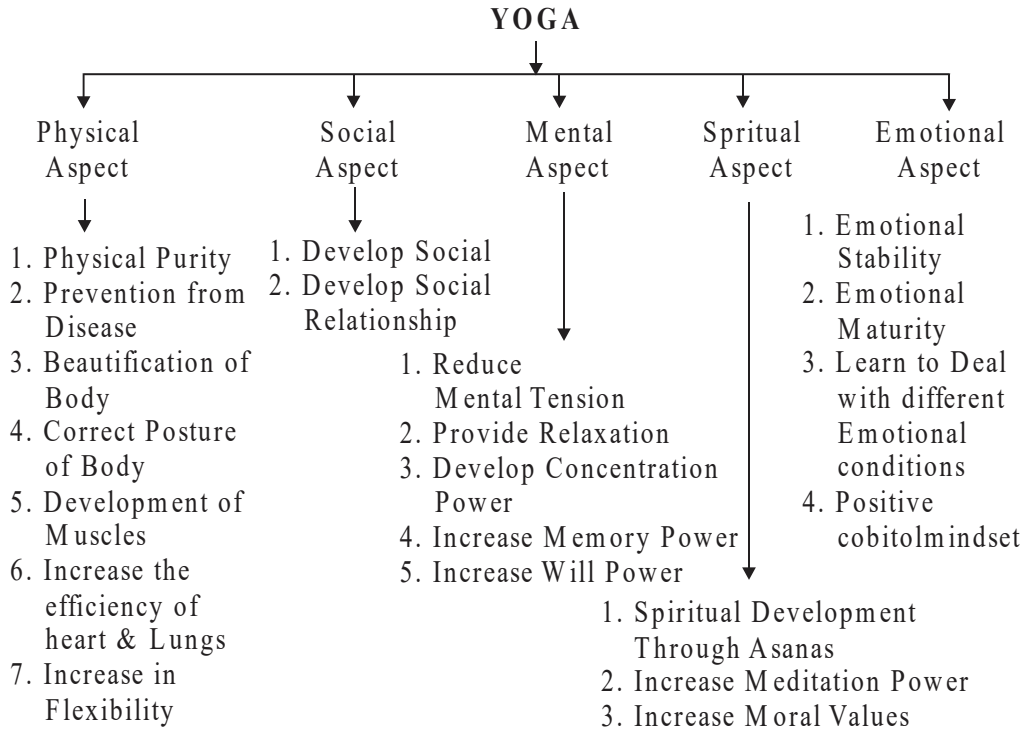
Meaning: The term yoga is derived form a Sanskrit word 'Yuj' which means to unite or union. In fact joining the individual self with the divine or universal spirit is called 'yoga'. It is a science of development of man's Consciousness.

According to Patanjali:- "Checking the impulse of mind is yoga".

According to Maharishi Ved Vyas:- "Yoga is attaining the pose".

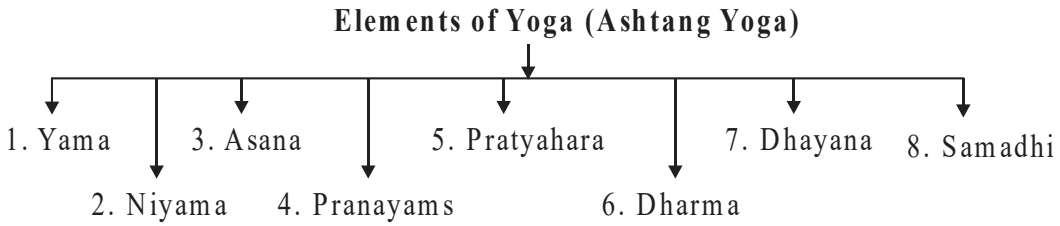
In Bhagwat Gita, Lord Krishna says, "Skill in action of efficiency alone is yoga.

Importance of Yoga:



3.2 Introduction of Ashtanga Yoga

The main aim of yoga is to control over the mind. This is Possible follow to eight fold paths or eight steps also know as "Ashtang Yoga" This system was developed by Maharashi Patanjali.



1. **Yama:** Restrains or observances regarding how the Yogi's should relate to his or her community. The Yamas are : **Ahinsa** (Non Violence) **Satya** (Truthfulness) **Asteya** (Non-stealing) **Brahamcharya** (Conservation of vital energy) **Aparigraha** (Non-hoarding)

2. **Niyama :** Intense observance that the Yogi's should carry out in his/her daily life in order to have a body and mind suited for Yoga. The Niyamas are soch (Clearliness of body and mind) **Santosh** (Contenment) **Tapas** (Disciplene) **Svadhgya** (Self study) **Ishvar Pranidhana** (Surrender to Divine)

3. **Asana :** It literally translates to 'SEAT'. These are meditative postures that promotes stillness of mind and physical efficiency while sitting in meditative postures for longer period of time.

4. **Pranayama :** 'Prana' is life/force/breath or vital energy and Yama means restraint. It means pranayama is extention of the life force. These are breathing practices that involves the retention of breath.

5. **Pratyahara :** Withdrawal of the senses from things that are not conducive to the practices of Yoga and process of moving from external world to internal world. When the 5 senses are quelled, the mind can then become still.

6. **Dharna :** Concentration or the forces or single thing, ideally something spiritually in nature.

7. **Dhyana :** Meditation, uninterrupted concentration, flowing concentration in which the meditator begins to merge with the object of meditation is called dhyana.

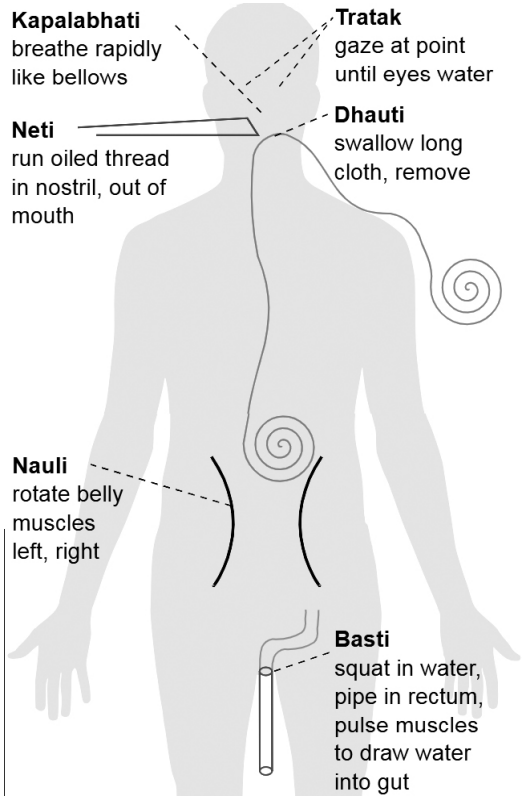
8. **Samadhi :** A super conscious trance in which the mind merges fully with and becomes one with the object of medititon (Atma ka parmatma se milan) in highest state of samadhi. This is ultimate state of medition.

3.3 Introductionto Yogic Kriyas (Shat karma)

The six kriyas of yoga in sanskrit is called 'shatkarma' which is actually purification techniques. The purpose of these cleansing techniques (shatkarma) is to keep the body strong, clean and healthy as this results into the removal of toxins and anything blocking the flow of 'prana' in the body. It should always be learned and practiced under the supervision of experts.

Importance of Shat karmas

- Shatkarmas cleanses and activates all vital organs of the body.
- It helps in purification of body.
- It helps in purification of mind.
- It helps in detoxification of various organs.
- It enhances the efficiency of all vital organs.
- It helps in increase in blood supply to the organs.



There are six cleansing processes according to Hath Yoga are as follows: Neti, Dhauti, Basti, Trataka, Nauli and Kapalbhati.

1. Neti : Keep nasal passages, clean

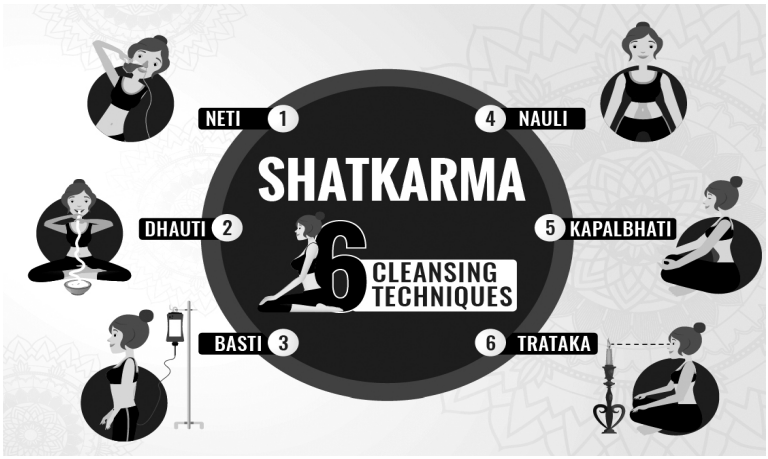
2. Dhauti: It means teeth or Mula which means roots. A cleansing process.

3. Basti : It is technique of replenshing the body internally by cleansing the colon completely.

4. Trataka : Train the eyes and mind. It helps in Strengthening of optic nerves for better eyesight.

5. Nauli: This is the technique used to clean the abdominal region specially digestive organs.

6. Kapalbhati : Kapal means forehead, bhati means shine



3.4 Pranayama

Pranayama is a compound term (Prana and Yama) meaning the maintenance of prana in a healthy manner throughout one's life. Pranayama is a science which helps to regularize vital energies through the regulation of breathing.

Pranayama practice involves slow deep inhalation (Puraka), holding breath (Kumbhaka) and near complete exhalation (Rechaka). The flow of Prana or vital energy to all the vital parts of the body is regulated by these breath-regulating practices. The main purpose of Pranayama is to gain control over the Autonomous Nervous System and mental functions. Regular practice of Pranayama can modulate the sensitivity of chemo-receptors and can also make the mind calm and quiet.

Types of Pranayama

These are the Pranayama mentioned in the Hatha Yoga Texts.

1) Nadishodhan or Anulom-vilom

2) Suryabhedana,

3) Ujjayi

4) Bharmari,

5) Sheetkari,

6) Sheetali,

1) Nadi Shodhana Pranayama Or Anulom-Vilom

Nadi shodhana pranayama is also known as Anuloma-viloma as Viloma means 'produced in the reverse order.' This practice gets the name from the fact that the order of using the nostrils for inhalation and exhalation is reversed from time to time.

2) Surya Bhedhana Pranayama

Surya is the sun and bhedhana means to get through. In Surya Bhedhana Pranayama all inhalations are done through the right nostril and all exhalations through the left.

3) Ujjayi Pranayama

In this practice, both the nostrils are used for inhaling air and the left one for exhaling. The sound -presented by the letters 'Aum' is to be produced during the practice, by a partial closure of the glottis. This sound is a peculiarity of this Pranayama and its name is derived from this fact.

4) Bhramari Pranayama

The word Bhramari means a black bee. While practicing this Pranayama, the sound produced resembles the buzzing of a black bee. Bhramari Pranayama is effective in instantly calming down the mind it is one of the best breathing exercises to keep the mind free of agitation, frustration or anxiety and get rid of anger to a great extent.

5) Sheetkari Pranayama

The word SheetKari is made up of 2 words "Sheet" means "Coolness" and "Kari means " Denerate Sheetkari Pranayama literally means "Hissing Breath" In this breathing technique, we make a sound like a snake (hissing sound) while breathing in from our mouth, that is why it is also known as Hissing breath Shitkari Pranayama is very helpful in keeping our mind and body calm.

6) Sheetali Pranayama

As the name indicates, this Pranayama cools the system. It helps to keep the body's temperature down. In it we open our mouth, bring the tongue outside the mouth and form a cylindrical shape by bending both the extreme sides of the tongue longitudinally and inhale. Then close our mouth. Retain breath for as long as we can while pressing the chin against the chest (chin lock), simultaneously pulling your rectum muscles (anal lock).

3.5 Active Lifestyle and Stress Management Through Yoga

Yoga brings happiness, peace of mind and a positive state of health because you aligns the body, mind and intellect level by proper knowledge of structure and function, through self-realization of inner awareness.

The Yogic asanas stretch and tone every muscle and joint of the body, as well as the spine, and skeletal muscles, the organs, as well as nerves, keeping the entire system in radiant health.

The yogic breathing practice known as Pranayamas, revitalize the body and help to control the mind. leaving the person calm and refreshed. Relaxation helps control anxiety, hypertension and other discomforts of the mind and body.

Relaxation Technique-Yoga Nidra.

The Sanskrit word yoga means union or perfect awareness, and nidra means sleep. Yoga nidra is a state where the body appears to be asleep, but the consciousness is functioning at a deeper level of awareness. Yoga nidra an effective technique for relaxation and helps towards stress-management and wellness.

Techniques

1. Lie down straight on your back in Shavasana (Corpse Pose), Close your eyes and relax. Take a few deep breaths in and out. Remember to take slow and relaxed breaths.

2. Start by gently taking your attention to your right foot. Keep your attention there for a few seconds, while relaxing your foot. Then gently move your attention up to the right knee, right thigh and hip Become aware of your whole right leg.
3. Gently, repeat this process for the left leg.
4. Take your attention to all parts of the body: stomach, navel region, chest.
5. Take your attention to the right shoulder, right arm, palms, and fingers. Repeat this on the left shoulder, left arm, throat, face, and finally the top of the head.
6. Take a deep breath in and observe the sensations in your body. Relax in this state for a few minutes.
7. Slowly becoming aware of your body and surroundings, turn to your rights idea and keep lying down for a few more minutes. Rolling over to the right side makes the breath flow through the left nostril which helps cool the body.
8. Taking your own time, you may then slowly sit-up, and whenever you feel comfortable, slowly, and gradually, open your eyes.

Benefits of Yoga Nidra

1. Produces deep relaxation and reduces stress and anxiety.
2. Reduces depression, addictions
3. Reduces pain and dependency on drugs.
4. Provides relief from insomnia and improves quality of sleep.
5. Improves learning capacity and acquisition of new skills.

OBJECTIVE TYPE QUESTIONS

Q.1 Who is the writer of 'Yogsutra'?

(a) Vedyas (b) Baba Ramdev
(c) Swami vivekanand (d) Maharshi patanjali

Ans. (a) Maharshi patanjali

Q.2 The number of Element of yoga are–

(a) Four (b) Six
(c) Eight (d) Two

Ans. (b) Eight

Q.3 Which of the following is not a part of yama?

(a) Sataya (b) Aprigrah

(c) Asteya (d) Santosh

Ans. (d) Santosh

Q.4 The number of components in pranayama are–

(a) Three (b) Two

(c) Five (d) Seven

Ans. (c) Three

Q.5 Which is the eighth element of Ashtanga Yoga?

(a) Dhyana (b) Dharana

(c) Samadhi (d) Pratayahara

Ans. (c) Samadhi

Q.6 Which of the following is not a body building Asanas?

(a) Dhanurasana (b) Ehakrasana

(c) Mayurasana (d) Shavasana

Ans. (b) Shavasana

Q.7 The number of yogic kriyas in the shatkarma includes how many Kriyas?

(a) Four (b) Five

(c) Six (d) Three

Ans. (a) Six

Q.8 Which of the following asana is also called 'hare pose'?

(a) Padmasana (b) Tadasana

(c) Shashankasana (d) Halasana

Ans. (d) Shashankasana

Q.9 Complete stability of mind is known as

(a) Samadhi (b) Pratayahara

(c) Dharana (d) Dhyana

Ans. (d) Dhyana

Q.10 Which of the following is helpful in increasing height?

(a) Padmasana (b) Tadasana

(c) Halasnana (d) Sukhasana

Ans. (d) Tadasana

SHORT TYPE QUESTION (3 MARKS)

Q.1 What are the pre-requisites for Asanas, Pranayam, Dhyana and Samadhi?

Ans. 1. Yama and Niyama considered to be pre-requisites for further yogic practices. **Yama (Social Discipline)** comprising Ahinsha, Satya, Asteya, Brahmacharya and Aparigarha.

2. **Niyama (Personal Discipline)** Comprising Saucha, Santosha, Tapa, Swadhyaya and Ishwara Pranidhana.

Q.2 What is the role of yoga in sports?

Or

What is the importance of yoga? Describe it?

Ans. Yoga consists of both mental as well as physical exercise.

1. It help to keep the body fit.
2. Relief from any kind of tension
3. Improves the heart and lung functioning capacity.
4. It helps in curing and prevention from disease.
5. Improves, agility, flexibility, co-ordination, strength etc.
6. Improves the co-ordination of body system
7. Improves correct body posture.

Q.3 What is the role of meditation in sports?

Or

What is the importance of meditation? Describe it?

Ans. 1. Meditation helps to increase concentration.

2. It gives relaxation to the body and mind.

3. It cures stress and Anxiety.

4. It improves the function of nervous system.
5. It activates the brain and mind proerly.
6. It helps in conlrolling anger problem.

LONG TYPE QUESTIONS (5 MARKS)

Q.1 What is Shatkarma? Explain in detail.

Ans. The purification process of body includes six yogic kriya which are called 'Shatkarma'. The purpose of these cleansing techniques or 'shatkarma' is to keep body strong, clean and healthy as it helps in removal of toxins and anything blocking the flow of 'Prana' in the body. According to hath yoga the six cleansing processes are:

Neti : Keep nasal passages clean

Kapalbhati : Kapal means forehead, bhati means shine

Trataka : Train the eyes and mind

Basti : Clean large intestine

Dhauti : Used for cleansing the internal part eg. Digestive

Nauli : Shaking the belly, ease the process of digestion

Q.2 Explain elements of Yoga.

Ans. Ashtanga Yoga: 'Ashta' means eight and 'Anga' means limbs. It means eight limbs Yoga.

(i) **Yama (Restraints):** Yama is also sometimes called "the five restraints" because it describes what one should avoid to advance on the spiritual path.
   (a) Ahimsa (Non-Violence)
   (b) Satya (Truthfulness)
   (c) Asteya (Non-Stealing)
   (d) Bran macharya (Celibacy)
   (e) Aparigraha (Non-Coveting)

(ii) **Niyama (Observances):** Inward practices to improve the self.

(a) Saucha (Purification)

(b) Santosh (Contentment)

(c) Tapas (Asceticism)

(d) Swadhyaya (Study)

(e) Ishwara Pranidhana (Dedication to God)

(iii) **Asana:** Various postures of yoga

(iv) **Pranayama:** Pranayama is the practice of various breathing techniques.

(a) **Puraka:** To inhale breath

(b) **Kumbhaka:** To retain breath.

(c) **Rechaka:** To exhale breath

(v) **Pratyahara:** Detaching the mind and sense organs from the related activity, and attaching to God.

(vi) **Dharana:** Concentration of mind.

(vii) **Dhayana:** Process of complete concentration of mind and one can concentrate long and od meditation,

(viii) **Samadhi:** Stage in which one loses personal identfty. Union of individual's soul with the supreme soul.

Unit - 4

Physical Education and Sports for CWSN (Children with Special Needs-Divyang)

Main Point :-

- ✍ 4.1 Concept of Disability and Disorder
- ✍ 4.2 Types of Disability, its Causes and Nature (Intellectual Disability, Physical disability)
- ✍ 4.3 Aim and objective of Adaptive Physical Education
- ✍ 4.4 Role of various professionals for children with special needs (School counsellor, occupational therapist, physiotherapist, speech therapist, speciaal education, and physical education teacher.
- ✍ 4.5 Disability Etiquettes

4.1 Concept of Disability and Disorder

Concept of disability is an impairment that may be cognitive, intellectual, mental, physical development etc. It affects the everyday activities of the individual to a considerable amount. It may be present in an individual from birth or occur during one's lifetime.

Concept of disorder: A disorder is an illness or a dysfunctional factor that affects the physiology and psychology of an individual. It can be structural or functional.

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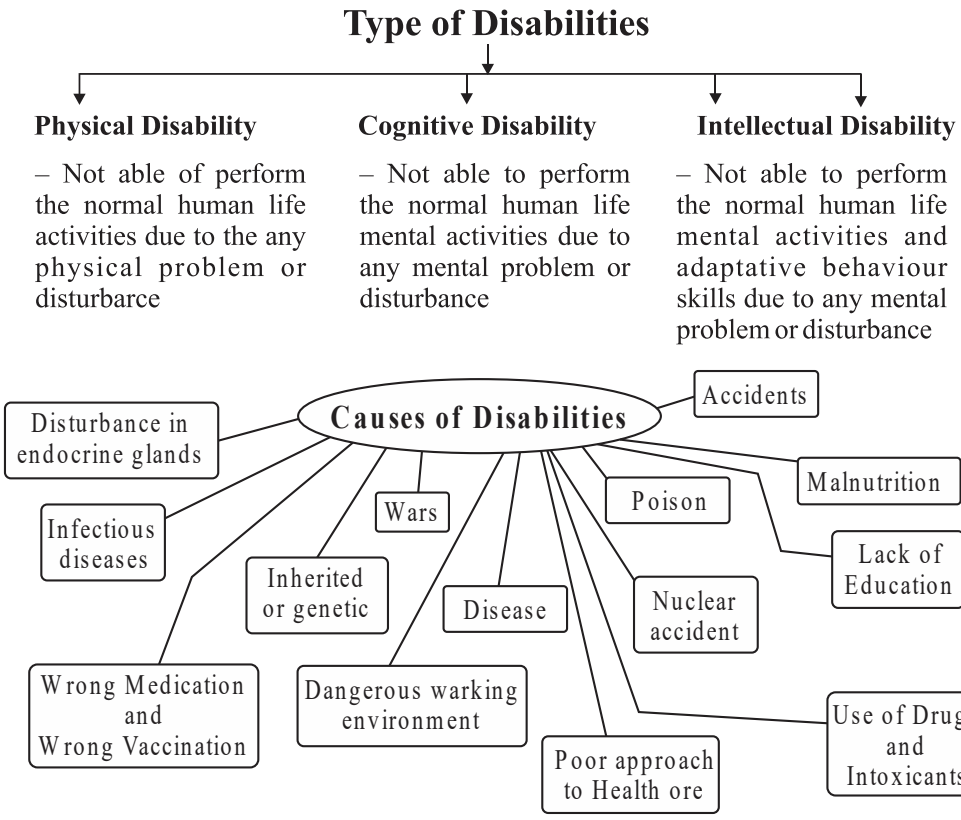


Nature of Disability (Intellectual Disability & Physical Disability)

Intellectual disability once called mental retardation, is characterized by below average intelligence or mental ability and a lack of skills necessary for day to day. people intellectual disabilities can learn new skills, but they learn them more slowly. There are varying degrees of intellectual disability. From mid to profound.

A Physical Disability is any condition that permanently prevents normal body movement and control. In the early year, chidren may have some diffculties in learning to move skillfully. This is not unusual. However, for some children, the muscles and nerves that control body movements may not be properly formed or may become damaged causing a physical disability. There are may different type of physical disabilities.

4.3 Aims and Objective Of Adaptive Physical Education

Concept:- Adaptive physical education is a sub discipline of physical education, which is adapted or modified for the children, who are differently abled, handicapped, mentally challenged, hear impairment, speech impairment, blindness, orthopedic impairment, and autism etc. The programme of adaptive physical education involves specially designed programme of physical fitness, motor fitness, fundamental motor skill, aquatic skills dance skills, individual and group games. To meet the unique need of children with disabilities.

Adaptive physical education is a multikind of service for the children who are not able to do the activity like a normal children, such children may be provided modified sports and games, which can play an important role in their lives i.e, recreation, fitness development, ethical and moral values etc.

Meaning:- A diversified programme of developmental activities, games and sports, suited to interests, capacities and limitations of the students with their disabilities are called adaptive physical education.

Aims:- To provide all students with special needs, regardless of they desirability, the opportunity to participate in physical education, safely and successfully, in the least restrictive environment.

Objectives:-

(i) To provide physical education services.

(ii) To develop self esteem.

(iii) To develop motor skill.

(iv) To develop knowledge of body mechanics

(v) To increase active participation in sports

(vi) To develop physical fitness

(vii) To develop socialization skill

(viii) To promote sportsmanship.

4.4 Role of Various Professional For CWSN

(School counsellor, Occupational Therapist, Physiotherapist, Speech Therapist, Special educator, Physical education teacher)

1. **School counsellor:-** The school counsellor are the specialists who work with special needs students in elementary school, middle schools, and high schools, to ensure they have the support services they need in order to achieve their highest potential in the are as of academics, personal, social growth and career development.
2. **Occupational therapist:-** An occupational therapist help children with special needs in performing activities related to fine motor skills, like eating, dressing, bathing and grooming etc. He also helps children in participating and interacting with others in play. He help children in adopting to regular school.
3. **Physiotherapist:-** A physiotherapist is trained to provide assessment and treatment in overcoming movement and physical challenges such as problems of balance, co-ordination, sitting, standing and walking. They look at ways to encouraging child's in dependence and mobility. A physiotherapist may also assist in making recommendations for specialized equipment. He also promote functional activities and designed specific exercise plan as per the need of children.
4. **Speech therapist:-** A speech therapist is a trained medical professional who can help children with a number of oral disorders such as trouble swallowing, motor skill, speech issues, cognitive-linguistic conditions and language.
5. **Special educator:-** A special education teacher is someone who work with children and youths who have severe cognitive, emotional physical disabilities. They also create and apply curriculum and activities to meet the requirement of the students with special needs.

6. **Physical education teacher:-** The physical education teacher provide such physical activities for the students with special needs which may help in reducing anxiety, stress, tension and depression. The physical education programme plays a very pregressive role in improving cognitive functions and academic performance. Social skills and collaborative team work can also be enhanced through the defferent programmes of physical education. The physical education teacher helps in executing these programmes.

4.5 Disability Etiquettes

Disability Luquette is a set of guidelines desting specifically with how to approach a person with a disability Disability etiquete refers to communicating and interacting respectfully and courteously with people who have disabilities:

Positive and Energetic Attitude

- One should approach a person with special needs with positive energy and attitude.
- Approach should be warm and friendly.
- One should not show sympathy for, or, even in certain cases, fear of the person

Communication

- Communication should be two way speaking to the person directly, and not to the person accompanying her/him
- Establish a rapport with her/him
- If necessary, use a communication aid such as a communication book or communication device. if required
- Keep your tone low Communicate with the individual slowly and clearly Give them time to respond.
- Do say, “She uses a wheelchair.“ Do not use negative, demeaning, and outdated terms such as “cripple,” “deaf and dumb,” or ‘“retarded.”
- So, avoid using terms such as “physically challenged,“ or “differently abled.”

Social Etiquettes

- Make surroundings disabled-friendly and comfortable for people with special needs.
- Offer assistance only if the person appears to need it. Ask how, before you act.
- Acknowledge and respect the individual's ability to make decisions and judgments on their own behalf.
- Never physically or verbally bully them. Never play with their equipment
- Develop a culture of inclusion in surroundings.

Physical Etiquettes

- To be safe, sit or stand at eye-level with the person who has a disability when it is appropriate and possible
- Make eye contact: never avoid someone with a disability.
- Some people with disabilities depend on their arms for balance. Grabbing them, even if your intention is to assist, could knock them off balance.
- Avoid patting a person on the head or touching his wheelchair, or cane People with disabilities consider their equipment part of their personal space.

OBJECTIVE TYPE QUESTIONS (1 MARKS EACH)

Q.1 Most suitable word used for disable person.

(a) Handicapped (b) Retarded

(c) Divyang (d) Blind

Ans. (c) Divyang

Q.2 What is a disorder?

(a) Disrupts a person's performance

(b) It is a mental illness

(c) Lethal gradually

(d) It is a physically inability

Ans. (a) Disrupts a person's performance

Q.3 Speech therapist helps a child of CWSN in which activity?

(a) Grooming (b) Communication

(c) Enhancing Mobility (d) Playing

Ans. (b) Communication

Q.4 Name the teacher who is specially trained to work with CWSN?

(a) Phycial Education Teacher (b) Physiotherapist

(c) Principal (d) Special Educator

Ans. (d) Special Educator

Q.5. Match the following

List I	List II
1. Visualy impairment	a. behaviour towards others
2. Difficulty is speaking	b. tap the person onthe shoulder
3. Hearing impairment	c. Introduce self first
4. Etiquettes	d. Speech therpy

(A) 1-b, 2-d, 3-a, 4-c

(B) 1-c, 2-d, 3-b, 4-a

(C) 1-a, 2-b, 3-c, 4-d

(D) 1-d, 2-c, 3-b, 4-a

Ans. (b) 1-c, 2-d, 3-b, 4-a

Q.6. Give below are the two statements labeled Assertion (A) and Reason (R).

Assertion (A): Disability etiquettes are set of guidelines while dealing with person with disability.

Reason (R): We should help a person with disability before they ask for it.

In the context the above two statements, which one of the followingis correct?

(A) Both (A) and (R) are true and (R) is the correctexplanation of (A).

(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans. (c) (A) is true, but (R) is false.

Q.7. When a person is not able to perform the normal human life mental activities and adaptive behavior skill is called.

(a) Physical Disability by Mental Disorder

(b) Intellectual Disability

(c) Intellectual Disability.

(d) Cognitive Disorder

Ans. (c) Intellectual Disability

Q.8. Objectives of adaptive physical education are:

(a) To develop physical fitness

(b) To develop socialization skills

(c) To develop self esteem

(d) To develop motor skills

(i) a and b

(ii) a, b and d c and d

(iii) c and d

(iv) a, b, c and d

Ans. (iv) a, b, c and d

Q.9. Which of the following not comes under principle for adaptive physical education.

(a) Conducting medical examination

(b) Play area should be limited

(c) Program according to the interest of teacher

(d) Rules of the game should be modified

Ans. (c) Program according to the interest of teacher

Q10. Disability etiquette from the given below are

(a) Develop a culture of inclusion in surrounding

(b) Use communication device when required

(c) Sit at level with the person with disability

(d) Make eye contact and never avoid the person

(i) a and b

(ii) a, b and d

(iii) c and d

(iv) a, b, c and d

Ans. (iv) a, b, c and d

SHORT ANSWER TYPE QUESTIONS (3 Marks 40 to 50 Words)

Q.1 Mention disability etiquettes while talking to a person using a wheelchair.

Ans. (i) Wheelchair is a part of the body for the user. While talking with such a person, always be in front of him/her and maintain eye contact.

(ii) It is inappropriate to automatically assist the individual without his/her permission. If your assistance is rejected, respect their decision.

(iii) If the conversion with a wheelchair user lasts longer, either knee down or sit down at a nearby place to give the individual a more comfortable viewing angle. I mention any two disability etiquettes While talking to a person with visual disabilities.

(iv) Always introduce yourself and the people accompanying you before starting a conversation with such people.

(v) While walking with a person having a disability, offer your arm for them to hold. Guide the person about the curve ditches, potholes, or steps along the way.

(vi) Always inform them before ending a conversation or leaving the room. Do not walk away without informing.

SHORT QUESTION ANSWER (3 Marks)

Q.1 Differentiate between Disability and Disorder?

Disability	Disorder
1. It is a physical, mental, cognitive, condition that impairs, interferes with or limit a person's ability to engage in certain action of participate in daily activities.	1. It is an illness or dysfunctional factor that affect or disrupt the person physical or mentallly.
2. There is no chance to become normal.	2. High chances to become normal.
3. Disability is concerned with various part of the body.	3. Disorder is concerned with mental mental ability.
4. Disability is 3 types or physical, cognitive and intellectual disability.	4. Disorder is 5 types ADHD, SPD, ASD, OCD and ODD.

Q.2 Enlist the different objectives of adaptive Physical Education?

Ans. The following are the objectives of adaptive Physical Education:

(a) To provide the physical education services.

(b) To develop self esteem.

(c) To develp motor skills

(d) To develop the knowledge of Bio-mechanics

(e) To increase active participation in sports.

(f) To develop physical fitness.

(g) To develop socialization skill.

LONG ANSWER TYPE QUESTION (5 MARKS)

Q.1 Which principles are required to be followed to make the adapted physical education effective? Explain.

Ans. 1. Medical Examination : It is very important for the success of programme related to adapted physical education. Otherwise it will be difficult to find out what kind of disability, the student is suffering from.

Therefore, it is imperative to conduct medical examination of the students.

2. **Programmes according to the interest of the students:** Programmes should be made keeping in mind the interest, capacity and previous experience of the students. The teachers should also have deep knowledge about it, then only they can make any successful programme.

3. **Equipment should be appropriate :** Students should be provided with equipments asper disability concerned for example, students suffering from visual impairment should be given a ball with bell so that they may catch the ball as it rolls because of the sound. Thus such students can make out the direction and distance of the ball.

4. **Proper Environment:** The play area also should be limited because of the limited speed capacity of the children for example, speech impaired children be given rest in between the games. The play area should be limited to top smaller area.

5. **Modification of rules:** Rules and regulation of the game and sports should be modified depending on the specific needs of students. In order to learn new skill they may be given extra time, extra effort, extra rest and 2 marks in place of 1 mark.

Thus, they might be given the opportunity for all round development.

Q.2 What is the role of school counsellor in special education?

Ans. 1. The role of a school counsellor is to help all students, including those with special needs, to achieve there full potential. Introducing an appropriate individualised education programme (IEP) at early age can make all the differance, not only in these children's academic learning but in their emotional health and social adjustment and ultimately in their ability to become productive, contributing member of society.

2. Counselling sessions with specail education students.

3. Encouraging family involvement in IEP.

4. Consulling with and working with other school staff to better understand the childs spcial needs.

5. Collaborating with other school and community professionals like, teachers, school, psychologist, physical therapist and occupational thrapist etc.
6. Identifying other students who should be assessed to determine the eligibility for speical education.

Unit - 5

Physical Fitness, Wellness and Lifestyle

- ✍ 5.1 Meaning and Importance wellness, Health and Physical Fitness
- ✍ 5.2 Components and Dimensions of Wellness, Health and Physical Fitness
- ✍ 5.3 Traditional Sports and Regional Games for Promoting Wellness
- ✍ 5.4 Leadership through Physical Activity and Sports
- ✍ 5.5 Introduction of First Aid and PRICE

5.1 Meaning and Importance of Wellness, Health and Physical Fitness

Meaning:

Wellness:- Wellness is the capacity of an individual by which one leads a well balanced life.

Health:- It is a state of physical mental and social well being and not just the absence of disease or infirmity.

Physical Fitness: Physical fitness means the capacity to do the routine work without any fatigue or exertion and after doing the work the person has power to do some more work and recovery is quicker.

Importance of Wellness

1. **To live a high quality life:** Wellness increases the quality of life of a person. A capable and healthy person can experience more enjoyment by participating in games and sports and working with other people.
2. **To achieve the maximum growth and development:** Wellness is helpful in growth and development of a person. The growth and development of a healthy person can happen easily without any diseases.
3. **To be a good citizen:** A capable person knows how to balance his rights and duties because of which he can become a good citizen of the country.
4. **To live a stress-free life:** If a person is physically and mentally fit. then the negative thoughts like stress, tension and anxiety cannot affect him. If the negative thoughts come, then he can manage these emotions very well. These people arc capable of living a balanced life.
5. **To enjoy the life:** A capable person has the full knowledge of his physical, mental, spiritual and social capabilities. That's why a capable person lives his life joyfully. Wellness is important for enjoying the life and happiness of mind.
6. **To be an active member of the society:** Wellness provides the opportunities to a person to attach with the society and the environment. A capable person actively participates in the social activities. Wellness motivates the moral behaviour of a person which is very important to live in the society.

Importance of Health

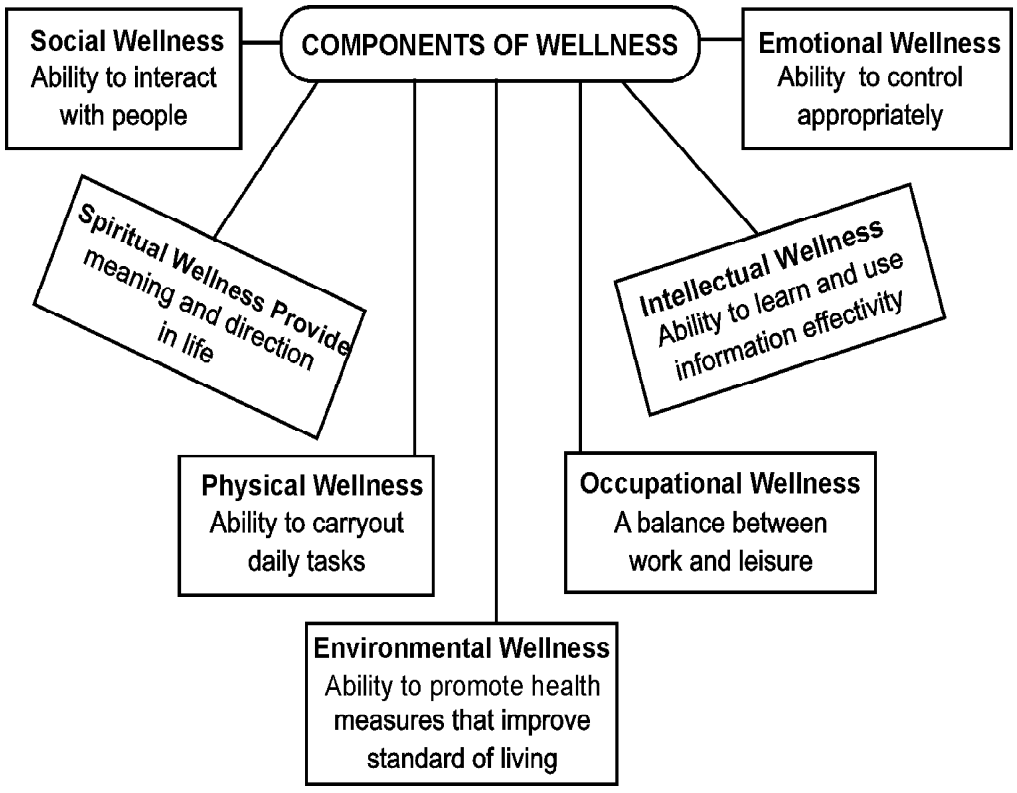
- Slows down the aging process.
- Help to live Healthy life.
- Help us to keep us free from illness.
- Help us to keep high level of energy.
- It helps us to lead a healthy lifestyle.
- Individual leads to more productivity in daily life.
- Helps in reducing stress and depression.
- Increased level of physical fitness.
- Helps in boosting self confidence.
- It helps to lead a happy life.

Importance of Physical Fitness

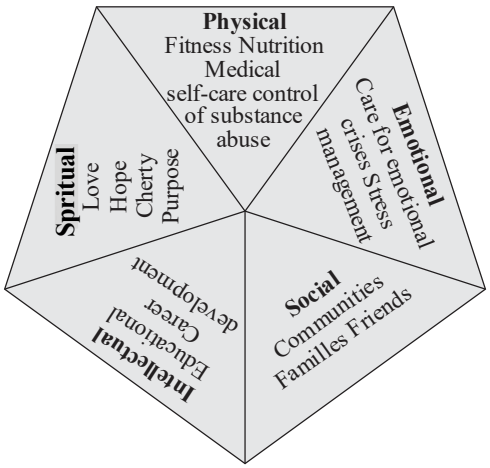
1. **To live a long and healthy life:** A physically fit person not only lives a healthy life but also a longer life.
2. **To increase the energy, power and capacity of the body:** A physically fit person can do his routine work without undue fatigue. The strength and capacity is increased because of internal energy due to which he can perform extra curricular task after finishing the routine work. For*e.g.*.- entertainment, aerobics, dance, gardening, etc.
3. **To reduce the.probability of getting a disease:**Due to the physical fitness, important parts of the body, such as heart, lungs and brain remain strong and there is a less probability of getting disease because of the continuous activity of these parts.
4. **For strong and active muscular and skeletal system:** Due to the physical fitness, a person can do any physical activity with ease, posture is maintained, muscles and bones stay strong, joints and muscles have flexibility and body posture looks toned and attractive.

5. **To increase the memory and recall capacity of mind:** Physical fitness also affects the mind of a person. A physically fit person has higher recall capacity and memory.
6. **To improve mental health:** Physical fitness improves mental health as well. It leads to increase in self confidence and positive body image.
7. **To get rid of excess fat:** Due to the physical fitness, a person is always active. Due to this activeness, the fat in the body continuously get converted into energy which does not allow the fat to accumulate in the body.
8. **To live a happy life:** Physical fitness is also necessary for enjoyment and happiness of mind. A fit person remains happy and joyful which increases his self-confidence and positive body image.

5.2 Components of Wellness, Health and Physical Fitness



Dimensions of Health



Components of Physical Fitness:-

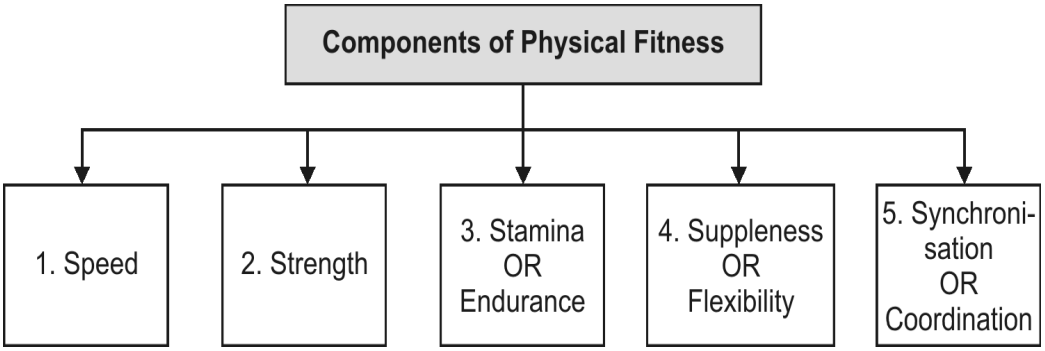
For the overall development of fitness. It is necessary to know the different kinds of fitness required for specific programmes. Physical fitness can be divided into three main areas:-

- Skill Related Fitness
- Health Realted Fitness
- Cosmetic Related Fitness

The difference between three categories of fitness is given below:

Skill Related Fitness	Health Reltated Fitness	Cosmetic Related Fitness
Important in the performance of specific functional motor tasks.	Ingredient in the national public health agenda.	For many people, looking good is an important outcome of fitness activities.
Important in sport performance and in certain kinds of job performance that require physical skill and strength.	Important for prevention and remediation of disease and illness, both physical and mental.	Looking fit is in and looking strong is an important part of looking fit. This is true for both men and women.
Being able to carry out the special skills that are a necessary part of certain sports or activities that can help in becoming physically fit involve one or more parts of skill related fitness. It is more functional and specific.	It applies to everyone and is a general concept. Each should achieve and maintain certain levels of health fitness to stay as healthy as possible throughout a lifetime and to improve the quality of life.	Cosmetic fitness is fine as long as it takes place in an educational environment where acceptance of different body shapes is the norm or the criteria.

Physical fitness has five major components; which measures the physical fitness of a person. Various experiments have been conducted to measure the physical fitness of a person. Various exercises have done to develop these components. The five major components of physical fitness may also be called by 5 'S' of Physical Fitness which are as follows:



5.3 Traditional Sports and Regional Games for Promoting Wellness

India has a great tradition of sports and is greatly influenced by the British presence in India in the 8th and 19th century. India, is a large populous country and have retained the popularity of indigeneous games among people.

Traditional sports and games provide unique opportunities that mainstream sports may not. These are generally based on fun and participation. These games and sports are important as they inculcate positive experiences through physical activities and also preserve chances to take part and benefit from the virtues of community interaction and culture. They are a living legacy of what has gone before us and how can we enrich the future. In other words we can say that these games are our cultural heritage of India.

Traditional Sports and Games (TSG) is recognized by UNESCO as world intangible heritage and even more then their title suggests. TAFISA (The Association for International Sports for All) heads all the Traditional Sports and Games (TSG) associations or we can say TSG's, area at core of TAFISA's mission. India has shown promise in olympic sports, displaying some of the best

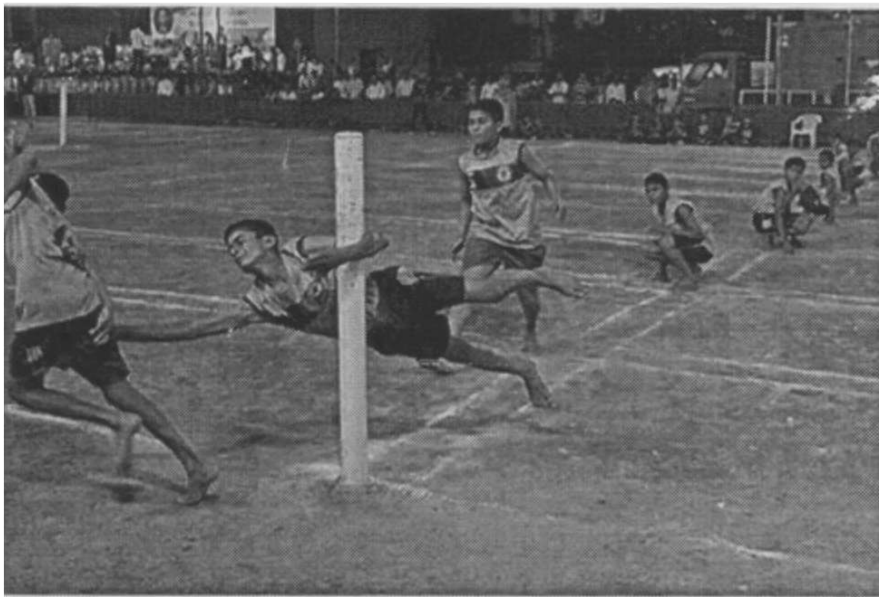
talent on the global platform. Howeever, there are several traditional sports native to the country that many are unaware of that India is the land of traditional sports as it has diversified culture and traditions. Indian Association of Traditional Games and Sports (IATSG) was formed to revive and promote traditional games and sports under the guidance of the International Council for Traditional Sports and Games (ICTSG)

India is one of the largest country in the world in both area and population and allow amongst those few countries that have retained the popularity of then indigenous games among its people for the wellness.

Traditional or Regional Sports of India

- **Ball Badminton –** a racket game native to India played with a yellow ball made of Wool, with similarities to Badminton in 1856 it was played by Royal Families in Tamil Nadu.

- **Kho-Kho –** This Game is played on ground having two poles each side of 27 mts × 16 mts area the team that takes leasser time to tag all the opponent players wins the game. Originated in Tamil Nadu around 1914.

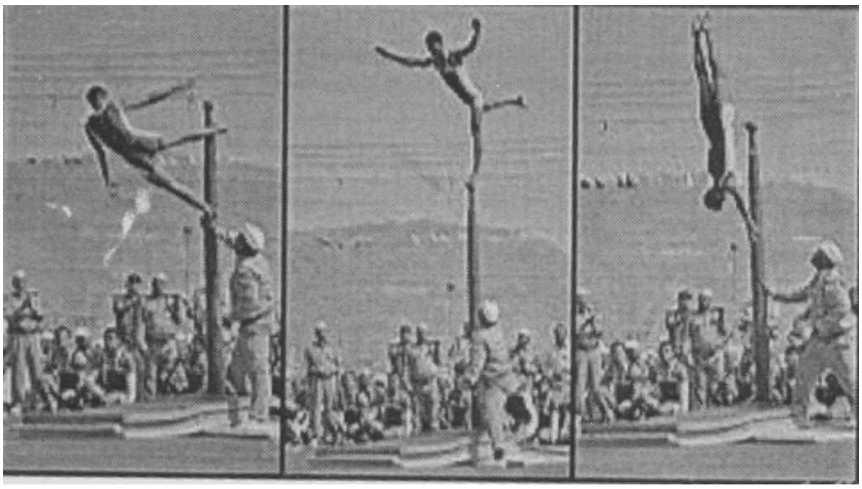


- **Kabaddi –** Kabaddi is a contact team sport, played between two team. The objective of the game is for a single player on offence is known as a 'raider' enters the opposite team's half to tag opponents without losing cant. It is also knownas Kaudi, Pakaada, Hadu du, Bhautik Hu-Tu-Tu and Himashika. It is also originated in Tamil Nadu.

- **Lagori –** from southern India, this game involves a ball and a pile of flat stones. A member of one team throws as soft ball at a pile of stones to knock them over, then try to restore the pile of stones while the opposing team throws the ball at them (also called Pittu).

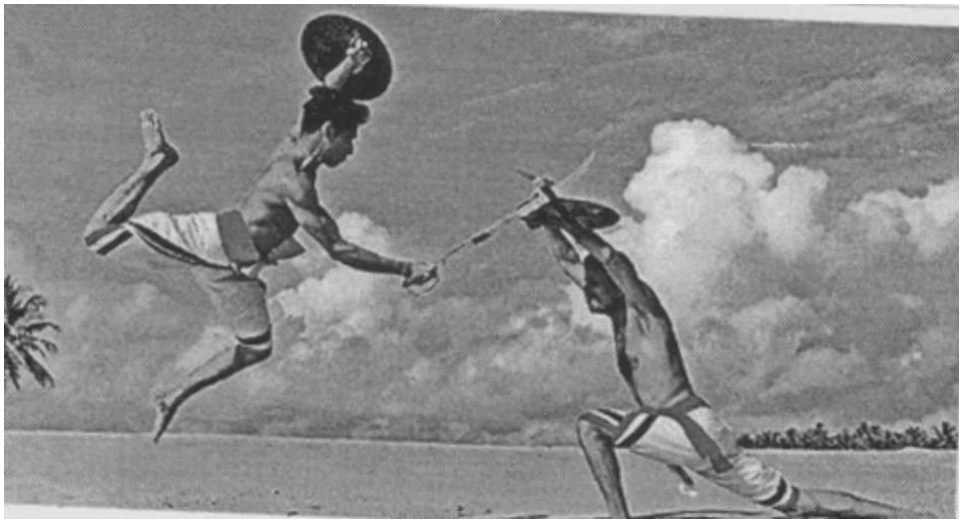
- **Yubi Lakpi –** a seven-a-side traditional football game with similarities to rugby played in Manipur, India, using a coconut.

- **Mallakhamba –** a traditional Indian sport, where athletes perform various types of gymnastics moves and hold various poses on a vertical wooden pole or a rope and is populour in Maharashtra and Madhya Pradesh.

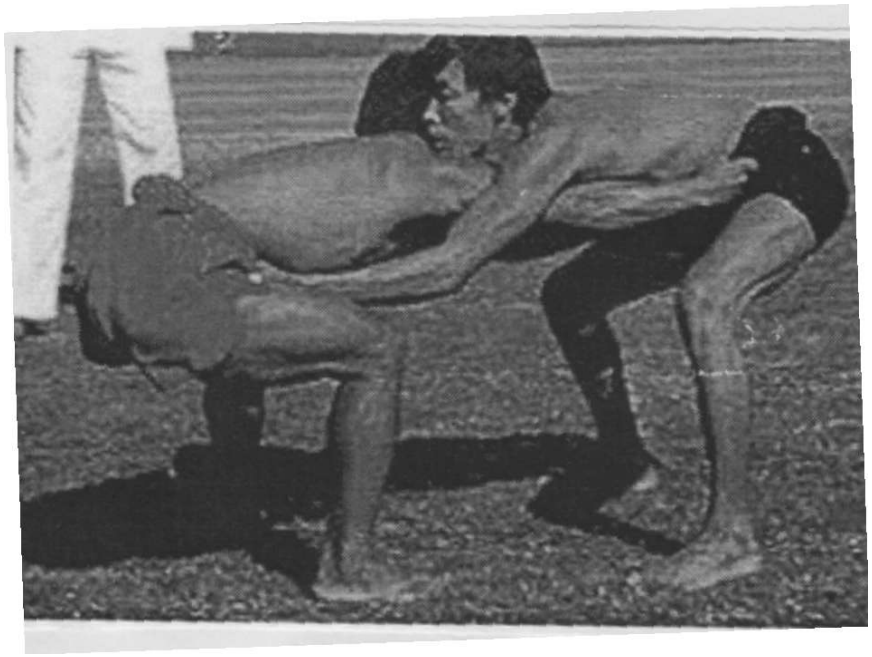


- **Gilli Danda –** a South Asian game played with two sticks, one long and the other short.

- **Kalaripayattu–** an ancient martial art from Kerala, India.

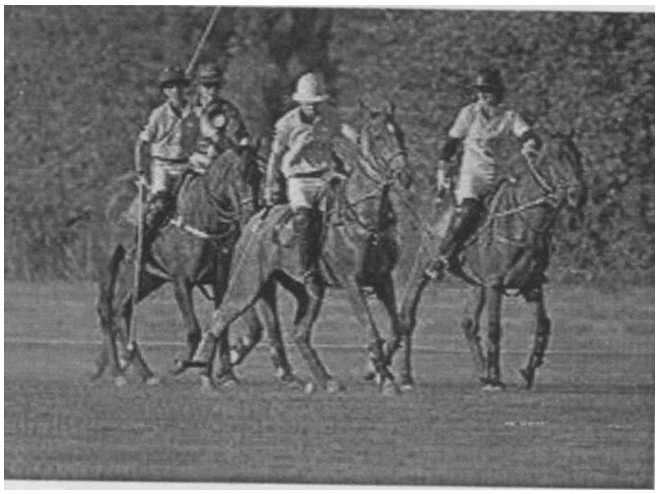


- **Pehlwani –** a form of wrestling from south Asia. A win is achieved by pinning the opponent's shoulders and hips to the ground simultaneously.



- **Vallam Kali –** It is popularly known as snake boat race due to the length and shape of the boat. This game is very famous in Kerala.

- **Chaughan or Polo –** It is believed to have originated in Manipur. In ancient India, monarchs use to play 'Elephant Polo' for recreational purpose. This Indian origin based sport later propogated by Britishers and now is popular accross the world.



- **Judo and Karate –** These martial art forms are claimed to have originated in ncient India. Further, it is said these martial arts were adopted by the Buddhist onks in medieval India and later spread to other Asian countries when they were travelled.

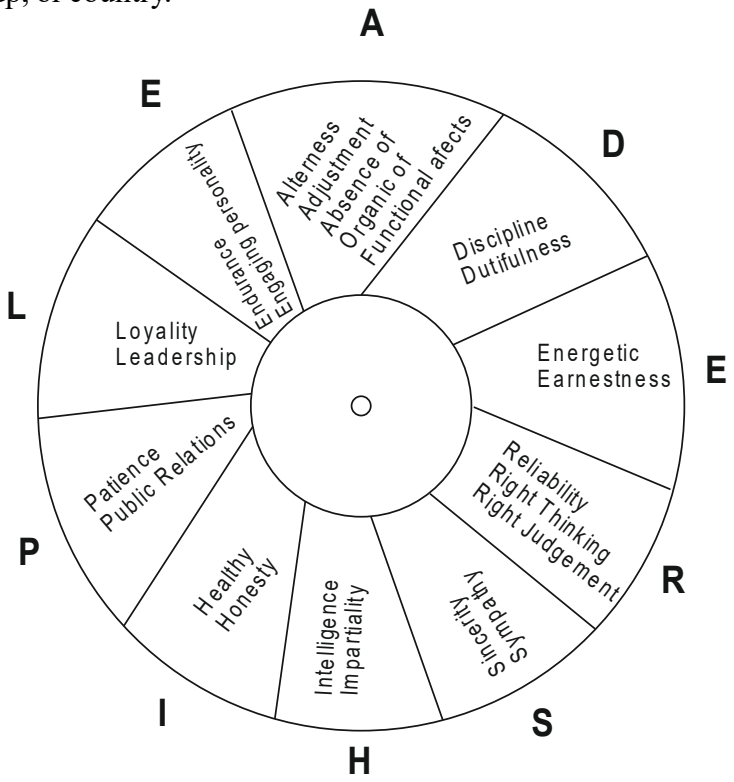
- **Chess** – One of the most ancient games that originated in India, it was initially called 'ASHTAPADA' later it is called 'CHATURANGA' during the rule of gupta empire. Parsiars who travelled to ancient India, picked this game and named it as 'SHATRANJ'. In Indus valley civilization, also the existance of this game was seen in archeological evidence. Its popularity grew in British period too even today, India leads this game of chess in the world.

- **Gatka –** It is a form of martial art associated primarily with the sikhs of Punjab and other related ethence groups such as 'Hindkowans'. It is style of stick fighting with wooden sticks and swords.

5.4 Leadership through Physical Activity and Sports

Leadership

- Leadership can be described as the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of an organization or a group of which they are members.
- Leadership is the art of motivating a group of people to act towards achieving a common goal,
- Leadership is the quality of a person to lead others in a family, society, tribe, group, or country.



Leader: A person who can bring about change, therefore, is one who has the ability to be a leader.

Or

A person or thing that holds a dominant or superior position within its field, and is able to exercise a high degree of control or influence over others.

A leader is one, who knows the way, goes the way and shows the way.

Qualities of a Leader

1. Awareness-As the leader of a team awareness is a key. A leader should be aware of different scenarios.
2. Passionate The leader should be passionless enough to motivate other players.
3. Energetic
4. Friendliness and affection
5. Decisiveness
6. Technically skilled
7. Intelligent
8. Teaching skill
9. Creative
10. Interest in Research
11. Personality of a Leader
12. Intelligent and Knowledgeable
13. Punctual
14. Decisive
15. Broad Minded and Foresighted
16. Disciplined and Honest

LEADERSHIP TRAITS

L—Loyalty
E—Emapthy
A—Accountability
D—Duty & Determination
E—Energy & Encouragement
R—Respect
S—Selfness
H—Honorable and humble
I—Integrity & Innovation
P—Passion for and pride in work

Be a Leader!

17. Courageous and Confident
18. Unbiased
19. Good Orator
20. Sense of Humour

Role of a Leader in Sports

1. Organiser: A good leader in sports is a good organiser in organizing different sports events.
2. Motivator: A leader in sports understands his students and their mental needs. So, he plays the role of a good motivator.
3. Guardian: A good leader plays the role of guardian. A good leader understands the personal problem of an athlete and provides solution for the problems.
4. Teacher: A good leader in sports performs the role of a teacher by helping participants in developing teaching techniques, educate them and improve their range of styles.
5. Psychologist: A good leader plays the role of a psychologist. He knows the mental skills and toughness of their players.
6. Role model: As leader, you should be able to set a role model.

Creating Leaders through Physical Education

We can make leaders through physical education by adopting the following approach.

1. Give various responsibilities of an event
2. Provide leadership training
3. Provide regular opportunity to improve
4. Recognize their achievement by facilitating them at different forms.
5. Have faith and confidence in your students if they are defaulter.
6. Assiging Responsibilites by making captains or Representators.

7. By giving duties live preparing training programme for any one day.
8. Giving opportunities to organise class level events live sports Quiz or poster making competetions.
9. Giving opportunities to Judge the competetion and present their views/ observations water.
10. Appointing a student as a leader of mass exercise
11. Entrusting the responsibility of organisig & conducting minor games
12. Appointing a student as captain of a team
13. Assigning duties for preparations of grounds
14. Allowing a student to officiate in intramural competition
15. Appointing the students as members as well as incharges for various school committees

5.5 Introduction of First Aid & P.R.I.C.E.

First Aid

The term First Aid refers to the treatment or immediate and temporary care given to the casualty suffering from either a minor or serious illness or injury to preserve life, prevent the condition from worsening, or to promote recovery prior to professional medical help becoming available. It may include initial intervention in a serious condition such as performing cardiopulmonary resuscitation (CPR) while waiting for an ambulance, as well as the complete treatment of minor conditions, such as applying a plaster to a cut. A First Aid procedure is generally performed by someone with basic medical training.

Aims and Objectives

– To assess and adress life-threatening conditions first.

– To minimize further injury, infection and complications.

– To prepare properly for any emergent situation to avoid errors and act quickly and calmly.

– To make the victim as comfortable as possible, thereby enabling him to save energy. To transport the victim to a medical facility as per necessity.

P.R.I.C.E.

The protocol of dealing with injury is called P.R.I.C.E. This refers to the Protection, Rest, Ice, Compression and Elevation.

Protection: Protect the person and affected area from further injury by limiting or avoiding weight-bearing through the use of crutches, a cane, or hiking poles.

Rest: Stop using injured part or discontinue activity. It could cause further injury, delay healing, increase pain and stimulate bleeding. Use crutches to avoid bearing weight on injuries of the leg, knee, ankle and foot. Use splint for injuries of the arm, elbow, wrist and hand.

Ice: Ice application contracts blood vessels it stop internal bleeding from injured capillaries and blood vessels. It reduces swelling around injury. However, remember to keep a damp or dry cloth between skin and ice pack. Do not apply ice for longer than 15 to 20 minutes at a time. Apply every hour for 10 to 20 minutes.

Compression: Hastens healing time by reducing swelling around injury. Decreases seeping of fluid into injured area from adjacent tissues. Use clasticized bandage, compression sleeve, or cloth. Wrap injured part firmly. Do not impair blood supply. Too tight bandage may cause more swelling.

Elevation: Elevate injured part above the level of heart. Decreases swelling and pain. Use objects and pillows.

OBJECTIVE TYPE QUESTIONS (1 MARKS)

Q.1 How many components of physical fitness have?

(a) Five (b) Four

(c) Three (d) Six

Ans. (a) Five

Q.2 What is the another name of synchronisation?

(a) Speed (b) Coordination

(c) Strength (d) Endurance

Ans. (b) Co-ordination

Q.3 What is the suppleness called in another words.

(a) Speed (b) Strength

(c) Endurance (d) Flexibility

Ans. (d) Flexibility

Q.4 The percentage of fat, bone, water and muscle in human body is called.

(a) Muscular endurance (b) Muscular strength

(c) Body composition (d) Flexibility

Ans. (c) Body composition

Q.5 The ability to overcome resistance for longer duration is called:

(a) Speed (b) Strength

(c) Endurance (d) Flaxibility

Ans. (c) Endurance

Q.6 Hu-Tu-Tu is also called:

(a) Kho-Kho (b) Pithu

(c) Kabaddi (d) Judo-karate

Ans. (c) Kabaddi

Q.7 YUBI-LAKBI a form of Football is originated in:

(a) Keral (b) Manipur

(c) Madhya Pradesh (d) Kolkata

Ans. (a) Manipur

Q8. In what situations first aid is given.

(a) in case of chronic disease,

(b) In case of sudden illness or injury

(c) Along with doctor's treatment

(d) Old wounds

Ans. (b) In case of sudden illness or injury

Q9. Which of the following comes under First Aid?

(a) To go for doctor's consultation

(b) Preventing blood flow from the wounds

(c) Immunization the prevent diseases

(d) Surgery

Ans. (b) Preventing blood flow from the wounds

Q.10. Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : First aid is the care that is given to an injured person prior to treatment by medically trained person.

Reason (R) : Correct and accurate first aid may help to preserve life of an injured person

In the context of above two statements, which one of the following is correct?

(A) Both (A) and (A) (R) are true and (R), is correct explanation of (A).

(B) Both (A) and (R) are true but (R) is not correct explanation of (A).

(C) (A)is true, but (R) is false.

(D) (A)is false, but (R) is true.

Ans. (B) Both (A) and (R) are true cut (R) isnot correct explanation of (A).

SHORT TYPE QUESTION (3 MARKS)

Q.1 Briefly explain the importance of wellness.

Ans. Importance of wellness:

(1) It help in the improvement and tonning up the muscle.

(2) It reduces the recovery time after injury or illness.

(3) It help in fulfilling proper nutritional requirements.

(4) It helps in better management of stress and tension.

(5) Regulates and improves overall bodyfunction.

(6) Motivate positive lifestyle habits or changes.

(7) It helps people to meet the challenges of life and also unforseen situation as and when required.

Q.2 Describe the importance of healthy lifestyle.

Ans. Importance of healthy lifestyle:

(1) Increase the longivity: A healthy lifestyle increases the longivity. It slows down the ageing process and helps the older person to stay strong and healthy.

(2) Increase the level of energy: An individual with a healthy lifestyle feels more energetic which means more productivity in day to day living.

(3) Helps in reducing depression: Healthy lifestyle helps in accomplishing a healthy body which in turn elevates hormone level in the body that regulates the mood.

(4) Increase the level of Physical fitness: Physical fitness helps in better cordination of muscles and an increase in strength, flexibility and endurance.

(5) Increase self confidence: Level of fitness of individual tends to become more self confident and self aware.

(6) **Helps in coping with stress:** Healthy life style enhances the Psychological power of an individual to cope with the stress as well as anxiety.

LONG TYPE QUESTIONS (5 MARKS)

Q.1 Enumerate the factors affecting physical fitness and wellness in detail.

Ans. The following factors usually affect the physical fitness and wellness of an individual:

1. **Regular Exercise:** It is the most important factor which affects the physical fitness of an individual.
2. **Amount of Training:** The amount of training also affects the physical fitness. If the amount of training is not upto desirable level he will be incapable of improving his physical fitness. It should be increased slowly.
3. **Rest and Relaxation:** It also affect the physical fitness of an individual. If proper rest and relaxation are taken, there will be positive effect on the physical fitness of an individual.
4. **Stress and Tension:** It tend to have a negative effect on physical fitness and wellness. Stress and tension decreases the psychological power of on individual.
5. **Age:** It is also one of the major factors which affects the physical fitness and wellness of an individual.
6. **Gender:** It also affects the level of physical fitness and wellness. Infact there are anatomical, physiological, and psychological difference between males and females.
7. **Environment:** The environment, which includes climate, temperature, altitude, social, and cultural factors affect the physical fitness and wellness of a person.
8. **Diet:** It also influence the level of physical fitness and wellness. Good diet helps not only in maintaining the physical fitness but it also improves the level of physical fitness.

Q.3 Explain the component of physical fitness?

Ans. There are five physical fitness components they are:

1. **Speed :** It is ability fo perform movement at a faster rate or it is the ability to perform movement in a short period of time and sports e.g. practicing with faster rhythm, speed endurance, repetition method acceleration runs etc.
2. **Strength :** It is an ability of muscle to overcome or to act against resistance exercise, pushups etc.
3. **Endurance :** It is the ability do sustain or continue activity of it is the ability to rest fatigue. It is one of the important components for middle and long distance races and it is required for almost all major games like football, hockey and basket ball.
4. **Flexibility :** It is the capacity of a muscle to extend without any damage. Flexibility is measured by range of motion around a joint. It is affected by muscle length, joint structure and other factors, it is measured through flexometer.
5. **Co-ordinate ability :** It is the ability of the body to perform movement with perfection and efficiency. In other words it is ability to change movement or direction in the shortest time without getting disbalanced.

Unit - 6

Test, Measurement and Evaluation

Key Points :-

- ✍ 6.1 Define Test, Measurement and Evaluation.
- ✍ 6.2 Importanceof Test, Measurement and Evaluation in Sports.
- ✍ 6.3 Calculation of BMI, Waist—Hip Ratio, Skin fold measurement (3-site)
- ✍ 6.4 Somato Types (Endomorphy, Mesomorphy & Ectomorphy)
- ✍ 6.5 Measurement of health-related fitness

6.1 Definition of Test, Measurement, and Evaluation

Test

According to Webster Dictionary: "A test is a tool which is used to evaluate the skill, knowledge, capitulates or aptitudes of an individual or a group".

According to H M Barrow: "A test is an instrument or a tool used to make a particular measurement. The tool may be written, oral, mechanical, or another variation".

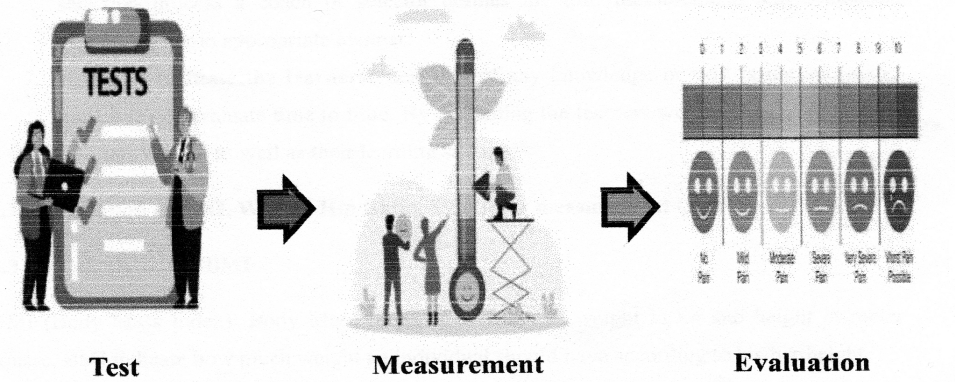
Measurement

According to H.M. Barrow: "Measurement refers to the process of administrating a test to obtain quantitative data."

Evaluation

According to Shuffle Board: "It is a systematic determination of a subjects merit, worth, and significance, using criteria governed by a set of standards."

According to H M Barrow and Megee: "Evaluation is the process of education that involves collection of data from the products which can be used for comparison with preconceived criteria to make judgement".



Test **Measurement** **Evaluation**

6.2. Importance of Test, Measurement, and Evaluation in Sports

The following points indicate the importance of Test, measurement, and evaluation in physical education and sports.

1. **To frame the objectives:** Whenever you framing objectives for anything in physical education and sports you must go through with test, measurement and evaluation process.
2. **Helps to establish norms and standards:** First of all you have to test the variables, then mensure the scores and evaluate the items for establishing norms and standards.
3. **Helps to knowing the capabilities of players:** It is not possible to know the capabilities of players without test, meastirement, and evaluation. To know the capabilities we have to test and evaluate it.
4. **Helps in developing teaching programme:** When we develop teaching program we must keep in mind the test, measurement and evaluation aspects for making the program successful. We must consider what we are going to test, how we measure it, and how we evaluate in teaching programme.
5. **Helps to conduct research:** In research, we try to find something for which we evaluate in respect to existing researches after using proper tests and measurements process.
6. **Helps in selection of players:** A player selected on the basis of his performance while performance can be measure thorough test, measurement, and evaluation only. During selection process a coach or selector defines the test, measurement, and evaluation process earlier in appropriate manner.
7. **Helps to evaluate the learners:** Learning of any knowledge or skill is not successfu until it is not evaluate time to time. By evaluating the learners we can suggest them area of improvement as well as their learning status.

6.3 Calculation of BMI, Waist Hip Ratio, Skin folds measurement (3-site)

6.3 (a) Calculation of BMI

BMI (Body Mass Index): Body Mass Index is the ratio of weight in kg and height in meter square. BMI indicate how much weight an individual should have according to his/her height.

BMI of any individual can be calculated with the help of the following formula

$$\text{Body Mass Index (BMI)} = \frac{\text{Body weight}}{\text{Height} \times \text{Height}}$$

$$= \frac{\text{Body weight (in Kg)}}{\text{Height} \times \text{Height (in Meters)}}$$

Here the weight of the individual's is measured in kilograms and the Height of that individual is taken in meter.

Example 1: Calculate the BMI of a male person whose body weight is 80 kg and his heights 1.60 m. Atvo state the category in which he falls?

Solution:

$$\text{Body weight} = 80 \text{ kg}$$

$$\text{Height} = 1.60 \text{ m}$$

$$\text{BMI} = \frac{\text{Weight (in Kg)}}{\text{Height} \times \text{Height (in Metre)}}$$

$$= \frac{80}{1.60 \times 1.60} = \frac{80 \times 100}{16 \times 16} = \frac{8000}{256} = 31.25$$

He falls in obesity type 1 category

BMI Table

BMI is categorized below:

Category	**BMI**
Under weight	< 18.5
Normal wieght	18.5 – 24.9
Over weight	25.0 – 29.9
Obesity class I	30.0 – 34.9
Obesity class II	35.0 – 39.9
Obesity class III	> 40.0

Source of the table : https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/body-mass-index

6.3 (b) Calculation of Waist-Hip Ratio

WHR (Waist-Hip Ratio): It is defined as the ratio of waist circumference and hip circumference in inches.

Waist-to-hip ratio chart

Health risk	Women	Men
Low	0.80 or lower	0.95 or lower
Moderate	0.81 – 0.85	0.96 – 1.0
High	0.86 or higher	1.0 or higher

Source of the table:http://www.health line.com/ine.com/health/waist-to-hip-ratio#calculate

Example 2: *If an individual (male) waist circumference measurement is 30 ches and hip circumference measurement is 44 mches. Than calculate hix waist hip ratio. Also state the category of his health risk.*

Solution:

$$\text{Waist circumference} = 30^{-}$$

$$\text{Hip circumference} = 44"$$

$$\text{WHR} = \frac{\text{Waist circumference}}{\text{Hips circumference}}$$

$$= \frac{30}{40} = 0.68$$

It means the individual (male) is not at health risk. In case of male if the WHR Is more than 1.00, than he is at the health risk.

Example 3: the waist circumference measurement of a female x 30 inches and her hip circumference measurement is 32 inches. Then calculate her W.H.R.

Solution:

$$\text{Waist circumference} = 30"$$

$$\text{Hip circumference} = 32"$$

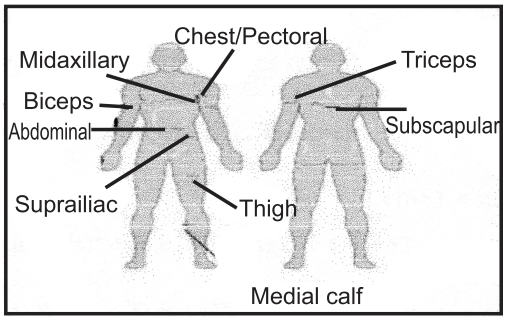
$$\text{WHR} = \frac{\text{Waist circumference}}{\text{Hips circumference}}$$

$$= \frac{30}{32} = 0.93$$

In case of female, if the WH.R. Is more than 0.85, she is at the health risk. Therefore above WHR ofa female is under very high health risk.

6.3 (c) Calculation of Skinfold measurements (3-sites)

Skinfold Measurement: A skinfold caliper is used to assess the skinfold thickness, so that prediction of the total amount of body fat can be made. There are total 9 sites in human body fo assessing the skinfold thickness.



9 sites for skinfold measurement

Skinfold Caliper

Choose a formula, plug in the sum of the appropriate skinfold measurement, and calculate body density or percent body fat. For methods that calculate body density, see below for instructions on converting body density to the Percentage of body fat:

Three-Site Formulas for Males

(Chest, Abdomen, Thigh)

Body density OR % Body fat = 1.109380 – (0.0008267 × sum of three skinfolds) + (0.000001) × (sum of three skinfolds)^2) – (0.000257 × age)

(Chest, Triceps, Subscapular)

Body density OR % Body fat = 1.1125025 – (0.0013125 × sum of three skinfolds) (0.0000055 × (sum of three skinfolds)^2) – (0.0002440 × age)

(Abdomen, Supra-iliac, Triceps)

Body density OR % Body fat = (0.39287 × sum of three skinfolds) – (0.00105 × (sum of thre skinfolds) + (0.15772 × age) – 5.18845

Three-Site Formulas for Females

(Triceps, Supra-iliac, Thigh)

Body density OR % Body fat = 1.0994921 (0.0009929 × sum of three skinfolds + (0.0000023 (sum of three skinfolds)^2 – (0.0001392 × age)

(Abdomen, Supra-iliac, Triceps)

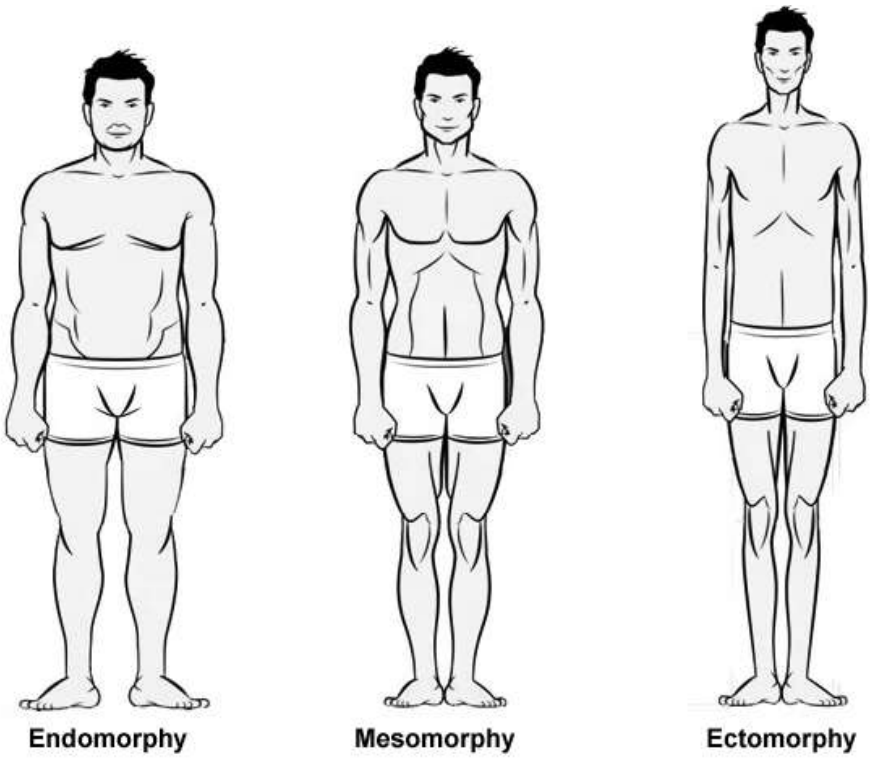
Body density OR % Body fat = (0.41563 × sum of three skinfolds) – (0.00112 × (sum of t skinfolds)^2 + (0.03661 × age) + 4.03653

6.4. Somato Types (Endomorphy, Mesomorphy & Ectomorphy)

Somata types means human body shape and physique type.

According to W.H. Shielding, human beings can be classified into three extreme body types i.e.

1. **Endomorphy:** People with endomorph body structure have rounded physique. Their excessive mass hinders their ability to compete in sports. Suitable games weight lifting and power lifting.
2. **Mesomorphy:** People with mesomorphy body structure have thick bones and muscles with rectangular shaped body. They have larger and broader chest and shoulders can be top sports person in any sport.
3. **Ectomorphy:** These realism person because their muscles and limbs are elongated. They have flat chest and have less muscle mass. They have less strength but dominate endurance sports.



6.5: Measurements of health-related fitness

Health related fitness is related with the development and maintenance of fitness components that can increase the level of health through prevention and remedies of various diseases. Health related fitness enhance one's ability to function efficiently and maintain a healthy life-style.

In this way, it can be said that health related fitness is very significant for all the individuals through our life.

There are following components of health related fitness.

1. Body composition
2. Cardiorespiratory endurance.

3. Flexibility
4. Muscular Endurance
5. Muscular strength

1. **Body composition:** The body composition means the amount of fat-free body weight. It is well known that a high percentage of body fat in relation to the total body weight is harmful and may lead to be obesity. From the health point of view, the normal percentage of body fat for young men and women should not exceed 15 and 25 percent, respectively. Various methods for mexaring body composition can be used by individuals, such as under water weighing skin fold measurements and anthropometric measurements.

   It means that for health related fitness an individual should have ideal body weight and fat percentage.

2. **Cardiorespiratory endurance:** It is the maximum fimctional capacity of the cardiorespiratory system to carry on the work or physical activity involving large muscle group over an extended period.

3. **Flexibility:** It is the range of movements of joints. It is important for all individuals in daily life. It can be classified into passive flexibility and active flexibility Active flexibility can be further classified into: Static flexibility and dynamic flexibility.

   Flexibility can be measured with help of sit and reach test.

4. **Muscular Endurance:** Muscular endurance is the ability of a muscle or group of muscles to repeat muscular contractions against a force or to carry on contraction over a maximum period.

   It can be measured by the number of sit-ups your can do correctly. It also measured by weight lifting etc.

5. **Muscular strength:** It is the maximum amount of force that can be exerted““by a muscle or muscle group against a resistance during a single contraction It can be measured by pull-ups, weight lifting and push ups etc.

OBJECTIVE TYPE QUESTIONS (1 MARKS EACH)

Q.1. Which of the following body type like a pear shape?

(a) Endomorph (b) Mesomorph

(c) Ectomorph (d) None of the above

Ans. (a) Endomorph

Q.2. Which of the following body type like a round shape?

(a) Endomorph (b) Mesomorph

(c) Ectomorph (d) None of the above

Ans. (b) Mesomorph

Q.3. Which ofthe following body type like a slim shape?

(a) Endomorph (b) Mesomorph

(c) Ectomorph (d) None of the above

Ans. (c) Ectomorph

Q.4. Which of the following body type person good for weight lifting activity?

(a) Endomorph (b) Mesomorph

(c) Ectomorph (d) None of the above

Ans. (a) Endomorph

Q.5. Which of the following type ofpeople good for adventure activity?

(a) Endomorph

(b) Mesomorph

(c) Ectomorph

(d) None of the above

Ans. (b) Mesomorph

Q.6. Which of the following body type of people good for gymnastic activities?

(a) Endomorph (b) Mesomorph

(c) Ectomorph (d) None of the above

Ans. (b) Mesomorph

Q.7. What is the full form of B.M.I.?

(a) Body Management Index (b) Body Mold Index

(c) Body Mass Index (d) Body Motivation Index

Ans. (c) Body Mass Index

Q.8. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below:

Assertion (A): People with higher BMI means they have more weight in respect to their height.

Reason (R): BMI is the ratio of weight and height.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

Q.9. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below:

Assertion (A): WHR is the ratio of waist and hand circumference.

Reason (R): If a man has WHR value higher than 1 means he has high health risk alert.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (d) (A) is false, but (R) is true.

Q.10. What is the range of healthy body mass index?

(a) 20-25 (b) 25-30

(4) 30.0-34.9 (c) 185-249

Ans. (c) 18.5-24.9

Q.11 Match the following

I	Normal Weight	(a)	25.0 – 29.09
II	obesity-I	(b)	< 18.5
III	Under weight	(c)	30.0 – 34.9
IV	Over weight	(d)	18.5 – 24.9

(a) I - d II - a III - c IV - b

(b) I - d II - c III - a IV - b

(c) I - d II - c III - b IV - a

(d) I - d II - b III - a IV - c

Ans. (c) I - d II - c III - b IV - a

SHORT ANSWER TYPE QUESTIONS (3 MARKS EACH)

Q.1 Define Test, measurement and evaluation.

Ans. "Test in the form of questioning or measuring used to access retention of knowledge, capacity or ability of some endevour"

—Barry L. Johnson and Jack Nelson

"Measurement reffers to the process of administrating a test to obtain quantitative data" *—HM Barrow*

"Evaluation is the art of judgement scientifically applied to some trait,""quality of characteric in the universe according to some predetermined standards"

—HM Barrow and MC.

Q.2. Write any four objectives of test, measurement and evaluation.

Ans.
- To know the abilities and capacities of person
- To evaluate the teaching learnign process
- To establish the goals
- To motivate the students.

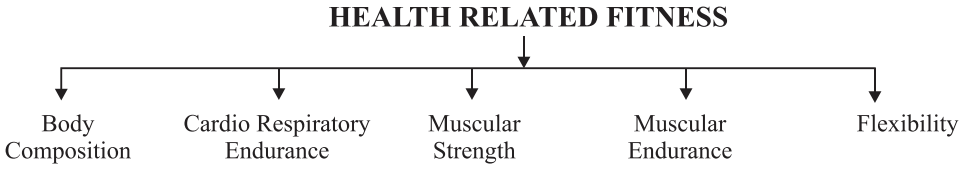
Q.3. Write down the formula for calculating BMI and Waist Hip Ratio.

Ans. Body mass Index (BMD) = $\frac{\text{Weight in Kg}}{\text{(Height in Meters)}}$

Waist Hip Ratio = $\frac{\text{Circumference of waist (in inches)}}{\text{Circumference of hip (in inches)}}$

Q.4. Enlist the Components of Health Related Fitness.

Ans.



Q.5. Explain the Somato types.

Ans. Somato type is a classifications of a person into category, which is assigned according to the their physical (Body type) which was developed in 1940 by

American Psychologist William Herbert Sheldon to categorize human physique into three fundamental cetagones Endomorph, Mesomorph and Ectomorph

SHORT ANSWER TYPE QUESTIONS (3 MARKS EACH)

Q.1. What do you mean by BMI? Write down the scale of BMI.

Ans. BMI is a stastistical measurement that let us know whether the person is underweight, normal weight or overweight

BMI is categorized as below

Category	**BMI**
Underweight	< 18.5
Normal Weight	18.5 – 24.9
Overweight	25.0 – 29.9
Obesity Class I	30.0 – 34.9
Obesity Class II	35.0 – 39.9
Obesity Class II	> 40.0

Q.2. Enlist the different health related fitness components. Explain any one component measurement procedure?

Ans. Following are the components ofhealth related fitness.

1. Body composition
2. Cardio-respiratory Endurance
3. Flexibility
4. Muscular endurance
5. Muscular strength

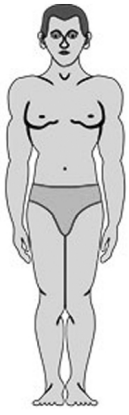
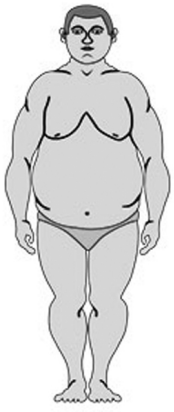
Measurement of Flexibility: It is the ability to use your joint fully You are flexible when the muscles are long enough and the joint are free enough to allow movement. People with good flexibility have fewer sore and injured

muscles Stretching before and after activities will improve flexibility. The sit-and-reach and the trunk lift are two test used to measure flexibility

Q.3. Explain the procedure of measuring Somato Types in brief.

Ans. Somatotypes means human body shape, and physique.Ñ Somato types helps the physical education and sports teaches to classify the students for particular sports and games on the basis of physical, mental and practical aspects.

1. **Endomorphy:** Such individuals have short arms and legs and rounded physique. The upper parts of arms and legs are significantly thicker than the lower parts. Their excessive mass hinders their ability to compete in sports.
2. **Mesomorphy:** Such individuals have balanced body compositions and athletic physique They are able to increase their muscle size quickly and easily and have rectangular shapes body. Their chest and shoulders are broader in compansion to their waist line.
3. **Ectomorphy:** These individuals are generally slim because their muscles and limbs are elongated. As they have weak constitution of body and usually face difficulties in gaining weight. Their light body constitution makes them suited for aerobic activities like gymnastics.


Q.4. Calculate the BMI of a male person whose body weight is 70 kg and his height is 1.70 m. Also state the category in which he falls?

Ans. Body weight = 70 kg

Height = 1.70 m

$$\text{BMI} = \frac{\text{Weight}}{(\text{Height})^2}$$

$$= \frac{70}{(1.70)^2}$$

$$= \frac{70 \times 100 \times 100}{170 \times 170}$$

$$= \frac{700000}{28900} = 24.22$$

He falls in Normal Weight category.

Q.5 Calculate waist Hip Ratio of a Female whose waist circumference is 30 inches and Hip circumference is 38 inches. Also state the category in which she falls? Hip Circumference is

Ans. Circumference of waist = 30 inches

Circumference of Hip = 38 inches

$$\text{Waist Hip Ratio} = \frac{\text{Circumferenced of waist}}{\text{Circumference of Hip}} = \frac{30}{38} = 0.789$$

She Falls in Low Risk Zone of Health Problems like diabetes, cardio- vascular disorders. High blood pressure etc.

Case Study Based Question

Q.1. A research conduct by DoE for assessing BMI of Delhi Govt School students Following table shows the mean values of BMI for 5 different schools:

S.No.	School Name	BMI Mean Values
1	A	28.6
2	B	21.8
3	C	32.2
4	D	38.4
5	E	17.9

On the basis of above case study answer the following questions:

(a) Most of the students of school-B are fall under ..... category of BMI.

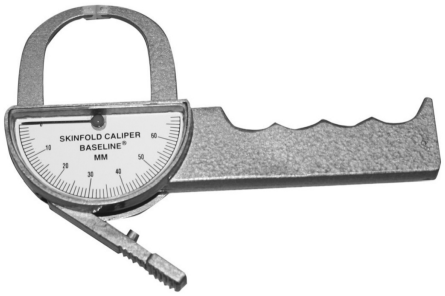
(b) Which school students required weight reduction program?

(c) Which school students are malnourished?

(d) School-A student fall under ..... category of BMI

Ans. (a) Normal/Healthy Weight (b) School-D students (c) School-E students (d) Over Weight

Q.2.



On the basis of above case study answer the following questions

(a) Equipment shown in image is known as

(b) The sites for skinfold measurement shown in the given image are

(c) With the help of skinfold measurement we assess the""and

Ans. (a) Skinfold caliper (b) Subscapular and Biceps (c) Skinfold thickness or Body fat percentage

LONG ANSWER TYPE QUESTIONS (5 MARKS EACH)

Q.1. Explain any four importance of test, measurement & evaluation in detail?

Ans. The four importance in the physical education field are given below of test, measurement & evaluation:

1. **To frame the objectives:** Test and Measurement helps in setting the target or goal according to the need and requirement. By adopting the Test and Measurement techniques the physical education teachers get an accurate idea about the progress made by the students.
2. **To evaluate the learners:** In the field of physical education and sports Test and Measurement helps in collection of data which further helps in evaluating the learners ability separately. It also helps the sports person in enhancing his sports performance.
3. **To evaluate teaching programme:** Test and Measurement is a scientific tool which helps the teacher to adopt correct methodology upon the sportsman so that desired results may be achieved.
4. **To discover the needs and requirements of the participants:** Needs of the participants are correctly assessed by the scientific approach of Test and Measurement. It helps in knowing where more emphasis is needed so that target may be achieved.

Q.2. Enlist different of health related fitness components. Explain any three of them in detail?

Ans. These are the following health related components:

(i) Body composition

(ii) Cardio-respiratory endurance

(iii) Flexibility

(iv) Muscular endurance

(v) Muscular strength

(iii) Flexibility: It is the range of movement around a joint. It is important for all individuals in daily life. It can be classified into passive flexibility and active flexibility Active flexibility can be further classified into static flexibilty and dynamic flexibility. Flexibility can be measured with the help of "Sit and Reach Test"

(iv) **Muscular endurance:** It is the ability of muscle or muscle group to repeat muscular contraction against a force over a maximum period. It can be measured by 'weight lifting' and sit-ups etc.

(v) **Muscular strength:** Muscular strength is the maximum amount of force that can be exerted by muscle or muscle group against the resistance during the single contraction. It can be measured by push-ups, heavy weight lifting and pull-ups etc.

Q.3. What is the difference between Endomorph and Mesomorph types of personalities?

Ans.

Endomorph	Mesomorph
(i) An individuals have short arms and legs.	(i) An individuals have balanced body composition
(ii) An individuals have rounded physique.	(ii) An individuals have athletic physique.
(iii) Under developed musices	(iii) Strong muscles.
(iv) High fat storgage	(iv) Fat evenly storted all over the body

(v) Pear shaped body	(v) Rectangular shaped body
(vi) Less ability to compete in sports.	(vi) Can excel in sports.
(vii) They are less active.	(vii) The are capable of doing lot of activities.

Unit - 7

Fundamentals of Anatomy and Physiology in Sports

Key Point :-

- ✍ 7.1 Definition and importance of Anatomy and Physiology in exercise and sports
- ✍ 7.2 Functions of skeletal system, classification of Bones and Types of joints.
- ✍ 7.3 Properties and Functions of Muscles.
- ✍ 7.4 Structure and Functions of Circulatory System and Heart.
- ✍ 7.5 Structure and Functions of Respiratory System.

7.1 Definition and importance of Anatomy and Physiology in Exercise and Sports

7.1 (a) Definition of Anatomy and Physiology

Anatomy: Anatomy is a branch of biology that deals with the study of body structure of organism which includes ten systems, organs and tessues.

Physiology: Physiology is the branch of biology that deals with the functions and activities of living organisms and their parts, including all physical and chemical processes.

7.1 (b) Importance of Anatomy and Physiology in Exercise and Sports

1. **Help in maintaining healthy body:** If an individual have knowledge of anatomy and physiology of human body then he/she can maintain his/her health.
2. **Help in designing the training program:** In sports training plays an important role and training program is not possible to develop without knowing the body structure and functional capacity of an individual.
3. **Help in regular assessment of performance:** There are many sports where physiological variables play an important role and these variables helps in regular assessment of performance of those sports.
4. **Help in selection of movement in exercise and sports:** We perform variety of movement in different exercises and sports, with the help of anatomy and physiology we can easily identify and choose appropriate movement as per the requirement of exercise and sports.
5. **Help in conducting research in sports:** In this competitive world research plays very important role and conduct frequently. Anatomy and physiology are the important areas of research in sports.
6. **Helps in prevention of sports injuries:** If we know the structure and function of humar body then we perform the movement and skill safely, so that we prevent ourselves from sports injuries.
7. **Helps in selection of sports:** Knowledge of body structure and function helps selection of appropriate sports.

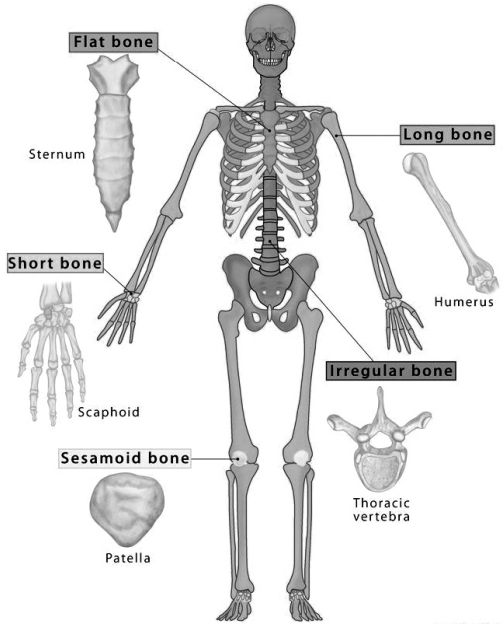
7.2. Functions of Skeletal System, Classification of Bones, and Types of Joints

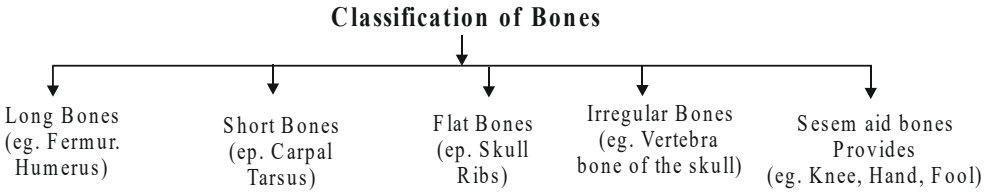
Skeletal System: The hard and rigid structure of bone makes the skeletal system to act as a framework, which supports the body and give it shape.

Functions ad Skeletal System: Following are the functions of skeletal system:

1. **Supporting framework:** It gives the supporting framework to human body which gives""support while we stand, sit and lying
2. **Allow movement in body:** It is act as a lever and allow body to move at various joint of the body.
3. **Protect the internal organs:** Bones are hard and help to protect some internal organs of the body like brain, heart, bungs etc.
4. **Sture minerals:** It stores the bone marrow, which produces the blood cells.
5. **Self-maintenance system:** Skeletal system maintains and repairs itself. If bones are break then they will automatically repair by skeletal system.
6. **Provide Calcium to the body fluids:** If the body finds is lacking with calcium then deletal system prodce calcium.

Classification of Bones

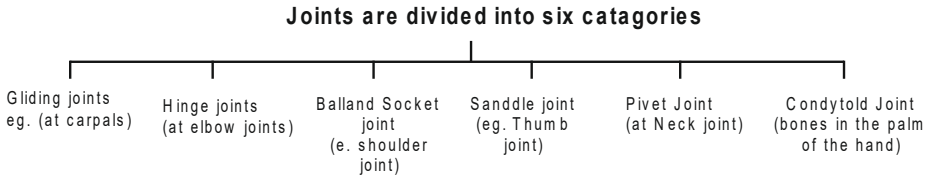


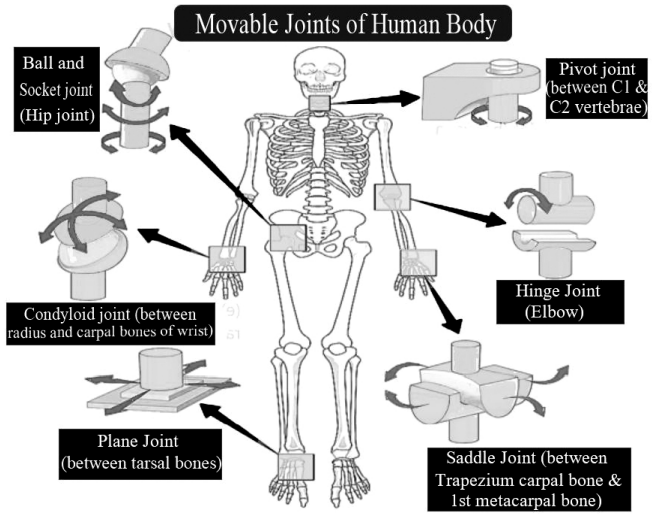


Types of Joints

1. Immovable Joints: or fobrous joints	These joints are fixed and do not move e.g.. skull Joint
2. Slightly Movable Joints:	The movement of such joints is very limited e.g., Inter-vertibrations
3. Freely Movable Joints: or synovial joints.	Such Joints are freely movable

Synovial or Freely Movable





7.3. Properties and Functions of Muscles

Muscular System:

Definition of Muscle : Muscle is the tissue composed of fibers capable to effect bodily movement or muscle is the body tissue that can contract to produce movement.

Properties of Muscles:

1. **Excitability—**Excitability is the ability of a muscle to activate. If the excitability of the muscle is greater, its force, velocity and indurance will also be greater.
2. **Contractibility**—Contractibility is the ability of the muscle to shorten forcibly when it is simulated adequately. The muscle changes its shope when stimulated.
3. **Extensibility—**Extensibility is the ability of the muscle to be stretched or intended. The muscle fibers shorten while contracting. But they can be streched, then beyond their resting length when relaxed. If muscle tissue could not strech, you would not have the mobility you have.
4. **Elasticity—**Elasticity is the ability of the muscle tissue to return to its nomal resting length to return to its normal resting length and shape after being stretched. If the muscle tissue does not have elasticity, it would remain as""its stretched length

Function of Muscles:

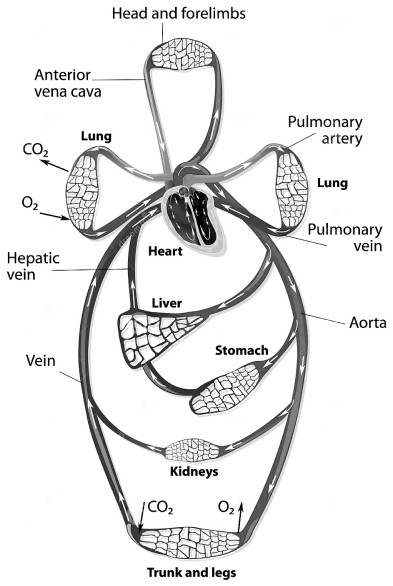
1. **Mobility:** This is the major function of muscles as movement in human body is only possible when muscle contraction happened.
2. **Give shape to the body:** Muscles gives shape to our body by covering the bones and organs.
3. **Temperature Regulation:** Muscles are help in temperature regulation.
4. **Protect organs:** Muscles cover many organs for protecting them.
5. **Helps in fluid and gases movement:** There many fluids and gases are moving in different systems of our body and it is possible because of muscles.

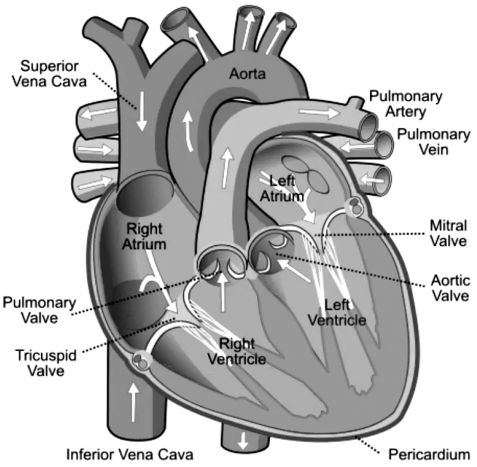
6. **Gives Supports to body:** As skeletal muscles are attached with bones so they always supports the body to be in different positions.

7.4 Structure and Functions of Circulatory System and Heart

7.4 (a) Structure of Circulatory System and Heart

Structure of Circulatory System	Structure of Heart
• Structure of circulatory system comprise. number of arteries and veins. • The circulatory system has three circuits namely pulonary circulation, systamtic circulation, and coronary circulation.	• The human heart is a hollow cone-shaped muscular organ. It is a pumping system inside body. • The heart is divided into four chamers. • A septum divides it into a left and right side. • Each side is further divided into an upper and lower chambers. • The upper two chambers called Auricles of Atrium (Left and Right). • The bottom twochambers are ventricles (Left and Right).





Function of Circulatory System and Heart: Heart is the important and main organ of circulatory system. So that there functions are interlinked. Following are the functions of circulatory system and heart:

1. **Support the functioning of other organs and systems:** No organ and system can work without oxygen and blood. Circulatory system supply the oxygen and blood to different body parts and help them to work.
2. **Pumping of Blood:** Heart contract and pumps blood continuously to the body throughout life without rest. On average human heart pumps 72 times in a minute which is known as heart rate.
3. **Circulate the blood:** Heart pumped the blood and circulatory system circulate the blood to body in three different circuits namely pulmonary circulation, coronary circulation, and systematic circulation.
   (a) Pulmonary circulation is between heart and lungs for exchanging getting oxygen from lungs.
   (c) Systematic circulation is between heart and rest of the body through aorta artery (the biggest artery of the body) from heart.
   (b) Coronary circulation is within heart to provide oxygen to heart through heart muscle.
4. **Work as a transport system of the body:** Circulatory system work as a transport system as it transport the oxygen and nutrients to the cells and takes away wastes.
5. **Supply the more oxygen to active muscles:** When we perform physical activities we required more oxygen towards active muscles so that circulatory system supply more blood towards active muscles through capillaries.
6. **Separate the oxygenated and deoxygenated blood:** structure of heart and circulatory system helps in separating the oxygenated and deoxygenated blood in heart and rest of the body. Within the heart blood separation is done with the help of the septa or septum and in the rest of the body, blood separation is done with the help of arteries and veins.

7.5 Structure and Functions of Respiratory System.

Respiratory System: It is the one of the system of our body which is responsible for providing oxygen to body from the atmosphere/outer environment. It is the network of organs and tissues that helps us to breathe.

Structure of Respiratory System: Respiratory system structure comprise with different organs and body parts as shown below with their involvement in respiratory system:

Mouth and Nose: It is the beginning or opening of respiratory system that pulls air inside the body from outside.

Sinuses: It is the hollow areas of bonny nose and it helps in regulate the temperature and humidity of the air we inhale.

Pharynx (throat): Pharynx work as a connection bridge between nose & mouth and trachea (windpipe).

Trachea: It is also known as wind pipe with the length of 10-13 cm. it is connected with pharynx and bronchial tubes.

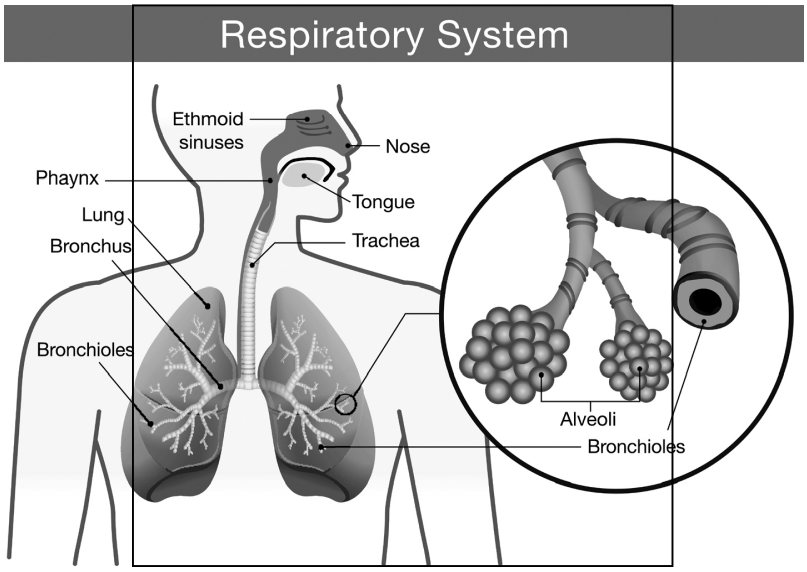
Bronchial tubes: It is connecting with trachea at bottom and further is divided into two part that connect into each lungs.

Lungs: Lungs are major organ of respiratory system and they are two in number. Lungs are responsible for removing oxygen from the air and pass it into blood.

Bronchioles: These are the extended branches of bronchial tubes in the lungs which are lead to the alveoli.

Alveoli: These are tiny air sacs in the lungs attached with bronchioles where the exchange of oxygen and carbon dioxide in blood capillaries network takes place.

Diaphragm: During inhalation diaphragm contract and flatten resulting the chest cavity enlargement. This contraction creates a vacuum which helps in pulling air into the lungs.



Functions of Respiratory System:

1. **Helps in inhale and exhale:** The major function of respiratory system in our body is""breathe in (inhale) and breathe out (exhale).
2. **Deliver Oxygen:** As we know that oxygen is life and respiratory system deliver oxygen to the cells in our body through exchanging the gases with blood.
3. **Removal of waste gases:** With exhaling the air our respiratory system removes the waste""gases including carbon dioxide from the body.
4. **Helps in temperature regulation:** It warms the air to match with body temperature and moisturizes it to the humidity level of our body needs in different environmental conditions.
5. **Protect airways:** Hairs in nose protect our airways from harmful substances and irritants.

OBJECTIVE TYPE QUESTIONS (1 MARK)

Q.1. Anatomy is the study of—

(a) Application of the Principles

(b) Study of movement

(c) all systems of humanbody and their mutual relationship

(d) structure, shape, sure and weight of all the organs of the body

Ans. (d) structure, shape, size and weight of all the organs of the body

Q.2. It provides protection to vital organs of the body—

(a) Respiratery system (b) Muscular system

(c) Skeletal system (d) Cardiovascular system

Ans. (c) Skeletal system

Q.3. Sesamoid bones are found in—

(a) Shoulders (b) Patella

(c) Wrist (d) Thigh

Ans. (c) Wrist

Q.4. This joint facilitates turning and twisting movements—

(a) Hinge joint (b) Pivot joint

(c) Gliding joint (d) ball and socket joint

Ans. (b) Pivot joint

Q.5. Ball and Socket joint is setuated at—

(a) shoulder (b) wrist

(c) neck (d) knee

Ans. (a) shoulder

Q.6. Contractability is one of the properties of the—

(a) skelaton (b) muscle

(c) Respiration (d) blood

Ans. (b) muscle

Q.7. Number of bones in an-adult human body are approximatelly-

(a) 215 (b) 210

(c) 218 (d) 206

Ans. (d) 206

Q.8. Alvioli are situated in the—

(a) Bone marrow (b) heart

(c) Lungs (d) voluntary muscles.

Ans. (c) Lungs

Q.9. Read the following statements—Assertion (A) and Reason (R). Choose one of the corre alternatives given below:

Assertion (A): All arteries carry oxygenated blood except pulmonary artery.

Reason (R): Pulmonary artery takes deoxygenated blood from heart to lungs.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A)

(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

Q.10. Read the following statements—Assertion (A) and Reason (R). Choose one of the correct alternatives given below:

Assertion (A): Elbow joint is freely movable joint.

Reason (R): Skull joints move slightly.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (c) (A) is true, but (R) is false.

Q.11. Which is the main artery of circulation of pure blood to the body—

(a) pulmonary (b) Aorta

(c) trachea (d) sarcolemma

Ans. (b) Aorta

Q.12. Which is the function of heart from the following—

(a) Systemic circulation (b) Pulmonary circulation

(c) Regulation of heart beat (d) All of these

Ans. (d) All of these

Q.13. Which of the following is a symtom of second wind—

(a) faster breathing (b) suffocation in the chest

(c) none of the above (d) all the above

Ans. (d) all the above

Q.15. Which of the following is a function of respiratory system—

(a) to regulate blood pressure

(b) to produce sound

(c) to produce RBC

(d) to produce control and movement of the body

Ans. (b) to produce sound

Q.16. Static stability is important in—

(a) shooting (b) football

(c) volleyball (d) Judo

Ans. (a) shooting

Q.16. It is a point in body around which the weight is evenly distributed—

(a) Dyamic equilibrium (b) Stati equilibrium

(c) Centre of gravity (d) Buoyancy

Ans. (c) Centre of gravity

Q.17. Which of the following will have greater stability

(a) spiking posilion in volleyball (b) standing start for 1500 m race

(c) stance of a golfer (d) tackling in football

Ans. (c) stance of a golfer

Q.18. Match the following—

I.	Circulating System	(a)	Elasticity
II.	Skeletel System	(b)	Heart
III.	Respiratory System	(c)	Bones
IV.	Muscular System	(d)	Lungs

Ans.

(a)	I - b	II - c	III - a	IV - d
(b)	I - b	II - c	III - d	IV - a
(c)	I - b	II - a	III - c	IV - d
(d)	I - b	II - a	III - d	IV - c

Ans. (b) I - b II - c III - d IV - a

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

Q.1. What is the impotance of Anatomy, Physiology and Kinsiology in Physical Education?

Ans.
- These subject provides the knowledge above various systems of human body
- Provides the knowledge about he functioning of human body.
- Helpful to improve performance, techniques and teaching methods.
- Helpful in prevention from sports injuries.

Q.2. What are the functions of Bones?

Ans.
- To provide strength
- Act as store house of minerals
- Works as lever in human body ?
- Helpful in construction of RBC's (Red Blood Cells)
- Provide support to muscles
- Provide structure/frame to human body.

Q.3. What are properties of Muscles?

Ans.
- **Contractility.** Ability to contract
- **Excitability:** Ability to excite
- **Elasticity.** Ability to regain original shape
- **Extensibility:** Ability to stretch and maintain thrush

Q.4. What are the functions of respiratory system?

Ans. The main functions of respiratory system are given as under:

(i) To exchange oxygen and carbon dioxide between the air and blood

(ii) To produce sound, it helps vocal chords to produce sound.

(iii) To regulate blood PH level

(iv) To protect against some micro organism. Respiratory system blocks the entry of microorganism in the body at various levels, thus it provides protection against harmful microorganisms like virus, bacteria, etc.

Q.5. Explain the functions of heart.

Ans. The main functions of heart are given below.

(i) It circulates the pure blood to all parts of the body. This is called systemic circulation.

(ii) It carries the impure blood from all parts of the body to the lungs for purification. This is called pulmonary circulation.

(ii) It regulates the blood pressure.

(iv) It regulates the heart rate.

(v) Regular exercise improves the efficiency of the heart

Q.6. Write down the main functions of muscles.

Ans. Function of muscles: Muscles are machine for converting chemical energy into mechanical work. The contractions and relaxations of muscles due to certain““chemical changes in our body are:

1. To produce and control movements of the body
2. To maintain natural posture of the body acting on the bony structure

CASE STUDY BASED QUESTION

Q.1. Circulation is a continuous process which happening 24 × 7 hours. As you know your heart circulates the blood towards lungs, complete body, and heart itself. Arteries and veins helps in circulating the blood to the body. Oxygenated blood flows in arteries and deoxygenated blood flows in veins. Circulatory system is very much important as it helps to other systems to work properly by providing blood and oxygen to them. So keep your heart healthy and fit.

On the basis of above case study answer the following questions:

(a) Circulation which is done between heart and lungs is known as _____ circulation.

(b) Write the name of artery which carries deoxygenated blood?

(c) Heart supply blood to itself with the help of and _____ circulation.

(d) Which is the biggest artery in human body?

Ans. (a) Pulmonary (b) Pulmonary Artery (c) Coronary circulation (d) Aorta

LONG ANSWER TYPE QUESTIONS (5 MARKS)

Q.1. What are the functions of skeletal system?

Ans. Main functions of skeletal system are given below.

(*i*)	Shape and structure	:	The boney framework gives human being its shape and structure like tall or small, thin or stout
(ii)	Support	:	It gives support to the body. The bones provide support to our muscular system.
(iii)	Protection	:	Bones protect our vital organs Example skull protects brain, thoracic cage protects heart, lungs and pancreas
(iv)	Lever	:	Bones act as a lever like a simple machine. For example while lifting

a weight, movable joints like elbow joint acts like fulcrum and length of arm bone acts like crow bar to reduce effort and helps to lift weight.

(v) Storehouse : The hollow space of bones acts like a storehouse of different minerals and salts like calcium, potassium, iron, etc.

(vi) Production of RBCs : Red blood cells are produced in the bone marrow It is the factory to produce RBCs.

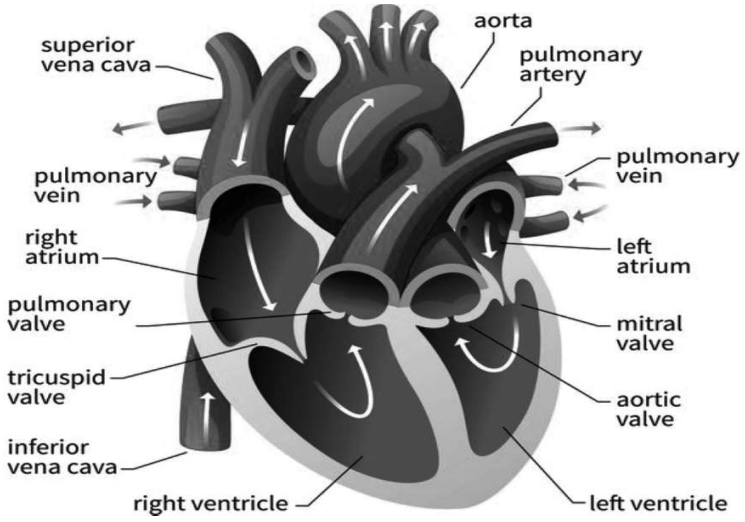
(vii) Junction : Bones provide junction or attachment to skeletal muscle that helps in visible movement.

(viii) Self-repair : Whenever bones are damaged, they are capable of doing self repair.

Q.2. Explain the structure of heart with the help of diagram.

Ans. The human heart is a four chambered muscular organ shaped and sized roughly like a man's closed fist with two-thirds of the mass to the left of midline.

Internal View of the Heart



Chambers of the Heart

The internal cavity of the heart is divided into four chambers:

- Act as store house of minerals
- Right atrium
- Right ventricle
- Left atrium
- Left ventricle

The night atrium are thin-walled chambers that receive blood from the veins. The two ventricles are thick-walled chambers that forcefully pump blood out of the heart.

The night atrium receives deoxygenated blood from systemic veins, the left atnum receives oxygenated blood from the pulmonary veins.

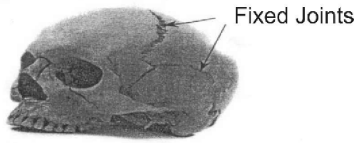
Valves of the Heart

Pumps need a set of valves to keep the fluid flowing in one direction and the heart is no exception The heart has two types of valves that keep the blood flowing in the correct direction. The valves between the atria and ventricles are called atrioventricular valves (also called cuspid valves), while those at the bases of the large vessels leaving the ventricles are called semilunar valves. When the ventricles contract, atrioventricular valves close to prevent blood from flowing back into the atria. When the ventricles relax. semilunar valves close to prevent blood from flowing back into the ventricles

Q.3. Explain different types of joints in human body.

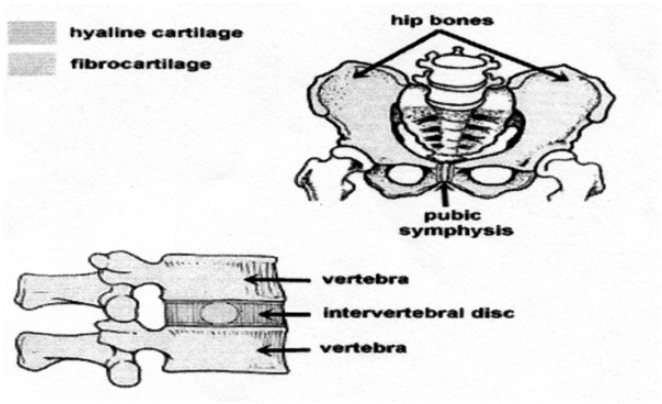
Ans. Following are the different types of joints, Immovable or fibrous joints.

(i) Immovable of fibrous joints: They are fixed joints. They never move Example: joints of skull.



(ii) Slightly movable or cartilaginous joints:

These joints provide very little movement Example backbone joints, pelvic joints.



(iii) Freely movable or synovial joints.

These joints provide different movements. There are five main types of movable joints.

(a) **Hinge joint.** These joints allow a forward and backward movement

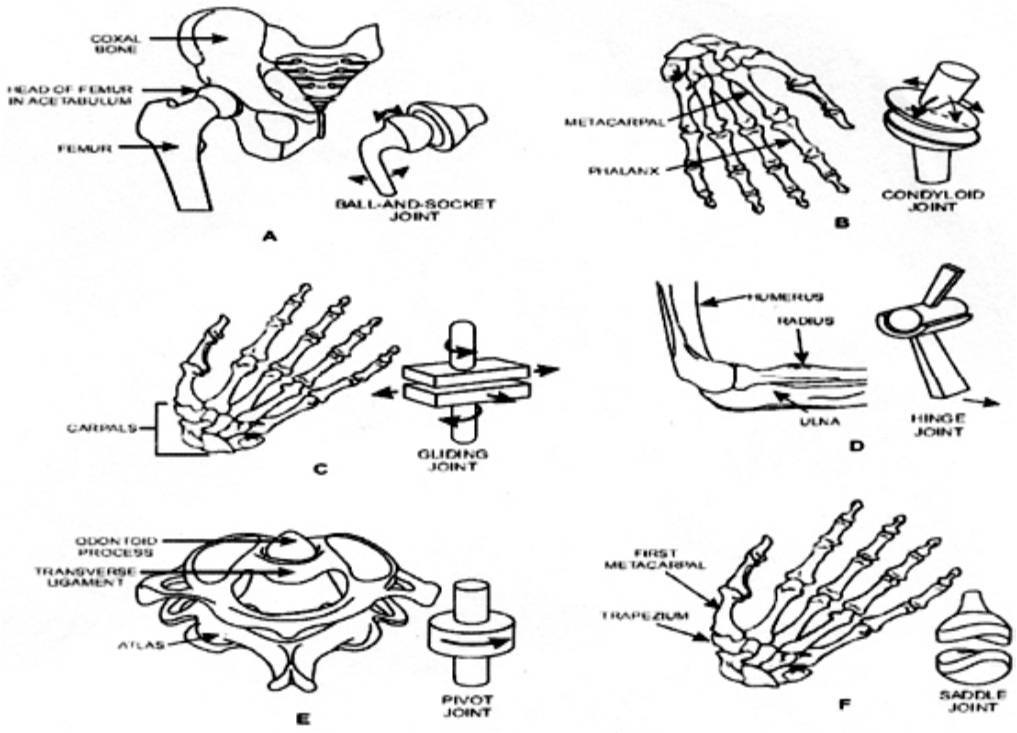
Example: knee joints, elbow joints

(b) **Pivot joint.** These joints give a rotation movement. Such as the movement of neck.

(c) **Ball and socket joint.** In these joints one bone has ball like shape and other has a socket like shape. They are fit together to make a free movable""joint Example shoulder joint and hip joint.

(d) **Saddle joint.** It is a joint where one of the bones forming the joint is shaped like a saddle with the other bone resting on it like a rider on a horse Example wrst joint.

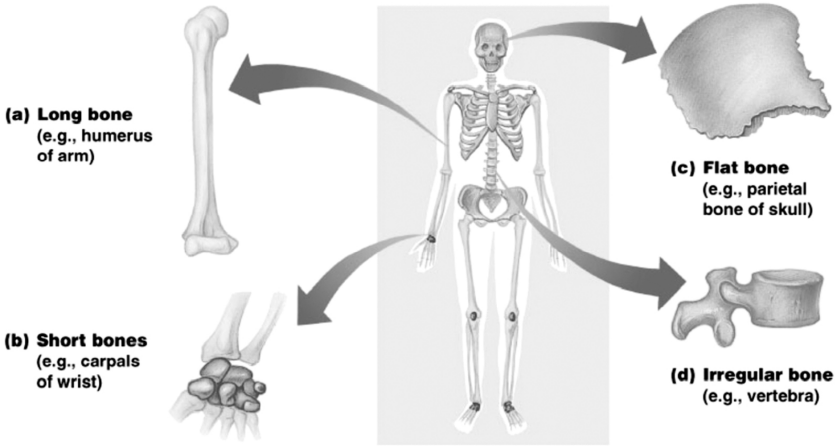
(e) **Gliding joint.** It is a joint in which articulation of contiguous bones allows only gliding movements, as in the wast and the ankle.



Q.4. Write in detail about classification of bones.

Ans. Classification of Bones

1. **Long bones:** They are long and wide. They act as lever. They are found in legs and arms Example humerus, femur, tibia and fibula
2. **Short bones:** They are short in size and cube shaped. They are found in""wrist and phalanges Example: metatarsal and carpal
3. **Flat bones:** These bones are flat and thin. They are composed of a central layer of sponge bone fixed between two outer layers of compact bone Example ribs and shoulder.
4. **Sesamoid bones:** These bones are seed like shaped and developed in the tendons where there is more fiction Example palms of hands, sole of feet and knee caps.
5. **Irregular bones:** These bones have in complete shaped as compared to other types The bones of spinal column and skull are examples of these bones.



Q.5. Elucidate the importance of anatomy and physiology in the field of sports.

Ans. Following are the importance of anatomy and physiology in the field of sports

1. **Help in maintaining healthy body:** If an individual have knowledge of anatomy and physiology of human body then he/she can maintain his/her health.
2. **Help in designing the training program:** In sports training plays an important role and training program is not possible to develop without knowing the hody structure and functional capacity of an individual.
3. **Help in regular assessment of performance:** There are many sports where physiological variables play an important role and these variables helps in regular assessment of performance of those sports.
4. **Help in selection of movement in exercise and sports:** We perform variety of movement in different exercises and sports, with the help of anatomy and physiology we can easily identify and choose appropriate movement as per the requirement of exercise and sports.
5. **Help in conducting research in sports:** In this competitive world research plays very important role and conduct frequently. Anatomy and physiology are the important areas of research in sports.
6. **Helps in prevention of sports injuries:** If we know the structure and function of human body then we perform the movement and skill safely, so that we prevent ourselves from sports injuries.
7. **Helps in selection of sports:** Knowledge of body structure and function helps in selection of appropriate sports.

Unit - 8

Fundamental of Kinesiology and Biomechanics in Sports

Main Point :-

- ✍ 8.1 Definition and importance of Kinesiology and Bio-mechanics in sports
- ✍ 8.2 Principles of Bio-mechanics
- ✍ 8.3 Kinetic and Kinematics in sports.
- ✍ 8.4 Types of body movements: Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination and Pronation.
- 8.5 Axis and planes : Concept and its application in body movements

8.1 Definition and importance of Kinesiology and Biomechanics in Sports

8.1 (a) Definition of Kinesiology and Biomechanics

Defination of Kinesiology

Kinesiology is precisely defined as "the study of the science of human motion"

According to Burke R.K: "kinesiology can be defined as studying the movement behaviour of all living organisms".

Definition of Biomechanics

Biomechanics is the study of the movement of living things using the science of mechanics.

According to Hall: "It is the application of mechanical principles in the study of living organisms".

8.1 (b) Importance of Kinesiology and Biomechanics in Sports

Following are the importance of Kinesiology and Biomechanics in sports

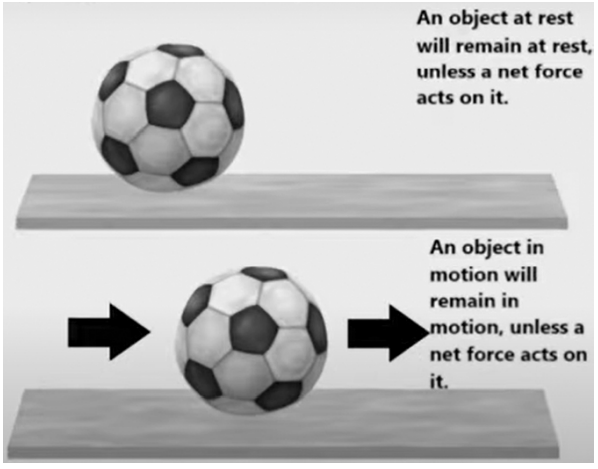
1. **Better Understanding of Mechanical Advantage and Disadvantage of Human Movements:** Knowledge of kinesiology and biomechanics help us to understand the how human body parts can move in better way by considering inner as well as outer factors, which help us to understand the mechanical advantage and disadvantage of movement in different sports:
2. **Helps in improve and develop new technique:**Everyone wants to perform best and for that every individual wants to use most appropriate technique. That why techniques are improve and develop on regular basis and this is possible only because of kinesiology and bio-mechanics.
3. **Helps in upgrade and develop new sports equipment:** Change is the basic principle of life and sports equipment is timely upgraded and develops new equipment on basis of demand of sports. Bio-mechanics helps in developing and improvising the existing equipment for better performance.
4. **Helps in measurement and evaluation of sports performance:** Sports performance can improve if we regularly measure and evaluate it with the help of appropriate toot fin mechanics and kinesiology helps is developing such cords.

5. **Helps in conducting research in sports:** Research is very important now a days a every want to be the best. Research helps in solving current problems of sports as well as gives futuristic vision to sports.
6. **Helps in selection of players:** The selection of players is a very technical and impumant process under which selectors use variety of tests and tools. These wear and tools are developing with the help of bio-mechanics and kinesiology
7. **Helps in protecting sports injuries:** Knowledge of kinesiology and biomechanics help us to use correct and appropriate movement as well as toll, which not only helps in better performance, it also helps in protecting us from sports injuries.
8. **Helps in selecting appropriate skill for better performances:**Knowledge of kinesiology and bio-mechanics help us to know about how we reduce huron efforts while performing any movement or skill. For that this knowledge also help us to select appropriate skill for better performance in different situation

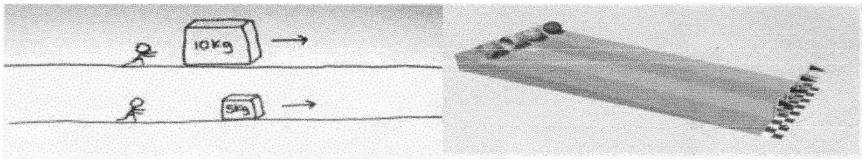
8.2 Principles of Biomechanics

Following are some principles of biomechanics:

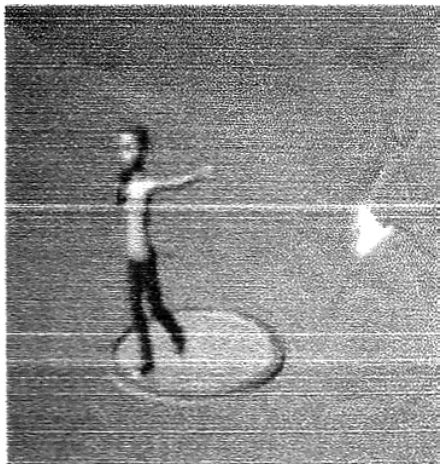
1. **Principle of force and movement:** Force is essential for every movement as it is necessary or pre-requisite to start, change and stop the movement. Force can be either push or pull.



2. **Principle of acceleration:** Acceleration is the rate of change in velocity. Acceleration produced is an object is directly proportional to force applied on the object and inversely proportional to the mass of the object.

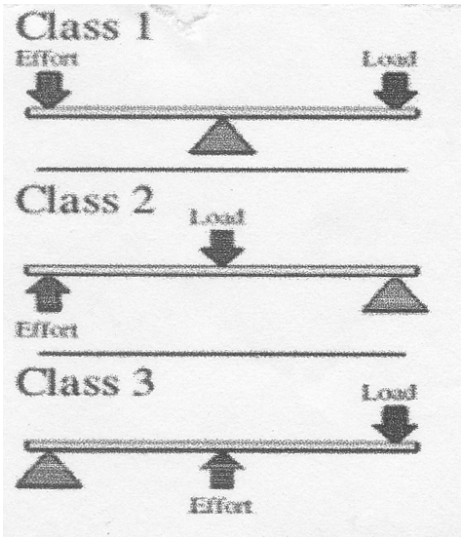


3. **Principle of linked segments:** Human body is made up of different segments those are attached through joints. To perform any movement muscles force create internal motion in different segments and speed of motion at proximal end of a segment will transfer to the distal end of that segment via jonits.

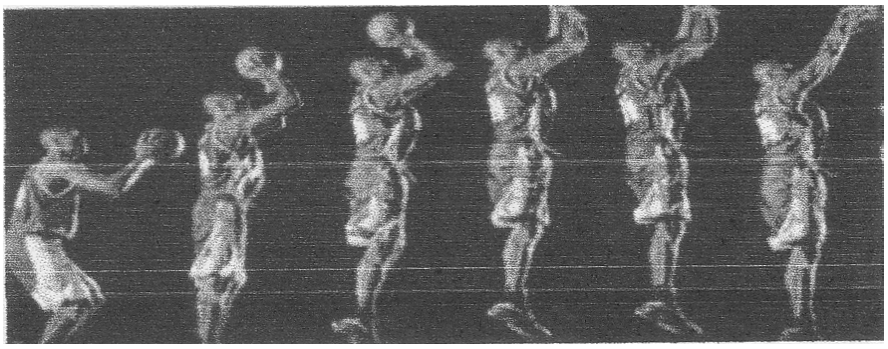


4. **Principle of stability:** Stability principle is about the holding positions and balanced position in movement of an athelete stability is directly proportional to base and mass but indirectly proportional to the height.

5. **Principle of mechanical lever:** This principle is about the mechanical advantage and disadvantage of a movement. There will be always mechanical advantage when force arm longer to resistance arm and vice-a-versa.



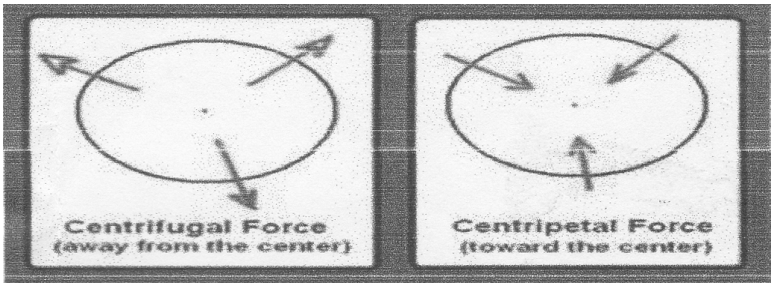
6. **Principle of summing of joints forces:** For better execution of movements in sports to be have to sum up the force of all involved body parts. When all body parts act simultaneously in movement the strongest and lowest body parts around the centre of gravity move first followed by the weaker, lighter and faster extremities.



7. **Principle of rotatory motion:** When an object move in rotatory motion, the force that rotate the object in circular path or create angular acceleration is known as torque.

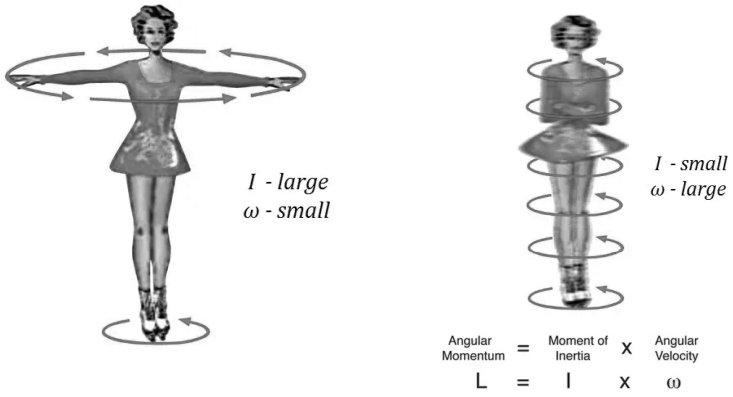
Torque = Magnitude of force × Perpendicular distance from axis of rotation to line of action of force

When an object in rotatory motion two forces are acting on it i.e. centripetal force and centrifugal force. Centripetal force means towards the centre of the body or object and centrifugal force means away from the centre of the body or object.

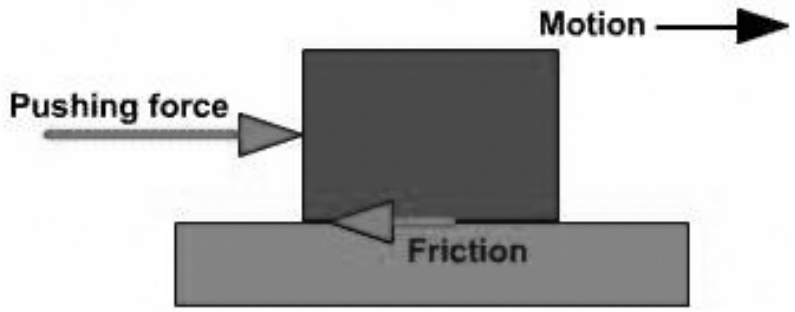


8. **Principle of angular momentum:** Angular momentum is the product of moment of Inertia and angular velocity. Moment of Inertia is the angular counterpart to mass. It is the measure of the resistance of an object to changing its angular speed.

   A good example of angular momentum in action is with figure skaters. A figure skaters starts a spin by pulling in his arms to lessen his moment of Inertia. By the conservation of momentum principles, the angular speed must them increase. To come out of the spin, a skater simply extends her arms to increase angular momentum and decrease angular velocity.

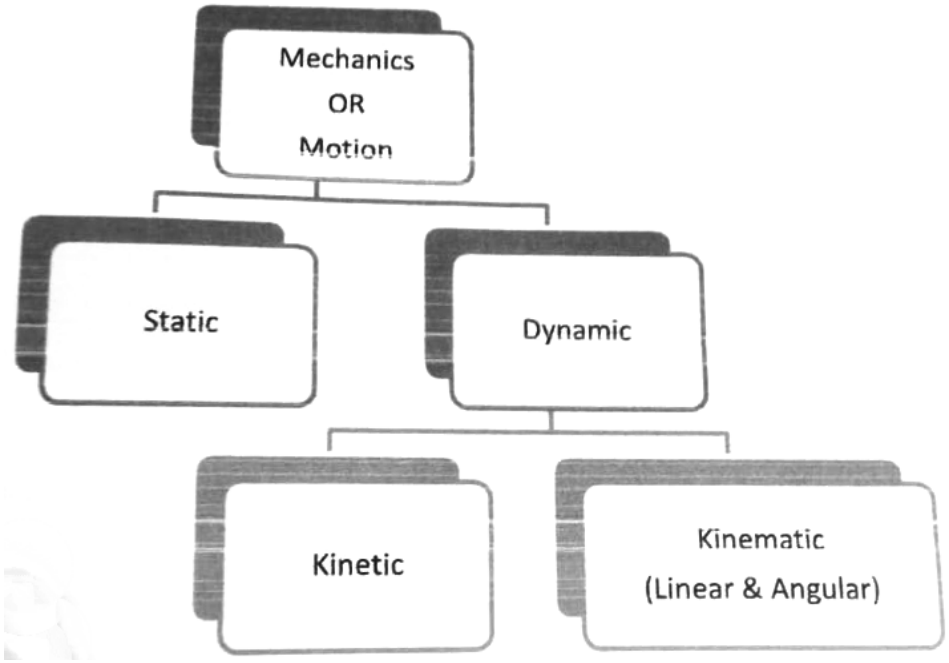


9. **Principle of friction force :** Friction force develop when surfaces of two objects comes in contact and there is relative motion or tend to motion between the surface of the object. Friction force always opposes movement.



8.3 Kinetic and Kinematics in Sports

Mechanics is the branch of physics that concerns the effect of force on bodies. It is classified in a manner as shown in the following flow chart:



If an object is in a state of motionless equilibrium then it is known as static and if an object is in motion then it is consider as dynamic, which is further classified in kinetic and kinematic.

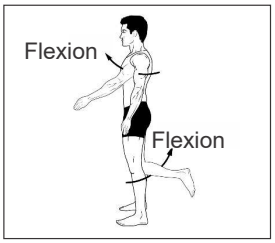
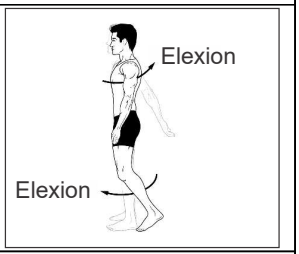
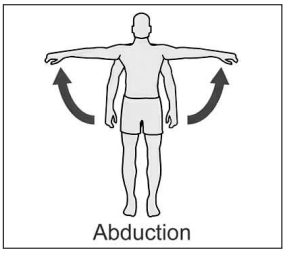
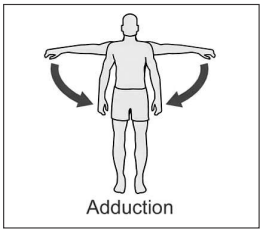
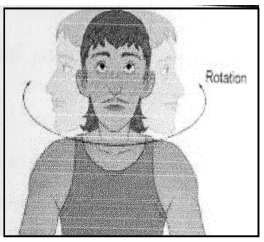
Kinetic: It is the aspect of dynamics which considers the force or forces which cause objects or bodies to move

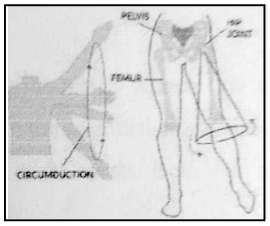
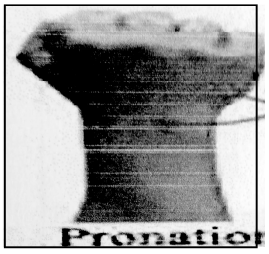
Kinematic: It is analyses of motion in terms of time, displacement, velocity or acceleration. In describes science language it is the geometry of motion and it is described the above four states of motions as they occur either in a straight (linear) line or in a rotary (angular) direction.

Difference between Kinetics and Kinematics:

Kinetics	Kinematics
Kinetics focus on the different types of motion such as rotational motion in which the object experiences force.	It explains the terms such as acceleration velocity, and position of the object.
In this, the mass of the object is considered.	In this, the mass of the object is not considered.
It is used in the design of automobiles.	It is used to study the movement of celestial bodies.
In kinetics, force is considered.	In kinematics, force is not considered.
It deals with absolute motion	It deals with relative motion.
It does not involve any mathematical expressions	It involves mathematical expressions.
It is used in several streams of science like chemistry and biology	It is used in limited areas in physics and it is more specifically used in mechanics.
It is also called dynamics.	It is also called the geometry of motion.

8.4 Types of Body Movement-Flexion. Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation

Body Movement	Explanation	Image
Flexion	It is a bending movement in which the angles between the moving bones are decrease at joint. For example, bending the head forward at neck joint, flexing the biceps muscle of the upper limb at elbow joint, flexing the calf muscle of the lower limp at knee joint.	
Extension	It is the opposite movement of flexion in which the angles between the moving bones are increase at joint. For example, straightening a flexed neck, elbow, or knee.	
Abduction	It is the movement of a limb moving away from the midline or median plane of the body. For example moving arm or leg sideward away from midline.	
Adduction	It is the movement of a limb moving towards the midline or median plane of the body. For example moving arm or leg sideward away from midline.	
Rotation	It is the turning of a bone around its own leg Reation may be ded soward the midline or away from it. For examle rotation of neck, rotation of shoulder, rotation of leg.	

Circumduction	It is the movement where the limbs moves in a circle or at 360°. This movement is possible at ball and socket joint only. For example circumduction of shoulder joint, circumduction of hip joint.	
Supination	It is the upward rotation of the forearm or foot. For example twisting movement of radius and ulna bones of forearm when thumb shifting in movement from left to right.	
Pronation	It is the downward rotation of the forearm or foot. For example twisting movement of radius and ulna bones of forearm when thumb shifting in movement from right to left.	

8.5 Axis and Planes- Concept and its application in body movements

8.5 (a) Concept of Axis and Planes

Alix: It ia an Imaginary point or line around which movement of the body takes place or around which an object rotate. There are three types of axis namely sigittal axis, frontal (transversal) axis, and vertical (longitudinal) axis.

It is the surface through which the movement occurs or takes place. There are three types of planes namely sagittal (median) plane, frontal (lateral or coronal) Plane, and transversal (horizontal) Plane.

8.5 (b) Application in Body Movements

Every movement performs around specific axis and dough specific plane Human life and Sports both are impossible without movement. So you can easily see the

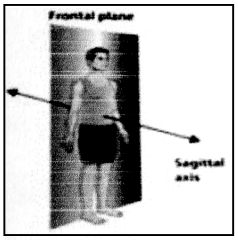
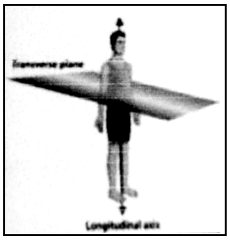
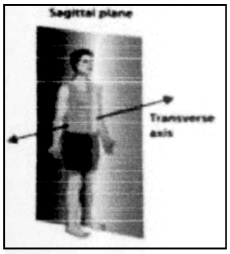
application of axis and plane in body movements we perform either in general life work or in sports. Both axis and planes are inter-related with specific combination as mentioned below:

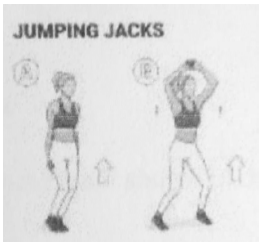
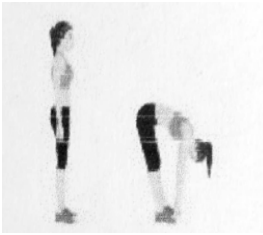
Sagittal Axis with Frontal (lateral or coronal) Plane

Vertical (longitudinal) Axis with Transversal (horizontal) Plane

Frontal (transversal) Axis with sagittal (median) plane

With the help of this table you can easily understand the application of axis and plane in body movements

Axis and Plane Combination Images			
Combination	Whenever there is a sagittal axis in a movement then there should be frontal plane and vice-a-versa.	Whenever thereis longitudinal axis in a movement then there should be transverse plane and vice-a-versa.	Whenever there is a transverse axis in a movement then there should be sigittal plane and vice-aversa.
Possible Examples from sports & Exercises	Abduction, Adduction Spreading arms or legs sideways by the goal Or Jumping Jack Exercise	Supination, Pronation Straight puch by boxer from detense position Or Twisting movement of waist	Flexion, Extension Lifting weight by weightlifters Or Toe touch by bending forward

Application based images			

OBJECTIVE TYPES QUESTIONS (1 MARKS)

Q. 1. Kinesiology is the study of ..... .

(a) Force (b) Human body

(c) Motion (d) Joint

Ans. (c) Motion

Q.2. ..... movement is possible at knee joint.

(a) Rotation (b) Circumduction

(c) Abduction (d) Flexion

Ans. (d) Flexion

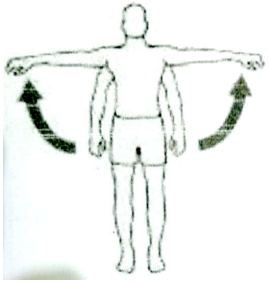
Q.3. If an object is in a state of motionless equilibrium then it is known as ..... motion.

(a) Dynamic (b) Static

(c) Kinetic (d) Kinematic

Ans. (b) Static

Q.4. Identify the movement shown in the given picture.



(a) Rotation (b) Adduction

(c) Abduction (d) Flexion

Ans. **(c) Abduction**

Q.5. It is the turning of a bone around its own long axis is known as ..... movement.

(a) Rotation (b) Adduction

(c) Abduction (d) Flexion

Ans. (a) Rotation

Q6. Match the following:

I. Supination	1. Angle between the bones decrease
II. Flexion	2. Downward rotation of the forearm
III. Extension	3. Upward rotation of the forearm
IV. Pronation	4. Angle between the bones increase

(a) Dyam

(a) I-3, II-1, III-2, IV-4

(b) 1-3, II-4, III-1. IV-2

(c) I-3, II-1, III-4, IV-2

(d) I-1, II-3, 111-2, IV-4

Ans. (c) I-3, II-1, III-4, IV-2

Q.7. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below:

Assertion (A): There is only two movements possible at knee joint.

Reason (R): Knee joint is a hinge type of joint.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A)

(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

Q8. Which of the following movement has sagittal axis and frontal plane combination?

(a) Rotation (b) Flexion

(c) Supination (d) Adduction

Ans. (d) Adduction

Q9. Vertical axis is also known as axis

(a) Longitudinal (b) Frontal

(c) Transversal (d) Sagittal

Ans. (a) Longitudinal

Q.10. Frontal plane is also known as plane?

(a) Transversal (b) Sagittal

(c) Median (d) Coronal

Ans. (d) Coronal

VERY SHORT ANSWER QUESTION (2 MARKS)

Q.1. Enlist the name of four movements.

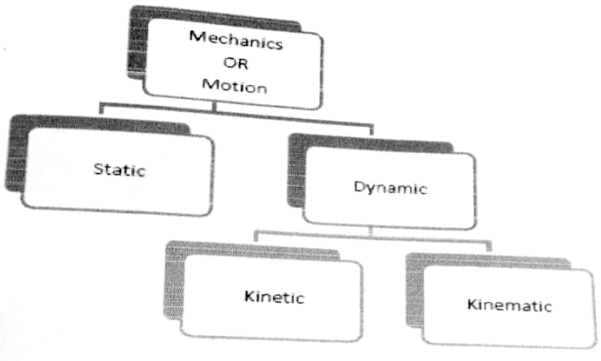
Ans. Flexion, Extension, Abduction, Adduction

Q.2. Define Kinesiology.

Ans. According to Burke R.K. "Kinesiology can be defined as studying the movementg behaviour of all living organisms."

Q.3. Draw a flow chart for showing the branch of mechanics.

Ans.



Q.4. Define Biomechanics.

Ans. According to Hall "It is the application of mechanical principles in the study of five Organisms."

SHORT ANSWER QUESTIONS (3 MARKS)

Q.1. Explain Flexion, Abduction, and Rotation.

Ans. Flexion. It is a bending movement in which the angles between the moving bo decrease al joint.

Abduction: It is the movement of a limb moving away from the midline of the body.

Rotation: It is the turning of a bone around its own long axis.

Q.2. Define Plane and mention its types.

Answer. It is the surface through which the movement occurs or takes place. There are three types of planes namely sagittal (median) plane, frontal (lateral or coronal) plane, and transversal (horizontal) plane.

Q.3. Write three combinations of axis and plane with examples.

Ans.

1. Sagittal Axis with Frontal (lateral or coronal) Plane. Example is Jumping Jack.
2. Vertical (longitudinal) Axis with Transversal (horizontal) Plane Example is twisting of waist
3. Frontal (transversal) Axis with sagittal (median) plane. Example is toe touch by bending forward.

CASE STUDY QUESTIONS (4 MARKS)

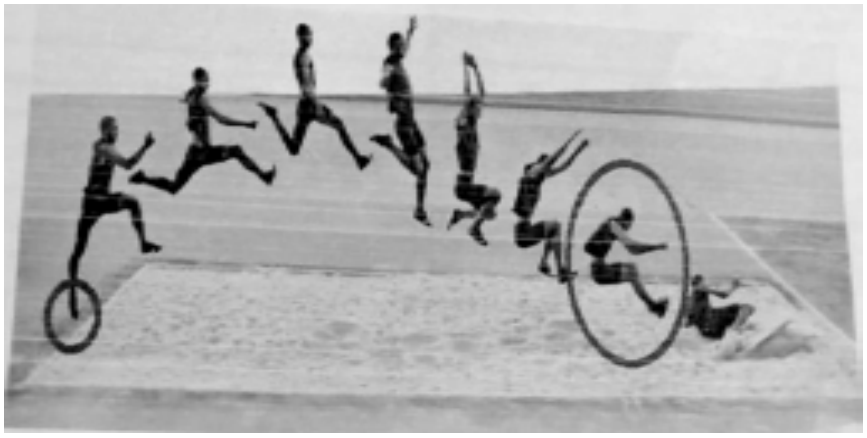
Q.1. On the basis of given image answer the following questions:

(a) Which motion is exist there when athlete start his jump as indicate with small circle?

(b) ..... and ..... motion are two branches of kinematic motion.

(c) Which dynamic motion you seen when athlete change his position for covering more distance as shown in big circle.?

Ans. (a) Kinetic (b) Linear, Angular (c) Kinematic



LONG ANSWER QUESTIONS (5 MARKS)

Q.1. Write down the Difference between kinetics and kinematics.

Ans.

Kinetics	Kinematics
Kinetics focus on the different types of motion such as rotational motion in which the object experiences force.	It explains the terms such as acceleration velocity, and position of the object.
In this, the mass of the object is considered.	In this, the mass of the object is not considered.
It is used in the design of automobiles.	It is used to study the movement of celestial bodies.
In kinetics, force is considered.	In kinematics, force is not considered.
It deals with absolute motion	It deals with relative motion.
It does not involve any mathematical expressions.	It involves mathematical expressions.

Q.2. Explain the importance of kinesiology and bio-mechanics in sports.

Ans. 1. Better Understand of Mechanical Advantage and Disadvantage of Human Movement: Knowledge of kinesiology and biomechanics help us to understand the how human body parts can move in better way by

considering ineer as well as outer factors, which help us to understand the mechanical advantage and disadvantage of movement in different sports.

2. **Helps in improve and develop new technique:** Everyone wants to perform best and for that every individual wants to use most appropriate technique. That why techniques are improve and develop on regular basis and this is possible only because of kinesiology and bio-mechanics.
3. **Helps in upgrade and develop new sports equipment:** Change is the basic principle of life and sports equipment is timely upgraded and develops new equipment on basis of demand of sports. Bio-mechanics helps in developing and improvising the existing equipment for better performance.
4. **Helps in measurement and evaluation of sports performance:** Sports performance can improve if we regularly measure and evaluate it with the help of appropriate tool. Bio- mechanics and kinesiology helps in developing such tools.
5. **Helps in conducting research in sports:** Research is very important now-a-days as every want to be the best. Research helps in solving current problems of sports as well as gives futuristic vision to sports.
6. **Helps in selection of players:** The selection of players is a very technical and important process under which selectors use variety of tests and tools. These test and tools are developing with the help of bio-mechanics and kinesiology.

Unit - 9

Psychology and Sports

Main Point :-

- 9.1 Definition and Importance of Psychology in Physical Education & Sports.
- 9.2 Developmental characteristics at different stages of development
- 9.3 Adolescent problems and their management
- 9.4 Team cohesion and sports
- 9.5 Introduction to psychological attributes: Attention, Resilience, mental toughness

9.1 Definition and importance of Psychology in Physical Education and Sports

Introduction of psychology

First of all, Aristotle said that the word psychology is made up of two separate words, the first word is "psyche" which means soul and the second word is **logos** which means **to study** or **science**. Thus psychology literally means the science or study of the soul. **Rudolf Goeckel** then defined psychology as the science of the mind. **William Wund** then defined psychology as the science of consciousness and eventually **John B Watson** defined psychology as the science of behavior and at the present time the science of behavior is called psychology

Woodworth (1948) "First psychology lost its soul, then it lost its mind, then it lost its consciousness, it still has behavior of a kind".

Definitions of psychology

According to crow and crow, "Psychology is the science of human behavior and its relationship."

According to **J. B. Watson**, "Psychology is the science of behavior.

Definition of Sports psychology-

According to **Robert N. Singer.** "Sports psychology explores one's behavior in athletics."

In simple terms, sports psychology is the branch of psychology that deals with a player's behavior before competition, during competition and post competition.

Importance of Psychology in Physical Education and Sports

- It helps to promote physical activities-
- Build confidence
- Develop healthy habits
- It helps to understand goal
- It helps to manage stress
- It helps to overcome obstacles
- Develop concentration
- It promotes better team work/ cooperation

- It promotes coordination-
- It promotes fair play-
- It promotes leadership quality-
- It helps to control aggression-

9.2. DEVELOPMENT CHARACTERISTICS AT DIFFERENT STAGES OF DEVELOPMENT

A. Infancy period (0-5 years)

1. **Physical Development:** Rapid Growth in size and weight.
2. **Intellectual Development:** child, in his infancy is interested only in these things which fullfil his immediate needs of hunger and feeding. When 2-3 years, he learns to speak very small sentences. At age of five, he starts thinking and takes keep interest in playing.
3. **Emotional Development:** Emotions are not clear at the time of birth. Child cries when he feels hungry. At age two, he displays different emotions such as anger, joy, love and fear. From the age of 2 to 5 years, child becomes highly emotional.
4. **Social Development:** Fully dependent on parents up to 2 years for his physiology and psychological needs, but at age three, he starts liking to play in group. Signs of co-operative behaviour appears at age of four years. At the age of five, friendship becomes strong and tendency of fighting is reduced.

B. Early Childhood (6-9 years)

1. **Physical Characteristics:** Period of slow but steady growth in height. Bones are soft weight increase in steady. Pulse rate is higher than adults. The heart size is smaller in comparision to the body. Strength is not well developed.
2. **Mental Characteristics:** Child loves to take part in exercises and activities. Initiations is a strong characteristic. Children love to play with kids of their own age. The play activities in the age group should not be strenuous because physical capacities develop slowly.

3. **Emotional Development:** Children tend to become demanding and bossy. They are often enthusiastic about like and tend to be outgoing. They may start questioning parents authority. They might show jealously toward siblings. They are able to understand their own feeling and understand the consquences of their actions. They show empathy and offer to help when they see another in distress.

4. **Social Development:** Friends and special friendship become more important at this time and it is very important to his self-esteem that he feel as thought he fits in and is accepted by his friends.

C. Late childhood period (9-12 years)

1. **Physical Development:** Period of slow, steady and uniform growth.
2. **Intellectual Development:** New experiences are acquired and applied and mental horizon is broadened.
3. **Emotional Development:** Emotional behaviour becomes stable and remains under control.
4. **Social Development:** Child plays team games and likes to form bigger social circle.

D. Adolescence period (13-18 years)

1. **Physical Changes:** Physical characteristics of boys and girls begin to mature.
2. **Intellectual Changes:** Mental horizon widens and one starts observing things minutely and capacity to discuss increases.
3. **Emotional Changes:** Difficult to control emotions.
4. **Social relationships:** More interest in the world around him.

E. Adulthood period (more than 18 years)

1. **Physical Development:** Muscles become mature and their strength improves.
2. **Intellectual Development:** Brain reaches its full maturity.
3. **Emotional Development:** Emotions are very much controlled.
4. **Social Development:** Become functioning members of the society.

9.3. ADOLESCENT PROBLEMS

"Adolescence is a period through which a growing person makes a transition from childhood to maturity".

Some main adolescent problems are :-

(i) Physical problems

(ii) Intensification of self consciousness

(*iii*) Sexual Problems

(*iv*) Peer group relationship

(*v*) Dependence-independence

(*vi*) Problem of career selection

(*vii*) Idealism Vs realism

(*viii*) Drug abuse

(*ix*) Emotional Problems

(*x*) Juvenile Negligencies

MANAGEMENT OF ADOLESCENT PROBLEMS

1. **Sympathetic and liberal attitude of parents**: A sympathetic and liberal attitude of parents and their cooperative nature can help in solving many problems of adolescents, parents should take note of the change take place during growth and development of children and adjust their own behaviour towards the adolescents Liberal and sympathetic attitude of parents develops welf confidence.

2. **Healthy atmosphere at home and school:** Unhealthy atmosphere at home or in school or carelessness towards children can force children to fall in bad company. In orders to save children from bad habits and company. it is important to provide sufficient means for the satisfaction of their interests at home or school. Activities like music, arts or sports can help in keeping the children busy and indulge in healthy recreation.

3. **Moral and Religious Education:** Religious and moral education can help adolescents to get some peace of mind and direction in their lives. Moral

education should be a part of school education while home is the best institution for religious education.

4. **Friendly attitude:** At this stage, adolescent want to accept the friendly attitudes. So parents and teachers should act more as friends rather strict, disciplined and rigid parents. More over this friendly attitude will bring them more close instead of making gaps between them.

5. **Reasonable Independence:** They should be given reasonable amount of independence. They should be given the freedom to express themselves and their point of views should be discussed in reasonable manner. They should also be given freedom to go out reasonably keeping their safety in mind.

9.4. Team Cohesion and Sports

Meaning of Team Cohesion

Albert Carron defined as "A dynamic process which is reflected in atendency for the group to 'stick together' and 'remain united' in the pursuit of goals and objectives."

Group cohesion can be defined as unity in whcih a group of individuals work together to achieve and certain goal.

Types of Team chohesion

- Task cohesion
- Social cohesion

Factors of affecting group cohesiveness

- **Degree of dependency on the group:** greater the dependency of the people in the group, greater the cohesion.
- **Size of group:** if the size of the group is small, then the cohesiveness will be more smaller groups have high cohesiveness)
- **Homogeneity of members:** group cohesiveness will be higher if people in the group have similar background an interests.

- **Stable memberships:** for more cohesiveness stability must be maintained in the group.
- **Location of the group:** location of the group must be feasible and reachable.
- **Group status:** success stories always lead to high cohesiveness.
- **Leadership:** If the leader of the group is dynamic then cohesion will automatically be good.
- **Competition: Inter-** If there is competition between two groups, then there will be high cohesion. **Intra-** If there is competition between the individuals of a group, then there will be low cohesion.

9.5. Introduction to psychological attributes: Attention, Resilience, Mental toughness

- **Attention-** The process through which certain stimuli are selected from a group of others is generally referred to as attention. (NCERT)
- **According to Dumville-** "Attention is the concentration of consciousness upon one object rather than upon another."
- **In other words,** attention is the process of focusing your consciousness on one stimulus out of all present stimuli in your external environment.

Types of attention

- **Voluntary attention-**it demands a conscious effort Eg. Hit a ball in cricket by a batter.
- **Involuntary attention-** attention aroused without will Without making a conscious effort. Eg Loud sound, bright lights color.
- **Resilience-** "The flexibility in response to changing situational demands and the ability to bounce back from negative emotional experiences".

  According to **Stuart** Resilience is "ability to bounce back from adversity". Resilience in positive psychology refers to the ability to cope with whatever life throws at you. Some people are knocked down by challenges, but they return as a stronger person more steadfast than before.
- **Mental toughness-**Mental Toughness is a personality trait that determines your ability to perform consistently under stress and pressure, and is closely related to qualities such as character, resilience. grit and perseverance.

"Mental toughness is the ability to face adversity, failure and negative events without a loss of effort attitude and enthusiasm".

Mental toughness refers to an athlete's ability to persist in the face of challenges, mistakes, and failure.

It is combination of resilience, determination, and optimism that allows people to stay focused and motivated in the face of adversity.

OBJECTIVE TYPE QUESTIONS (1 MARK)

Q.1 What is the meaning of 'Psyche'?

(a) Soul (b) behaviour

(c) Environment (d) Science

Ans. (a) Soul

Q.2 Which of these terms describes the degree to which group members come together as one unit to reach a common goals?

(a) Group Cohesion (b) Group synergy

(c) Group respect (d) Group collaboration

Ans. (a) Group cohesion

Q.3. 'Adolescent' is a period between —

(a) 10 to 18 years (b) 13 to 18 years

(c) 9 to 18 years (d) 09 to 18 years

Ans. (b) 13 to 18 years

Q.4. In the childhood, Individual's behaviour in most influenced by—

(a) Community (b) School

(c) Peer group (d) family

Ans. (d) family

Q.5. The causes of frustration among sports person is—

(a) Result of own performance

(b) Normally due to mismatched level of aspiration and ability

(c) Result of good performance

(d) Natural outcome of competative sports

Ans. (b) Normally due to mismatched level of aspiration and ability

Q.6. Match the following:

	List-I	**List-II**
(I)	Late Childhood	1. 0 to 5 years
(II)	Adulthood	2. 6 to 9 years
(III)	Infancy	3. 9 to 12 years
(IV)	Early childhood	4. 18 years onward

	I	II	III	IV
(a)	3	4	1	2
(b)	1	2	3	4
(c)	4	3	1	2
(d)	3	1	4	2

Ans. (a) 3 4 1 2

Q.7. Given below are two statements, one labelled as Assertion (A) and the oilier labelled as Reason (R).

Assertion (A): An Infant can run and walk In better way than holding a pen or pencil to write.

Reason (R): An Infant first gains control over large muscle groups than the fine ones.

Which of the following statements is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true but (R) is not the correct explanation of (A).

(c) (A) is true and (R) is false.

(d) (A) Is false and (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

Q.8. In modern scenario meaning of psychology is –

(a) Soul (b) Mind

(c) Behaviour (d) Consciousness

Ans. (c) Behaviour

Q.9. The ability of to bounce back from adversity is called-

(a) Mental toughness (b) Resilience

(c) Alertness (d) Cohesion

Ans. (b) Resilience

Q.10. It is combination of relsilence, determination and optimism that motivate people to face adversity-

(a) Task cohesion (b) Alrtness

(c) Mental toughness (d) Team

Ans. (c) Mental toughness

VERY SHORT ANSWERS TYPE QUESTION (3 MARKS)

Q.1 Define sports Psychology.

Ans. According to M.L. Kamlesh. "sport psychology is the application of psychological principles to sport and physical activities at all levels of skill development."

Q.2 Mention the importance of Sports Psychology.

Ans.

- **Improve performances :-** The Knowledge of sports psychology helps to improve performance and personality of players by scientific ways of modifying behavior.
- **Motivation and feedback :-** Proper motivation and proper feedback enhances the performance of players. It gives counselling to players. This can be guided by sports psychology.
- **Better selection :-** The knowledge of sports psychology guides the coaches for better selection of players.

Q.3. Define team cohesion its types.

Ans. Group cohesion can be defined as unity in which a group of individuals work together to achieve a certain goal.

- **Task cohesion-** Degree to which members of a team work "together to achieve a specific and identifiable goal. Example: Colleagues of a department
- **Social cohesion-**Degree to which the member of a team like each other and enjoy personal satisfaction from being member of the team.

  Example: Friendship, Caring, Liking etc.

Q.4. Define attention and its types.

Ans. Attention is the concentration of consciousness upon one object rather than upon another. **- Dumville**

Types of attention

- **Voluntary attention-** it demands a conscious effort. Eg Hit a ball in cricket by a batter.
- **Involuntary attention-** attention aroused without will. Without making a conscious effort. Eg Loud sound, bright lights/color.

SHORT ANSWER TYPE QUESTION (3 MARKS)

Q.1 Explain any four problems of adolescent

Ans. 1. Aggresive and violent behaviour: Adolescent has aggresive behaviour and often becomes violent very fast. They easily become, irritated and repulsive when work is not of their interest.

2. Problems related to physiological growth: The physiological changes assoiciated with abolescence present conditions and problems that the adolescence has not met upto this time and in many cases is ill prepared to meet them when they appear.

3. Confusion between adolescent's role and status: Unfortunate neither the adolescent's role nor his status is clear cut in the society. A boy may be treated like a man in many situations outside but like a child in his own home.

4. Problems related with future: The adolescence is a period when the individual is not a child, he has emerged from the safe and protected life of childhood. He has now to decide to what course of like he has to follow.

Q.2. Explain different develomental characteristics of early childhood stage.

Ans. B. Early Childhood (6-9 years)

1. Physical Characteristics: Period of slow but steady growth in height. Bones are soft weight increase in steady. Pulse rate is higher than adults. The heart size is smaller in comparision to the body. Strength is not well developed.

2. **Mental Characteristics:** Child loves to take part in exercises and activities. Initiations is a strong characteristic. Children love to play with kids of their own age. The play activities in the age group should not be strenuous because physical capacities develop slowly.

3. **Emotional Development:** Children tend to become demanding and bossy. They are often enthusiastic about like and tend to be outgoing. They may start questioning parents authority. They might show jealously toward siblings. They are able to understand their own feeling and understand the consquences of their actions. They show empathy and offer to help when they see another in distress.

4. **Social Development:** Friends and special friendship become more important at this time and it is very important to his self-esteem that he feel as thought he fits in and is accepted by his friends.

LONG ANSWER TYPE QUESTION (5 Marks)

Q.1 Discuss methods adopt for management of adolescent problem in details:

Ans. 1. Sympathetic and liberal attitude of parents: A sympathetic and liberal attitude of parents and their cooperative nature can help in solving many problems of adolescents, parents should take note of the change take place during growth and development of children and adjust their own behaviour towards the adolescents. Liberal and sympathetic attitude of parents develops self confidence.

2. **Healthy atmosphere at home and school :** Unhealthy atmosphere at home or in school or carelessness towards children can force children to fall in bad company. In orders to save children from bad habits and company, it is important to provide sufficient means for the satisfaction of their interests at home or school. Activities like music, arts or sports can help in keeping the children busy and indulge in healthy recreation.

3. **Moral and Religious Education :** Religious and moral education can help

adolescents to get some peace of mind and direction in their lives. Moral education should be a part of school education while home is the best institution for religious education.

4. **Friendly attitude :** At this stage, adolescent want to accept the friendly attitudes. So parents and teachers should act more as friends rather strict, disciplined and rigid parents. More over this friendly attitude will bring them more close instead of making gaps between them.

5. **Reasonable Independence :** They should be given reasonable amount of independence. They should be given the freedom to express themselves and their point of views should be discussed in reasonable manner. They should also be given freedom to go out reasonably keeping their safety in mind.

Unit - 10

Training and Doping in Sports

Main Point :-

- ✍ 10.1 Concept and principles of sports training
- ✍ 10.2 Training load: Over load, adaptation and recovery
- ✍ 10.3 Warming-up & limbering down-types, method & importance
- ✍ 10.4 Concept of skills, techniques, tactics & strategies
- ✍ 10.5 Concept of doping and its disadvantages

10.1 (a) Concept and principal of sports training

It is a continous, scientific and systematic preparation to achieve top form in competition period is known as sports training.

"Sports training is the basic forms of preparation of sportsmen".– *Matwejew*

Sports training is a planed and controlled process of achieving goals in which the changes of motor performance and behaviour are made through measures of control, methods and organizations.– *Martin*

It can be said that the means with which a spoils person is prepared physically, technically intellectually, psychologically and morally is called the sports training.

Characteristics of sports training

- Balanced plan
- Scientific approaches
- Continous in nature
- Individual in nature
- Performance oriented
- Based on educational behaviour
- Through this confidence will be built in spoils person

10.1 (b) Principles of sports Training

- Principal of continuity of training.
- Principal of individual matter differences.
- Principal of planned /systematic training.
- Principal of increasing of training load.
- Principal of active participation.
- Principal of general and specific training.
- Principal of competitive behaviour.
- Principal of cyclicity (Three cycles)

  Macro – 3-12 months

Meso – 3-6 weeks

Micro – 5-10 days

- Principal of adaptability
- Principal of uniformity and differentiation
- Principal of feasibility
- Principal of visual presentation
- Principal of awareness

10.2 Training load: Overload, Adaptation and Recovery

Every sports training consist of physical exercise/movements which cause fatigue. Fatigue is directly a product of training load which help in the process of adaptation. Therefore training load and fatigue are important for any kind of sports performance. If load remains constant then there will be stagnation in the performance. Training load helps to stimulate the various organs of a body which help to adapt these by giving proper shape to the body parts so that the maximum possible work can be done in a minimum efforts.

Definition of load

1. Amount of work done by an individual body is called as load.
2. Load is the psychological and physiological demand put on the organism through motor stimuli resulting in improvement and maintenance of higher performance capacity.

TYPE OF LOAD

External Load

- Distance Run
- No of Repetitions
- No of jumps
- Total duration of actively

Internal Load

- Heat Rate
- Lactic acid concentration
- O_2 consumption
- Symptions of fatigue
- consentration/Attention

Factors Affecting Training Load

- **Movement Quality.**
- Types of exercise: General → Specific → Competitive
- Load Intensity: Intensity of stimults → Density of stimults
- Load volume: Duration → Frequency

ADAPTATION AND RECOVERY

Adaptation: The process of the body getting actioned to a particular exercise or training program through repeated exposure.

- Adaptation means to get adjusted or it is some adjustment to load or when a body starts doing work without any efforts.
- Adjustment to load shows that performance get enhanced process of load and recovery goes side by side.
- Adaptation is simply a functional adjustment but if the homeostasis is optimally disturbed repeatedly for a no of days then the human body responds by causing structural and metabolic changes which enables the body to tolerate load more easily. This is called adaptation.

  The nature and actural process of adaptation which is psychic and physiological.

The adaptation takes plane in all the organs, systems and functions which are affected by the process of tackling the training and competition demands.

Conditions of Adaptation

1. Adaptation process are set in motion only when the load is optimum.
2. The adaptation is result of proper cycle of load and recovery.
3. The adaptation takes place faster in case of beginner, but it take long time in case of advance spoils persons.
4. There should be a correct proportion between intensity and volume of training load.

5. Higher load is essential for optimum adaptation.

   Higher Load – High Adaptation

   Medium Load – Medium Adaptation

   Low Load – Low Adaptation

6. Reduction in load or break in training breaks the adaptation.
7. For a beginner, the application of new or carfamiliar exercise or load creates super compensation effect.
8. It leads to increase in load tolesance ability.

Recovery in Sports

Recovery aims to restore physiological and psychological processes, so tht the athlete can complete or train again at appropriate level.

The rate and quality of recovery is very imp for the high performance athlete and that optimal recovery is recovery may provide numerous benefits during replitive high level training and competition.

Recovery from training and competition is complen and involves numerous factors. It is also typically dependent on the nature of the exercise performed.

Methods to enhance recovery: Recovery is mainly depend upon which type of exercise or load. Most popular recovery techniques for a spoils person:

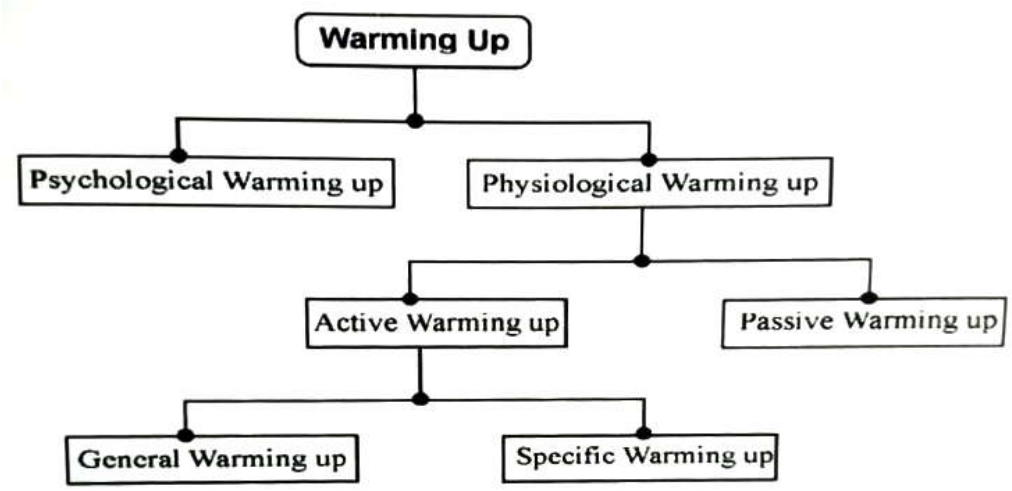
- Hydrotherapy
- Active recovery
- Stretching
- Massage
- Sleep
- Nutrition
- Compression garments

10.3 WARMING UP

It is a short term activity carried out prior to any severe or skilled activities. Warming up is an essential before a competition. Through such a workout we try to bring the group of muscles expected to take part in the activity to follow. It is primarily preparatory activity in which physiological and Psychological preparation of an athlete is done for the main activity.

Types of Warm up: (i) General Warm-up

(ii) Specific warm-up



Limbering down or cooling down:

At the end of the training session or competition, athletes are normally advised to cool down. This is done normally in the shape of a light but continuos activity such as jogging or walking for some time at the end of the event. Such an activity after the competition of an event is called limbering down or cooling down.

Importance of Warming-up

1. Increases the Body Temperature
2. Decreases the Viscosity of Muscles
3. Increases the Speed of Nerve Impulses

4. Decreases the Resistance in Muscles Capillaries
5. Increases the Speed of Transfer of Oxygen and Fuel to Tissues
6. Increases Metabolic Rate
7. Reduces the Anxiety and Tension
8. Enhances Cooling Efficiency
9. Reduces the Blood Lactic Acid
10. Warming-up Avoids Injury
11. Increases the Speed of Muscles
12. Increases Flexibility
13. Increases Strength
14. Increases Endurance
15. Pincreases Explosive Power
16. Improves Specific Skills
17. Improves Neuro-muscular Co-ordination
18. Improves the Level of Performance
19. Decreases Reaction Time
20. Brings Second Wind more Readily

Importance of Limbering Down

1. Body temperature becomes normal
2. Proper removal of waste products
3. Decrease in tension
4. Reduces the chances of dizziness or fainting
5. Supply of Oxygen
6. Decrease in the level of aderaline in the blood

7. Muscles do not remain stiff
8. Heart rate returns to initial stage

Methods of Warming-up

1. **General Method:**
   - Jogging
   - Simple exercise
   - Stretching exercise
   - Wind sprints (a form of exercise involving moving from walk or slow run to a faster run and repeatedly reversing the process)
   - Striding (walk with long steps in a specified direction)
2. **Warming-up with Warm water:** warm water bath for swimming, synchronised swimmin water polo etc.
3. **Warm-up through Massage:**
   - Used by wrestlers
   - Cures minor muscle injuries
4. **Warming-up by drinking hot drinks:**
   - Hot Tea, Coffee
5. **Warm-up through Sunbathe**
6. **Warm-up through Steam bathe**

10.4 Concept of skill, technique, tactics & strategies Skill

- It is automatization of movement and it is learnt & mastered through practice. No child is born with the skill.
- Skill is an athlete's ability to choose and perform the right techniques at the right time, successfully, regularly and with a minimum of effort.

- Ability to perform a whole movement is known as skill.
- Level of effectiveness with which a movement or a motor action can be performed.
- Eg Shooting in basketball, service in tennis, overhead kick in football

Technique

- It is a scientific & economical method to attain/ reach high sports performance.
- It is theoretical model according to the movements are to be performed.
- Techniques are the fundamental/basic movements of any sport or event.
- Technique is the way of performing a skill.
- A skill can be performed by using more than one technique.

Strategy

- Strategy is the overall plan for successful participation in a competition.
- Strategy is a long-term plan that is focused on achieving a goal by using a variety of tactics.
- Strategy is more strategic plan that takes into account the big picture and considers a variety of tactics to accomplish the goal.

Tactics

- Tactics are the specific actions, sequences of actions and schedules you use to fulfil your strategy.
- Tactics are methods by which performers try to outwit (get the better of, beat) an opponent.
- Tactics are the specific tools used to execute the strategy.

10.5 MEANING OF DOPING:

(a) When an athlete uses banned substances or methods to improve performance in sports it is called as doping.

Example: Drugs and steroid used.

(b) **Concept of Doping:** "Doping" is the word, which is used in the field of sports, when athletes use prohibited substances on methods to unfairly Improve their sporting performance. In general way, doping is the use of performance enhancing substance or methods by sports person to gain an advantage ever their competitors. In fact, some sport person take illegal substance to enhance their performance. The activity is known as doping. The use of banned performance enhancing drugs in sports is commonly referred to as doping. The use of drugs is considered unethical by most International sports organisations. The anti doping authorities state that using performance enhancing drugs goes against the "spirit of sports".

WADA: World Anti doping Agency

Founded on – 10 Nov 1999

Motto – play true

Founder – Dick pound

Headquater – Mostreal (Canada)

Affilation – I.O.C

Language – English, French

NADA: National Anti Doping Agency

Founded on – 24 Nov 2005

Motto – play fair

Headquater – J.N. Stadium (New Delhi)

Doping

Wada artical 2.1 to 2.8 of the code:

1. Presence of prohibited substance or method.
2. Use or attempt to use a prohibited collection after being notified.

3. Tampering with any part of doping comport board.
4. Possession of a prohibited substance.
5. Trafficking a prohibited substance and method.

Classification of Doping

- **Performance enhancing substance.**
- **Physical method**

1. Performance enhancing substance

(a) Stimulants: Enhance alertness increasing heart rate and breatring rate/ function of brain stimulates the body physically mentally.

Effect	Usage	Example
• Mind in more alert	injection nasal	• Cocaine
• Reduces feeling of fatigue	spray orally	• ephendrine
• More aggressive		• Adrafinil
		• Amphetamines

(b) Anabolic steriods: Growth of muscles and help athlete to train harder and recover rapidly. Boosting muscle power and strength.

Effects	Usage	Examples
• Muscle power growth	Intra muscle	• Drostanolove
• Muscle size increases	Injection	• Metenolone
• Rapid recovery rate	Orally	• Oxandrolone

(c) Peptide Hormones: Substance produces by glands is the body. Carry O_2 and circulate the blood production of RBC/growth of muscles.

Effects	Usage	Examples
• Increases in R.B.C.	By injection	• Erothropoetin
• Muscle growth	orally	• Insulin
• Hormonial in balance		• Human growth hormones

(d) Beta-Beta Agonist: Treat asthma relan muscles/increases repratory function.

Effects	Usage	Examples
• Increases O_2 in blood.	Inhals orally	• Acebutolol
• open air passage.		• Bentanotol
• Rapid recovery		• Carteolol

(e) Narcotics: Reduces or eliminates pain four injuries. Reduces anxiety which further increases the risk of injury.

Effects	Usage	Examples
• Reduces pain	By injection	• Morphine
• Improves stamina	orally	• Heroine
• Reduces anxiety	inhalling	• pethidine

(f) Diuretics: None performance enhancing drug bal used in spoils to remove fluids (water) reduces body weight.

Effects	Usage	Examples
• Rapid weight loss	Orally	• Dexatran
• Remove water from the body	injection	• Amiloride
• Evade anti doping test		• Canreone

(g) Glucocoslicosteriods: Relieve fatigue and pain give more tolerance/ continous efforts.

(h) Cannabinoids: Psycho active chamicals feeling of relaxation.

Examples– Hashis and Marijuna

(i) Blood doping: Aritfical O_2 carrier injection Hameogolobin O_2 carrier are chemicals or purified proteins. Which have the ability to carry O_2. It enhances aerobic capacity.

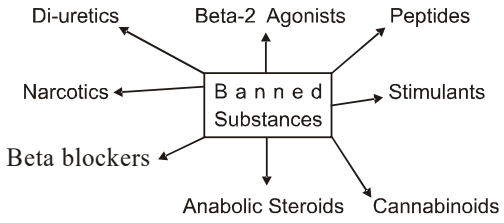
Autologous Homologous blood

(j) Gene doping:

- Manipulation of cells and genes to enhance performance.
- Increases physical strength.
- Based on gene therapy– Gene theraphy play a vitral role in development of musculo-skeletal structure.
- Repair of the injuries of muscles/tandon and ligaments etc.

Disadvantages of doping:

The athletes uses different types of banned substances to



i) Stimulants -

1. Cause insomnia, anxiety and aggressiveness
2. Poor Judgement
3. Increases hypertension and body temperature

ii) Anabolic steroid

1. Can cause Sudden heart attack
2. High blood pressure
3. Mood swings, aggresion/depression
4. Can cause impotency and bald ness in males
5. Can cause facial hair growth and deep voice in females

iii) Cannabinoids :

1. Reduce concentration and co-ordination

2. Reduce lung capacity
3. May cause heart decease and lung cancer
4. Loss of memory

iv) Beta Blockers :

1. Reduces endurance
2. Headache and weak digestion.
3. Risk of heart attack due to slow heart rate.

v) Narcotics :

1. Loss of balance and coordination
2. May cause drowsiness, vomiting, constipation
3. May cause fainting and coma

vi) Diuretics :

1. Can cause dehydration
2. May lead to kidney damage
3. Mineral imbalance and low blood pressure and drowsiness

vii) Beta-2 Agonists

1. Cold hands, drowsiness
2. Headache, vomiting etc.
3. May cause insomnia and depression.

OBJECTIVE TYPE QUESTIONS (1 MARKS)

Q.1. Woman who take _____ tend to masculinize?

(a) Beta-blockers (b) Amphetamines
(c) Diuretics (d) Steroids

Ans. (d) Steroids

Q.2. Which of the physical method of doping is _____

(a) Sumulants (b) Steroids
(e) Gene doping (d) None of the above

Ans. (c) Gene doping

Q.3. Which substance help in increasing oxygen in the body _____

(a) Blood doping (b) Gene doping

(c) Steroids (d) Narcotics

Ans. (a) Blood doping

Q.4. Which substance is help in increasing strength of the musles in the human body.

(a) Steroids (b) Autologous doping

(c) Blood doping (d) Gene doping

Ans. (a) Steroids

Q.5. Which of the one is not the performance inhancing substance-

(a) Blood doping (b) Gene doping

(c) Fibre (b) Autologous doping

Ans. (c) Fibre

Q.6. What is the full form of 'NADA'

(a) National Auto doping Agency (b) National Anti doping Academy

(c) National Anti drugs Agency (d) National Anti doping Agency

Ans. (d) National Anti doping Agency

Q.7. What is the full from of 'WADA'.

(a) White Anti doping Agency (b) Wide Anti doping Academy

(c) World Anti doping Agency (d) None of the above

Ans. (c) World Anti doping Agency

Q.8. "Taking of prohibited or banned substances is calleld _____"

(a) Steriods (b) Alcohal

(c) Doping (d) Autologous doping

Ans. (c) Doping

Q.9. Which is a short term activity carried out prior to any severe activity?

(a) Skill (b) Technique

(c) Limbering down (d) Warming-up

Ans. (d) Warming-up

Q.10. Which is the short term activity carried out after the severe activity?

(a) Technique (b) Warming-up

(c) Limbering down (d) None of the above

Ans. (c) Limbering down

Q.11. How many types of warming-up?

(a) 3 (b) 4

(c) 10 (d) 2

Ans. (d) 2

Q.13. Which principle formed on training according to specific requirements of particular sports?

(a) Principle fo programm (b) Principle of continuity

(c) Principle of specificity (d) Principle of Individual Diffence

Ans. (c) Principle of specificity

Q.13. Given below are the two statements labeled Asserton (A) and Reason (R)

A. Assertion (A): An athlete must properly and adequatly warm-up before the event to avoid Injury.

B. Reason (R): There is all likelihood of a chess player getting injured during a high level of competition.

Select the answer from the codes given below:

Codes:

(a) Both (A) and (R) one true and (A) is the correct explanation of (R).

(b) Both (A) and (R) one true but (A) is not correct explanation of (R).

(c) (A) is true but (R) is true.

(d) (A) is false but (R) is true.

Ans. (b) Both (A) and (R) are true But (A) is not correct explanation of (R)

IMPORTANT QUESTIONS

Q.1. Explain in detail the classification of skills.

Ans. There are a number of sports activities and each activity requires a set of skills. Owing to many characteristics of skill , it is difficult to classify. Generally there are the following skills:

(a) **Open skill :** The Skill which are not under control and are unpredictable are classifieds open skill.

(b) **Closed skill :** Closed skill take place in a stable, predictable environment

(c) **Simple skill :** The skill which do not require large amount of co-ordination, timings and decision. These skills are straightforward, easy to learn and not difficult to perform, e.g. chest pass, under arm service.

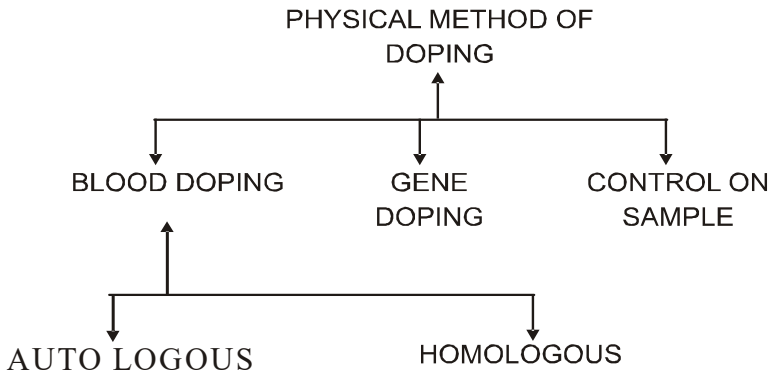
(d) **Complex Skill :** The skills which requires large amount of co-ordination, timing and quick thought process are called complex skills e.g. over head kick in football.

(e) **Continues skills :** These skills have no obvious beginning and of one of one cycle of movement and beginning of next. e.g. cycling is an example of continues skills.

(f) **Fine skills :** These skills include complex precise movements using small muscle groups e.g. snooker shot.

(g) I**ndividual skills:** Individual skills are thore skills which are performed in isolation, e.g. high jump and long jump.

Q.2 What are the physical methods of doping? Define methods prohibited in sports.



1. **Blood Doping:** Blood doping is a method to increase the count of red blood cells, which is done by the use of wrong banned substances. There are two methods under this.

   (a) **Autologous blood doping :** Two units of bloods are taken some weeks prior to competition. Then the blood is frozen until one or two days before competition when it is injected into the athlete. This is called autologous blood doping.

   (b) **Homologous blood doping :** The injection of fresh blood, taken from a second person, straight into the athlete is called homologous blood doping. This improves the oxygen carrying capacity to the muscles by increasing the count of red blood cells (RBC) so the muscle endurance is increased which improves the aerobic capacity and sports performance.

2. **Gene Doping :** Gene doping is the manipulation of cells or genes to enhance the body's sports performance. It can be used to improve the work function of normal healthy cells. Gene therapy plays an important role in growth and development of muscles and bones. It also speeds up the person to repair of the injured muscle tendons and ligaments.

3. **Chemical and Physical Manipulation:**Any tampering with the samples during doping control during or after any competition is prohibited.

Q.3 Explain the principles of sports training ?

Ans. To perform physical activities and sports if we want to remain healthy and fit for longer duration, there are certain principles we have to follow. They are as under :

(a) **The principles of use :** The Principle of use indicates that if we use any part of the body then that part will remain healthy for longer duration. It is essential to perform one or the other physical activity. Regular exercise also improves muscular strength, will power, increased metabolic changes that are responsible for increased efficiency of the total body, improves the system due to regular input and out put of healthy impulse.

(b) **Principle of Disuse:** Principle of disuse means absence of physical activity. It may be due to any fracture, illness, old age or any personal reason. If

we stop using of our body, our growth and development of muscles, brain, system etc. will also either stop or the growth will be very slow.

(c) **Principle of over load :** Principle of overload means using the body beyond its capacity. It is necessary for an athlete to use his body maximum to get a better result but on the other hand over use of the body is also very harmful for the body.

Practice Solved Paper-1
Physical Education (048)
Class-XI

Time : 3 Hrs. Max. Marks : 70

General Instructions

1. *The question paper consists of **5 sections** and **37 Questions**.*
2. *Section A consists of question **1-18 carrying 1 mark** each and is multiple choice questions. All questions are compulsory.*
3. *Sections B consist of questions **19-24 carrying 2 marks** each and are very short answer types and should not exceed 60-90 words. Attempt any **5 questions**.*
4. *Sections C consist of Question **25-30 carrying 3 marks** each and are short answer types and should not exceed 100-150 words. Attempt any **5 questions**.*
5. *Sections D consist of Question **31-33 carrying 4 marks** each and are case studies. There is internal choice.*
6. *Section E consists of Question **34-37 carrying 5 marks** each and are short answer types and should not exceed 200-300 words. Attempt any **3 questions.***

(SECTION-A)

Q.1 Shudhikriyas are also called _____ . **1**

(a) Asana (b) Shatkarmas

(c) Tratakas (d) Kapalbhati

Q.2 Nauli is the method of massaging and strengthening the _____ . **1**

(a) Mind (b) Heart

(c) Lungs (d) Abdominal organs

Q.3 Tool for the collection of information in numeric form: **1**

(a) Test (b) Measurement

(c) Evaluation (d) Assessment

Q.4 In which test the length of various bones are measured and tested? **1**

(a) Achievement tests (b) Cardiovascular test

(c) Anthropometric test (d) Motor ability test

Q.5 Ram's height is 4ft. 4ft in is an example of- 1

(a) Test (b) Measurement

(c) Evaluation (d) Assessment

Q.6 The sutures of the skull are the best example of- 1

(a) Cartilaginous joints (b) Synovial joints

(c) Fibrous joints (d) Freely movable joints

Q.7 The science that deals with the structural aspect of the human body is known as- 1

(a) Physiology (b) Anatomy

(c) Botany (d) Kinesiology

Q.8 _____ carry blood away from the heart. 1

(a) Arteries (b) Veins

(c) Capillaries (d) Bones

Q.9 Lifting your arms sideways in the jumping Jacks is an movement of- 1

(a) Adduction (b) Flexion

(c) Abduction (d) Adduction

Q.10 Sports biomechanics can be described as- 1

(a) Mechanics of sports (b) Kinesiology

(c) Physics of sports (d) Biology of sports

Q.11 The term 'biomechanics' to describe the application of mechanical principles in the study of living organism was adopted in: 1

(a) Early 1970s (b) Late 1970s

(c) 1970 (d) Early 1980s

Q.12. _____ is a movement that decreases the angle between two body parts. 1

(a) Extension (b) Flexion

(c) Abduction (d) Adduction

Q.13 Who said, "psychology is the study of human behavior." **1**

(a) Pillsbury (b) McDougall

(c) Woodworth (d) Crow and crow

Q.14. What is the meaning of word 'Psyche'. **1**

(a) Behavior (b) Science

(c) Mind (d) Consciousness

Q.15 Which one of the following is NOT a problem related to adolescence? **1**

(a) Eating disorder (b) Substance Abuse

(c) Anti-Social Behavior (d) Lack of language development

Q.16 Which among the following is NOT recommended to improve team cohesion- **1**

(a) Set team goals (b) Better communication

(c) Reward (d) Set individual Identity

Q.17 Which one of the following affects team cohesion? **1**

(a) Satisfaction (b) Popularity

(c) Similarity (d) All Of these

Q.18 Which of the one is the performance enhancing substance _____ . **1**

(a) Blood doping (b) Fibres

(c) Vitamins (d) Fat

(SECTION-B)

Q.20 Mention any two out of six Shat karmas?

Q.19 What is Dugdha neti?

Q.21 What do you mean by Anthropometric Tests?

Q.22 Give any two points to explain the importance of test, measurement and""evaluation in sports.

Q.23 Define physical fitness test.

Q.24 Write down the function of Skeletal system?

(SECTION-C)

Q.25 Discuss the guidelines for advance preparation in test administration.

Q.26 Discuss the principles of biomechanics.

Q.27 Explain the details different types of movements.

Q.28 Differentiate between abduction and adduction

Q.29 Discuss the types of team cohesion.

Q.30 Diferentiate between load and overload.

(SECTION-D)

Q.31 Pranayama is the practice of controlling the breath. This is an essential part of any yogic practice. While it is one of the eight limbs of modern yoga, it is considered among the most important aspects of yoga. Recommended to be done early morning, it has three distinct phases. While most people know about and do two or three types of Pranayama, there are, in fact, fourteen distinct types of Pranayama. It offers multiple benefits and has to beLearned to get the most out of yoga practice.

(a) What are the three steps in performing Pranayama?

(b) What are the common types of Pranayama practiced by most people?

(c) List the benefits the regular practice of Pranayama offers.

Q.32 Mind and our thought processes determine our life. Success and failures arise with our thoughts. Our behavior is linked to our feelings and thoughts. This is important in all aspects of life but vital in the field of sports. Today, sports psychology plays an important role in shaping champions. In fact, most top sportspersons seek sports psychologists' help to reach their peak. Although it is a relatively new field, it has proven to be of immense value for top players and sportspersons. While sports psychology focuses on skill development, counselling and training most modern sports trainings are designed keeping in mind the athletes psychology. As stresses of modern life grow, understanding of and implementation of sports psychology into training is becoming more and more important.

(a) Define sports psychology. What areas does it focus on?

(b) How does having a sports psychologist help a sportsperson?

(c) How does aid from a sports psychologist enhance an athletes' performance?

Or

Adolescence has been rated as the most important and turbulent phase of human growth and development. Considered the most formative years, the age from 10 to 19 years needs not only special care but **monitoring to** ensure healthy balanced adults. Most troublesome adults start as troubled adolescents. This is the age of most dramatic change in humans not only physically but also emotionally, mentally and hormonally. Growing from a child to an adult brings with it a fair share of problems. Much research has been done and continues to be done to help battle problems of this age.

(a) What changes does adolescence bring with it?

(b) What are the common challenges faced by adolescents today?

(c) What solution ought to be offered to ease transition from adolescence to early adulthood?

Q.33 Performance enhancement is currently a very important aspect of modern sports Training, discipline and regular practice all improve performance but with the urge to attain excellence fast, a few people resort to aid of chemicals that decrease fatigue or enhance performance. Fair play in sports demands that competitors do not resort to any artificial means or aid but sometimes the pressure of getting a result from a sportsperson or his family and peers leads to indulging in what are unfair means. Use of performance-enhancing drugs as well as many biochemical techniques pose challenge to the concept of fair play in sports. Doping, which is use of substances or techniques to improve athletic performance, is banned but is nevertheless a reality. In the long term, doping harms but the urge to produce immediate results causes some sportspersons to give it a try. While worldwide sports authorities have lots of measures to prevent doping, it is still a reality of modern sport and indeed modern life. While continuous testing for doping is done on most competitive sportspersons, there is also a specific list of banned substances that are available for all to see and avoid.

(a) What is the concept of doping with special reference to sports?

(b) What are the different types of doping resorted to by sportspersons?

(c) What broad groups of substances are prohibited for sportspersons?

(SECTION-D)

Q.34 What do you mean by respiration? Make a suitable diagram of respiratory system. Write the function and structure of respiratory system?

Q.35 Describe various adolescence problems? How can they manage?

Q.36 Explain the types of doping in detail.

Q.37 Explain all constituents of ashtanga yoga in detail.

ANSWERS

1. (b) Shat karmas
2. (d) Abdominal organs
3. (b) Measurement
4. (c) Anthropometric test
5. (b) Measurement
6. (c) Fibrous joints
7. (b) Anatomy
8. (a) Arteries
9. (d) Abduction
10. (c) Physics of sports
11. (a) Early 1970s
12. (a) Flexion
13. (a) Pillsbury
14. (c) Mind
15. (d) Lack of language development
16. (d) Set individual Identity
17. (b) Popularity
18. (c) Narcotics

SECTION-B

19. Dugdhaneti is a yogic cleansing practice used to clear the nasal passageways. It is recommended in the "Hatha Yoga Pradipika" as well as other sacred yogic tests. It is considered important because nasal cleansing allows for

easier breathing, which helps with pranayama and steady breathing during asana practice.

20. Neti. This is nasal passage cleansing using neti pot with salt lukewarm water.

Dhauti. This is cleansing of the digestive tract.

Basti. This is colon cleansing.

Trataka. This is gazing practice.

Nauli. This is self-administered abdominal massage

Kapalabhati.

21. Anthropometry involves the systematic measurement of the physical properties of the human body, primarily dimensional descriptors of body size and shape.

22. 1. To get knowledge about the progress
    2. For effective planning
    3. For knowing the achievements in future
    4. To discover the needs of participant
    5. For motivation
    6. For classification of player
    7. for research and experimentation
    8. For selection of a sportsperson

23. Physical fitness is considered as a measure of the body's ability to function efficiently and effectively during work and leisure activities. In order to remain physically fit and healthy, we need to engage ourselves in physical activities and take measures for physically fit.

24. 1. Provides support
    2. Help in movement
    3. Help in blood cell production
    4. Acts as storage
    5. Help in endocrine regulation
    6. Provides protection

SECTION-C

25. **Trial run-through including how to exit during a test-**Assessing students with Exact is straightforward but before any student takes the test, the administrator

should familiarize themselves with the tests. Ideally, this should be done under test conditions. To do this, the administrator should register as a student

Testing environment and equipment- The ideal testing environment is one that is reasonably quiet, with minimal distractions Ideally, this should be a separate room. but Exact has been designed to be robust for use in the ordinary classroom, provided visual and auditory distractions (both to the student being tested and to other students in the class) have been minimized.

Student preparation - Before testing, each student must be registered on Test wise. The tests can be done in any order but it is usually best to start with word recognition which students generally find quick and easy. Instructions are spoken by the computer, and each test commences with a practice or demonstration of the task. When the student has completed the practice items, the test phase begins.

Supervision -It is not usually necessary for students to be closely supervised while attempting the tests, unless the teacher or administrator has a particular reason to do so.

26. 1. Principle of Angular motion
    2. Principle of angular momentum
    3. Principle of counter action
    4. Principle of linear motion
    5. Principle of maximum velocity
    6. Principle of maximum effort
    7. Principle of stability 8. Principle of spin

27. **Flexion and Extension-**In the sagittal plane, flexion and extension are movements. They refer to the angle between two body components being increased or decreased.

    Abduction & Adduction-Abduction, like abducting someone, is a movement away from the midline. Abduction of the shoulder, for example, raises the arms out to the sides of the body. Adduction is a movement in the direction of the midline. The legs are squeezed together when the hip is abducted.

    Circumduction-Circumduction is a unique movement that is a mixture of several others. Flexion is the first motion, followed by abduction, extension, and ultimately adduction. However, the sequence must be followed. It can begin with either flexion or adduction.

Rotation- Rotation is when the limb rotates around its long axis, similar to how a screwdriver works. Like hitting a driving shot in golf, the same occurs in the hip joint, and when playing a topspin forehand in tennis, the same happens in the shoulder joint.

28. The **main difference** between abduction and adduction is the direction of the movement of the body with respect to the midline. That is abduction is the motion of an anatomical structure away from the midline. In contrast, adduction is the motion of an anatomical structure towards the midline. For example, the abduction of the shoulder raises the arms out to the sides of the body. On the other hand, the abduction of the hip squeezes the legs together.

29. **1. Team cohesiveness.** is a degree to which group members are attracted or motivated by each other. Basically, group cohesiveness is the closeness amongst the group.

2. Task Cohesion. The degree to which members of a team work together to achieve a specific and identifiable goal.

30. Load that is safely managed may result in improved athletic capacity and performance, and injury and illness risk reduction. Overload, as defined in this document, is load that is excessive or not well managed.

31. (a) **There are three distinct steps in performing Pranayama.** These are Inhalation called puraka, Exhalation called rechaka and Retention. known as kumbhaka. Retention or kumbhaka further has two types called antarakumbhaka, which is retention between inhalation and. exhalation, and bhayakumbhaka, which is retention between exhalation and inhalation.

(b) **Yoga describes fourteen distinct types of pranayam.** These range from the very basic natural breathing to abdominal or thoracic breathing, but the common types practiced are vilom, anulomvilom. and fast breathing. While vilom is the practice of interrupted breathing anulomvilom involves alternate nostril breathing. One can also use only the right nostril called suryabhedan while the cooling breath is called sheetali, sitkari and kaki mudra.

(c) Regular practice of correctly done Pranayama is one of the best ways for the body to recover, repair and function better. Improved concentration is a direct result. The calming of mind also occurs. Pranayama also helps in preventing stress-related and psychosomatic disorders such as high blood pressure, asthma, diabetes and sleeplessness.

(b) Sports psychology is defined as the study of psychology as it influences sports, athletic performance, exercise and physical activity. Optimum performance from an athlete is based on understanding their psychology and using this knowledge not only to train them but also to help set goals and offer encouragement. The principal area of focus is cognitive and behavioral skill training. Improving concentration. setting goals and resetting them as they are achieved as well as emotional stability-all arise from this. Counselling and clinical intervention is required to increase motivation, manage weight, avoid substance abuse as well as accept recognition and adulation from fans. Team building and developing leadership skills and interpersonal skills are other positives of sports psychology.

(b) Having exposure to a sport psychologist is a great career boosting idea for most competitive sportspersons. Understanding the potential of a sportsperson and getting support from their family and friends is a direct consequence of a balanced psyche. Acceptance of coaching with appropriate mental preparation is performance boosting. Better concentration and motivation follows and setback and success are taken in one's stride. Controlling emotions, learning motor skills and preparing for competition is also made easier.

(c) Most athletes need continuous support, especially from persons they trust and respect, and personal sports psychology trainers offer this. Trainers help cope with performance fears and their inputs, both mental and during training help boost performance. Everyone needs some mental preparation for any competition and if one has access to a personal psychology coach, mutual understanding is easy and performance enhancing.

Or

(a) Adolescence is the age of big and dramatic change. These changes are not only physical but emotional and mental as well. Adjusting to going from a child to a young adult makes the transition a time of stress and confusion in the young mind. Physical changes start with sudden increase in height and weight. Facial appearance changes as does voice tonality. While males develop facial hair and deep voices as a sign of adolescence, changes in females are even more with development of secondary sex characteristics as breasts and menarche.

(b) Adolescence brings with it emotional changes and makes them irritable, argumentative and prone to mood swings. Teenage behavior sets in such

as listening to loud music, altered hairstyle and clothes. Substance abuse is possible at this stage. Health problems start with lack of attention to proper sleep, food and exercise. Current challenges include addiction to social media and aggressive behavior which makes them prone to injuries. Peer reassure makes adolescents prone to reckless behavior such as driving vehicles fast and often without license, partying all night and neglecting studies and personal hygiene. Food takes a back seat and focus shifts to eating out at irregular times and a lot of unhealthy food choices because of group behavior. Body image is also an important consideration at this age.

(c) To ease transition during adolescence, a lot of support is required. This comes from family and friends as well as schoolmates and teachers. Understanding rather than rigid discipline is warranted. Gentle explanations yield better results than dictating. Understanding on the part of, especially, parents goes a long way. Paying attention to healthy diet and adequate rest and sleep also helps Being judgmental is not a good idea Rather, an understanding and supportive environment helps.

(a) Doping in sports is a sad reality. Doping is defined as use of substances or techniques to illegally improve sporting performance. Doping is universally banned worldwide. Doping may cause a temporary boost in performance but has long-term bad effects on health. First reported in 1904, doping has since been regulated by WADA-the world anti-doping agency. Dope testing is done both by blood as well as urine samples. Athletes are randomly tested and in most events, medal-winners have to undergo compulsory testing Even off-competition random tests are done to check for doping Nothing that can interfere to artificially enhance performance is allowed and use of any banned substance is known as doping.

(b) Doping methods include use of performance-enhancing substances as well as physical methods of doing it. Performance- enhancing substances are either taken orally or are injected. The most common of these are stimulants such as amphetamines, ephedrine and cocaine. Anabolic steroids have long been the favorite enhancers to build up muscle mass. Human growth hormone used to increase hemoglobin and red blood cell production is also widely used: Steroids are used to build up muscle and decrease response to fatigue. On the other hand, we also have physical methods such as blood doping where extra blood is injected into the athlete to

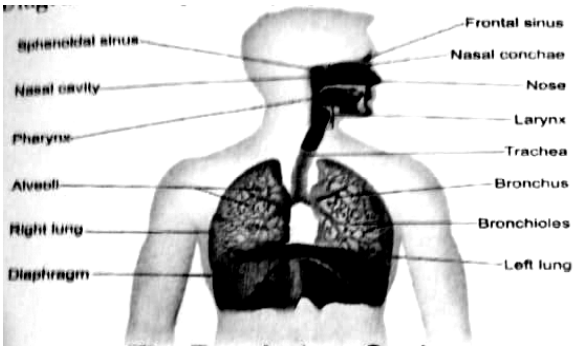
increase endurance. These can be blood transfusions or injections of erythropoietin. With the advent of science, gene doping is used to modify a person's genetic structure to improve sports performance.

(c) WADA, the world anti-doping agency has classified many groups of substances with the aim to inform athletes as to what they are not to use. These are classified as per their mechanism of action as well as aim of use. Anabolic steroids, derived from the male hormone testosterone, are banned as they are used to increase muscle mass and strength. While they boost performance, they also have side-effects like liver abnormalities, increased changes of muscle rupture, heart and blood problems. depression and altered growth in adolescents. A second group of banned drugs are adrenal derivatives called androstenedione. These cause skin problems, enlargement of breast and in males decreased sperm production, etc. A third group of banned substances are the human growth hormones. Also known as somatotropin, this increases muscle mass but leads to side-effects such as joint pains, vision problems, high blood pressure and diabetes.

SECTION-E

34. **RESPIRATION:** Respiration is a physical process by which living organism take in oxygen from the surrounding and give out carbon dioxide. FUNCTIONS OF RESPIRATORY SYSTEM. To exchange oxygen and carbon dioxide between the air and blood.

Diagram of Respiratory System



The Respiratory System

Function of respiratory system

The lungs and respiratory system allow us to breathe. They bring oxygen into our bodies (called inspiration, or inhalation) and send carbon dioxide out

(called expiration, or exhalation). This exchange of oxygen and carbon dioxide is called respiration.

It consists of nostrils, nasal cavities, pharynx, larynx, trachea, bronchi, and bronchioles inside the lungs. Lungs- Lungs occur in the thoracic cavity in pairs. It is a pink to greyish air sac that functions as a respiratory organ.

35. 1. Physical changes

Physical changes happen due to changes in the teenager's hormone levels.

- Development of full breasts in girls can be awkward in the beginning. Girls may start to feel conscious about their figure.
- Change of voice and appearance of facial hair in boys is perhaps the most prominent change that takes place during adolescence

2. Emotional changes and problems.

- Hormones affect your teenager not only physically but also emotionally.
- Adolescent girls are vulnerable to crying
- Mood swings are common among teenage boys and girls. Bodily changes result in self-consciousness.
- Children who hit puberty early may even feel weird.
- Feelings of inferiority or superiority may arise at this time.
- Adolescence is the age when sexual feelings arise in youngsters. Feelings and thoughts about sex can trigger a sense of guilt.

3. Behavioural changes

Overwhelming emotions can lead to impulsive behaviour, which can be harmful to your child as well as others. Mostly, it is just teen behaviour that will last as long as their adolescence.

4. Substance Use and Abuse

Teenagers are vulnerable and can be easily swayed to the wrong side. Substance abuse is one of the biggest problems that parents of adolescents around the world have to deal with.

5. Health problems

Adolescents are vulnerable emotionally and physically. Without proper nutrition and healthcare, they are susceptible to illnesses. According to a 2015 WHO report, 1.3 million adolescents died in 2015, a majority of

them had preventable diseases.

6. **Psychological problems**

   Research has revealed that around 50% of mental health disorders that adults have. begin at the age of 14. In fact, one-third of adolescent deaths are suicides triggered by depression.

7. **Social problems-dating and relationships**

   Attraction to the opposite sex begins during puberty. Adolescence is the time when their sexual or reproductive organs start developing. At such a vulnerable time, it is but natural for teens to feel awkward in social situations.

8. **Sexual health-**The development of secondary sexual characteristics during adolescence gives rise to new feelings in teenagers and pushes them to experiment with their bodies.

36. Types of Doping (Classification)

(i) Performance enhancing substance:

- Stimulants
- Anabolic Steroids
- Peptide hormones
- Beta-2 Agonist Narcotics
- Diuretics
- Cannabinoids.

(ii) Physical methods.

- Blood doping and Gene doping comes under physical method.

Blood doping: It is the process of increasing the Red blood cells by blood transfusion.

Blood doping increases haemoglobin allows higher amount of to fuel an athlete's muscles. This can improve stamina and performance, particularly in long distance events.

Gene doping: It is the non-therapeutic use of cells, genes, genetic elements or of the modulation of gene expression, having the capacity to improve athletic performance.

37. Ashtanga means with eight limbs, and refers to yama, niyama, pranayama, asana, pratyahara, dharana, dhyana,and samadhi aspect s of this tradition.

Yama — social ethics. The five yamas are: ahimsa (non-violence, meaning no - negative thoughts, words or actions towards yourself or others), satya (honesty, with yourself and others), asteya (no stealing-of possessions or time), brahmacharya (wise use of sexual energy), and aparigraha (non-possessiveness).

Niyama — personal ethics. The five niyamas are: saucha (cleanliness of mind. body santosha (contentment), tapas (discipline), svadhyaya (self-study, reflection. looking within), and isvarapranidhana (surrendering to a higher power, keeping God in our hearts.)

Pranayama — breathing exercise for expansion of vital energy (prana).

Asana — physical exercise for stability of body. This is the one most people associate with yoga, though it is only one part of eight.

Pratyahara — withdrawal of senses (so you can look within and listen to your heart).

Dharana — single-pointed focus, concentration on a single point. Dhyana meditation for stability of mind. This is perhaps the most important part of yoga. Meditating on emptiness, releasing ego, witnessing thoughts but not getting caught up in them.

Samadhi — a state of bliss.To achieve a state of bliss, we must practice all eight limbs. Once you perform the ritual of the primary series a few times, it is not hard to love this tradition of yoga, because the benefits are instantaneous. You feel stronger, calmer and more capable of surfing the turbulence of life.zs

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