

DIRECTORATE OF EDUCATION
Govt. of NCT, Delhi

SUPPORT MATERIAL
(2018-2019)

Class : XI
Physical Education

Under the Guidance of

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PREFACE

It gives me immense pleasure to present the Support Material for various subjects. The material prepared for students of classes IX to XII has been conceived and developed by a team comprising of the Subject Experts, Members of the Academic Core Unit and teachers of the Directorate of Education.

The subject wise Support Material is developed for the betterment and enhancement of the academic performance of the students. It will give them an insight into the subject leading to complete understanding. It is hoped that the teachers and students will make optimum use of this material. This will help us achieve academic excellence.

I commend the efforts of the team who have worked with complete dedication to develop this matter well within time. This is another endeavor of the Directorate to give complete support to the learners all over Delhi.


(SANDEEP KUMAR)
SECRETARY

Sanjay Goel, IAS



D.O. No. PS/DE/2018/343

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Date : 8/8/2018

DIRECTOR'S MESSAGE

Dear Students,

Through this Support Material, I am getting an opportunity to communicate directly with you and I want to take full advantage of this opportunity.

In Delhi, there are approximately 1020 other government schools like yours, which are run by Directorate of Education. The Head Quarters of Directorate of Education is situated at Old Secretariat, Delhi-54.

All the teachers in your school and officers in the Directorate work day and night so that the standard of our govt. schools may be uplifted and the teachers may adopt new methods and techniques to teach in order to ensure a bright future for the students.

Dear students, the book in your hand is also one such initiative of your Directorate. This material has been prepared specially for you by the subject experts. A huge amount of money and time has been spent to prepare this material. Moreover, every year, this material is reviewed and updated as per the CBSE syllabus so that the students can be updated for the annual examination.

Last, but not the least, this is the perfect time for you to build the foundation of your future. I have full faith in you and the capabilities of your teachers. Please make the fullest and best use of this Support Material.

DIRECTOR (EDUCATION)

Dr. (Mrs.) Saroj Bala Sain
Addl. Director of Edn. (School)/Exam



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D.O. No. PA/ADD/DE(Sch)/80

Date : 16/07/2018

It gives me immense pleasure and a sense of satisfaction to forward the support material for classes IX to XII in all subjects. The support material is continuously revised redesigned and updated by a team of subject experts, members of Core Academic Unit and teachers from various schools of DOE.

Consistent use of support material by the students and teachers will make the year long journey seamless and enjoyable. The purpose of providing support material has always been to make available ready to use material which is matchless and most appropriate.

My commendation for all the team members for their valuable contribution.

Dr. Saroj Bala Sain
Addl.DE (School)

DIRECTORATE OF EDUCATION
Govt. of NCT, Delhi

SUPPORT MATERIAL
(2018-2019)

Physical Education
Class : XI
(English Medium)

NOT FOR SALE

PUBLISHED BY : DELHI BUREAU OF TEXTBOOKS

PHYSICAL AND HEALTH EDUCATION

Under the Guidance of

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- 1.2 Aims and Objectives of Physical Education
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- 4.4 Concept of Inclusion, its need and implementation
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Unit - 1

Changing Trends & Career in Physical Education

- ✍ 1.1 Meaning and definition of Physical Education
- ✍ 1.2 Aims and Objectives of Physical Education
- ✍ 1.3 Changing Trends in Physical Education
- ✍ 1.4 Various Physical Education courses available in India
- ✍ 1.5 Career options in Physical Education
- ✍ 1.6 Soft Skills required for different careers

1.1 Meaning of Physical Education

Physical Education is an integral part of the total education process and has its aim, the development of physically, mentally, emotionally and socially fit citizens through the medium of physical activities which has been selected with a view to realising their outcome.

1.1 Physical education-Definition; aims and objective:-

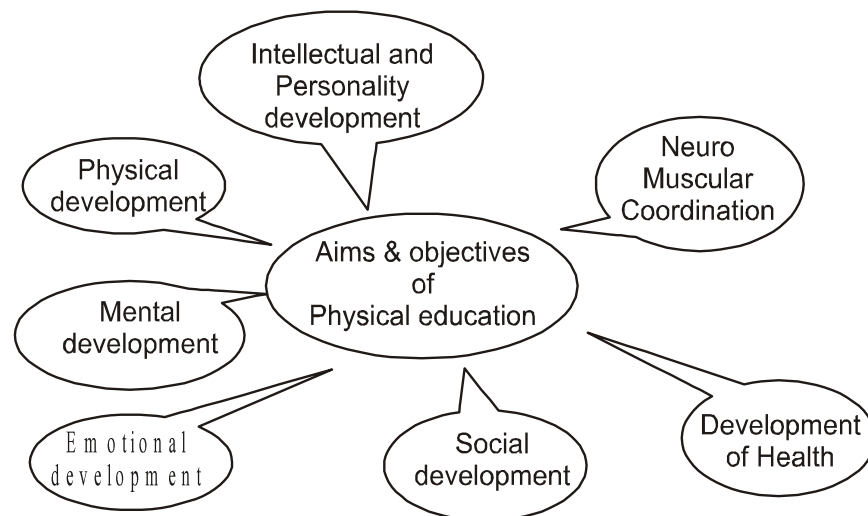
In fact the basis of physical education is difficult and very broad with changing time, its meaning also kept changing. Following time, its meaning: According to Charles A Bucher, "physical education is an integral part of total education process and has its aim in the development of physically, mentally, emotionally and socially fit citizens through the medium of physical activities which have been selected with a view to realize these out comes."

"Physical education is the sum of changes in the individual caused by experience which can bring in motor activity."

1.2 Aims and objectives of Physical Education :

"The aim of physical education must be, to make every child physically. Mentally and emotionally fit and also to develop in him such personal and social qualities, that will help him to live happily with others and built him up a good citizen"

objectives :-



Changing trends in Physical Education: The tendency of physical education is not new to earthliving. It is believed that its roots date back to ancient times. At that time it was used for different purposes. Its meaning was different from person to person. It is not wrong to say that the word “Physical Education” has a broad meaning. In ancient earlier, man needed physical education to stay alive. As civilization kept on changing, so did the meaning of physical education. But nobody understood its real meaning. Somebody called it physical training, a sport, body culture and some others called it health education and entertainment. But in fact, physical education is much more than that in the present context, the effort of imparting education through physical activities as called physical education.

Various Physical Education Courses available in India

For career preparation in the field of physical education the details about various universities, colleges, institutions and degrees, diplomas and other courses, the duration of these courses and eligibility to get admission in such courses are given below:

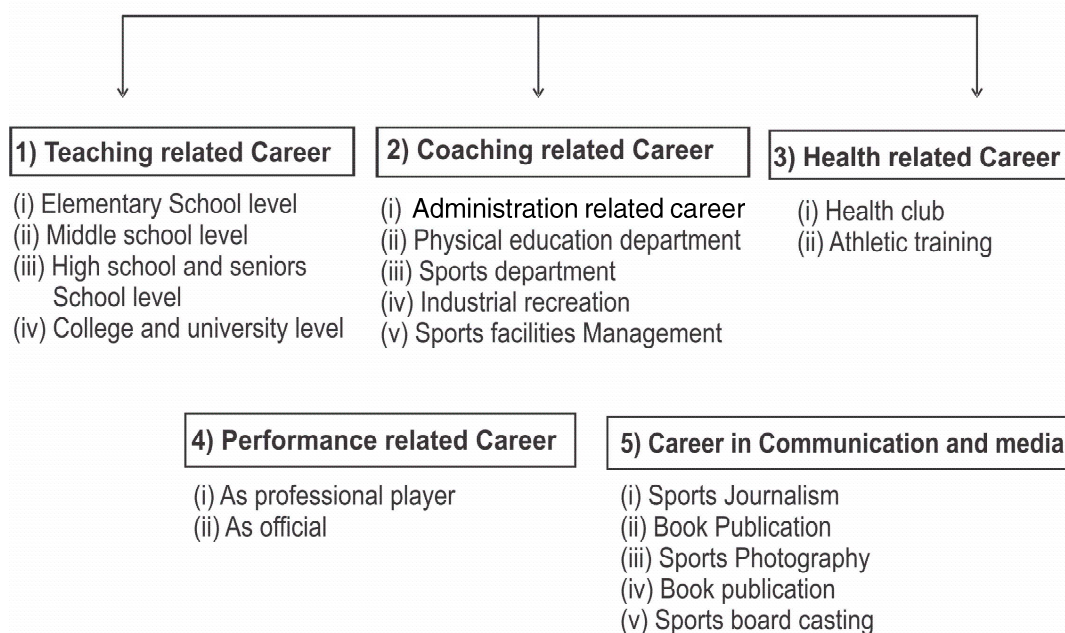
The above-mentioned universities, institutes,

Name of Course	Name of Institute/ University/College	State	Eligibility for Admission	Duration of Course
Master's degree in Physical Education (M.P.Ed.)	Guru Nanak Dev University, Amritsar	Punjab	B.P.Ed.	1 year
M.P.Ed.	Punjab University, Patiala	Punjab	B.P.Ed./Graduate in Arts/Sc./Phy.Ed.	2 years
Diploma in Coaching	SAI Netaji Subhash National Institute of Sports, Moti Bagh, Patiala	Punjab	Graduation	2 years
Master's degree in Sports (M.S.)	-do-	Punjab	Diploma in Coaching	2 years
M.P.Ed.	Govt. College of Physical Education, Patiala	Punjab	Graduation	2 years
B.P.Ed.	SAI Laxmi Bai National College of Physical Education, Gwalior	Madhya Pradesh	10 + 2	3 years
M.P.Ed.	-do-	Madhya Pradesh	B.P.Ed.	2 years
M.Phil, in Physical Education	-do-	Madhya Pradesh	Master's degree in Physical Education/ M.P.Ed.	1 year
Ph.D.	-do-	Madhya Pradesh	-do-	1 year
M.P.Ed.	Maharishi Dayanand University, Rohtak	Haryana	Graduation	2 years

M.P.Ed.	Kurukshetra University Kurukshetra	Haryana	Graduation with 45% marks in Phy. Ed.	2 years
Ph.D.	-do-	Haryana	M.P.Ed.	2 years
B.Sc (Sports)	Gurunanak Khalsa College, Yamunanagar	Haryana	10+2	3 years
M.A. (Physical Education)	Punjab University Chandigarh	Harvana	Graduation/ B.P.Ed.	2 years
Ph.D.	-do-	Haryana	M.A./M.P.Ed.	2 years
Master of Physical Education	Indira Gandhi Institute of Physical Education and Sports Sciences. New Delhi	Delhi	Graduation in the respective subject [otherwise mentioned against the course]	2 years
Diploma in Physical Education	-do-	Delhi	Graduation	1 year
B.P.Ed.	Kolkata University, Kolkata	West Bengal	10 + 2	3 years
Diploma in Coaching	SAI National Sports East Bangalore Centre, Salt Lake City, Sector-III, Kolkata	West Bengal	Graduation	2 years
B.P.Ed.	Bangalore University	Karnataka	Graduation	1 year
M.P.Ed.	Bangalore University Bangalore	Karnataka	Graduation with additional degree in physical education	1 year
Diploma in Coaching	SAI National Sports South Centre, University Campus, Bangalore	Karnataka	Graduation	2 years
B.P.Ed.	SAI Laxmibai National College of Physical Education Kanavattam, Thiruvananthapuram- 695586		Kerala 10 + 2	3 years
M.P.Ed.	-do-	Kerala	B.P.Ed.	2 years
MPhil.	-do-	Kerala	M.P.Ed.	1 vear
Ph D.	-do-	Kerala	M.Phil./M.P.Ed.	1 vear
Diploma in Coaching	SAI National Sports West Centre, Gandhinagar	Gujarat	Graduation	2 years
M.P.Ed.	Annamalai University PO, Annamalaiagar	Tamil Nadu	B.P.Ed, or Equivalent	1 year

	South Arcot-608002			
M.P.Ed.	University of Madras, Chepauk, Madras-600005	Tamil Nadu	B.P.Ed.	1 year
B.P.Ed.	Aligarh Muslim University, Aligarh-202002	Uttar Pradesh	10+2	3 years
M.P.Ed.	Benaras Hindu University, Varanasi-221005	Uttar Pradesh	B.P.Ed.	1 year

1.6 Career option in physical education



What are Soft Skills?

The phrase '*soft skills*' is often used to describe the skills which characterise relationships with other people, or which are about how you approach life and work.

Others phrases that are often used for these types of skills include: 'people skills', 'interpersonal skills', 'social skills' or 'transferable skills'.

1. Communication Skills

People with strong communication skills can build relationships, listen well, and vary their communication to suit the circumstances

If you spend time on nothing else, work on your communication skills.

2. Making Decisions

Valued by employers for many reasons, being able to make decisions is key to getting on in life. Sometimes the actual decision doesn't even matter; what matters is that you have made one and moved on.

3. Self Motivation

People who are self-motivated get on by themselves. They don't need close supervision and they are good to work v/vith because they are generally positive about life and can be counted upon to keep going. It also helps to work on your personal resilience and adaptability to change.

4. Leadership Skills

These are the set of soft skills that we least expect someone to develop by themselves. There are many leadership related courses available and much has been written about how to develop your leadership skills.

5. Team-Working Skills

Like leadership skills, there are many training courses to teach you how to work well in a team. However, there is also plenty of thinking to suggest that good communication skills, particularly good listening skills, together with an ability to build rapport will go a long way to support your ability to work well in a team.

Question for 1 Mark (30 words)

Q.1 What is the aim of physical education?

Ans. The Aim of physical education is all round development of the personality of the individuals.

Q.2 What do you mean by physical education?

Ans. Physical education is the sum of changes in an individual caused by experience which can bring in by motor activity.

Q.3 What do you mean by sports journalism?

Ans. Through sports journalism we mean that we can gather information regarding all sports activities and to collect 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.4. What do you mean by Health related careers?

Ans. In the modern world, people are more aware of their health related issues. Each and every person is aware to his health. He remains to be hale and healthy. He wants to adopt a healthy life style. So there is an increase in job opportunities in health related careers in field of physical education. The number of health and weight control clubs has increased tremendously. The another field related to health career is athletics training.

Q.5 What is the objective of physical education?

Ans. Physical education facilities and ample time for the individual and the groups to participate in activities that are physically wholesome, mentally stimulating and socially sound.

Question for 3 Marks (60 Words)

Q.1 Discuss the teaching career in physical education.

Ans. Physical education has traditionally been declared as a professional field. Appropriate career offers many rewards to the teachers whether they are engaged in elementary school middle schools. High school, senior secondary

schools. College or universities. This career is usually considered to have many benefits. The teacher, in the field of physical education has deep respect among the students because he makes a good contribution to society this career provides internal satisfaction

- Elementary School
- Middle School
- High Secondary School
- College and university

These are teaching opportunities in the field of physical education at different levels.

Q.2 Write a note on career in book writing?

Ans. Career opportunities are widely available in book writing in the field of physical education and sports, specially in India. As a matter of fact, there is shortage of books on physical education and its allied subjects in India. Some physical educators, who have deep knowledge of various. Sub-disciplines of physical education, such as sports biomechanics, sports sociology, sports medicine, exercise physiology, research methods, sports psychology, sports philosophy, sports pedagogy, sports management and various sports, may write textbooks as a part time careers.

Q.3 Write a note on career in sport Industry?

Ans. Careers are also available in sports industry. A person who wants a careers in sports industry, must have the knowledge of physical education and sports. One may establish a sports industry at a small scale. It may be related to only T-shirts and Track suits. It may be related to only sports footwear. The knowledge of research and designing is also vital for such jobs, because new types of sports equipments and new types of tracksuits or swimsuits which are beneficial for increasing the performance of sportpersons are always in demand.

Question for 5 marks

Q.1 What are the career option in physical education?

Ans. Career option in physical education

1. **Teaching related Career :-**
 - (i) Elementary school level
 - (ii) Middle school level
 - (iii) High school and senior sec. s. level
 - (iv) College and university level
2. **Coaching related Career :-**
 - (i) Administration related career
 - (ii) Physical education department
 - (iii) Sports department
 - (iv) Industrial recreation
 - (v) Sports facilities
3. **Health related career :-**
 - (i) Health club
 - (ii) Athletic training
4. **Performance related career :?**
 - (i) As professional players
 - (ii) As official
5. **Career in Communication and media :-**
 - (i) Sports journalism
 - (ii) Book publication
 - (iii) Sports photography
 - (iv) Sports board casting

Q.2 What are the main objectives of physical education?

- Ans. 1. Physical development :-** Development of organ systems such as circulatory system, nervous system, muscular system, digestive system etc.
2. **Mental development:-** Physical activities require alertness of mind, deep concentration and calculated movement. This objective is related to the mental development of an individual.

3. **Social development :-** This objective is related to the development of social traits, which are essential for better adjustment in life. It is a better source for attaining the qualities like. Co-operation, fair play, sportsmanship tolerance and sympathy.
4. **Neuro Muscular Co-ordination :-** This objective is centered with a better relationship between nervous system. Education provide ample opportunities of physical neuro muscular coordination.
5. **Emotional Development:-** The emotional development of an individual is also the major objectives of physical education every individual has various types of emotions viz. Pleasure, hope, jealousy, hatredness, fear, depression, anger, wonder, lust, loneliness etc.
6. **Development of Health :-** This develops health related habits through health education. This also provides education about the prevention of communicable diseases.

Unit - 2

Olympic Movement

- ✍ 2.1 Ancient and Modern Olympics (Summer and Winter)
- ✍ 2.2 Olympic symbols, ideals, objectives and values
- ✍ 2.3 International Olympic Committee
- ✍ 2.4 Indian Olympic Association
- ✍ 2.5 Dronacharya Award, Arjuna Award and Rajiv Gandhi Khel Ratna award
- ✍ 2.6 Organisational setup of CBSE sports and Chacha Nehru sports award

- **Ancient Olympic Games:**

There are many stories regarding the origin of ancient games, but the written record is found from 776 B.C.. The games were held in the Honour of God Zeus, and The Olympics is derived from the Lord Olympia - a valley where first seen games were held.

- **Modern Olympic Games**

Modern Olympic games started in 1896 with the efforts of Baron-Pierre de Coubertin of France, he is also known as the father of modern Olympics. The first Olympic games were held in Athens in 1896. Nine Countries Participated in it. Since then the Olympic games are played after every four Years. 2020 Olympic games will be held in Tokyo.

Winter Olympic Games

Winter Olympic Games (French: Jeux olympiques d'hiver) is a major international sporting event that occurs once every four years. Unlike the Summer Olympics, the Winter Olympics feature sports practised on snow and ice. The first Winter Olympics, the 1924 Winter Olympics, was held in Chamonix, France. The Games were held every four years from 1924 until 1936, after which they were interrupted by World War II. The Olympics resumed in 1948 and was again held every four years. Until 1992, the Winter and Summer Olympic Games were held in the same years, but in accordance with a 1986 decision by the International Olympic Committee (IOC) to place the Summer and Winter Games on separate four-year cycles in alternating even-numbered years.

The Winter Olympics has been hosted on three continents by eleven different countries. The Games have been held in the United States four times (1932; 1960, 1980, 2002); in France three times (1924, 1968, 1992); and in Austria (1964, 1976), Canada (1988, 2010), Japan (1972, 1998), Japan (1956, 2006). Norway (1952, 1994), and Switzerland (1928, 1948) twice. Also, the Games have been held in Germany (1936), Yugoslavia (1984), and Russia (2014) once. The IOC has selected Pyeongchang, South Korea, to host the 2018 Winter Olympics and Beijing, China, to host the 2022 Winter Olympics.

Summer Olympic Games

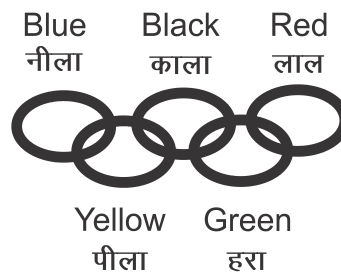
The Summer Olympic Games or the Games of the Olympiad first held in 1896, is an international multi-sport event that is hosted by a different city every four years. The most recent Olympics were held in Rio de Janeiro, Brazil. The International Olympic Committee organises the games and oversees the host city's preparations. In each Olympic event, gold medals are awarded for first place, silver medals are awarded for second place, and bronze medals are awarded for third; this tradition began in 1904. The Winter Olympic Games were created due to the success of the Summer Olympics.

Eighteen countries have hosted the Summer Olympics. The United States has hosted four Summer Olympics (1904, 1932, 1984, 1996), more than any other nation, and Great Britain has hosted three Summer Olympics (1908, 1948,

2012). and in London. Four cities have hosted two Summer Olympics: Athens (1896, 2004), Paris (1900, 1924), Los Angeles (1932, 1984), and Tokyo (1964, 2020). Tokyo is the first city outside of the Western world to host the Summer Olympics multiple times.

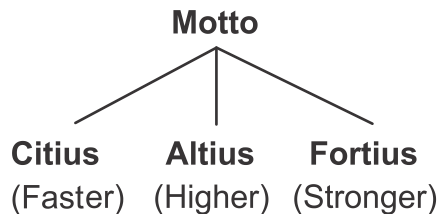
Olympic Symbols

The Olympic symbol was created and designed by Pierre de Coubertin himself. He created Olympic flag which is of a milky white texture in the background with five interlinked rings of different colours. The rings symbolize the union of five continents and meeting of the athletes from all over the world at Olympics. The five colours are Blue, Black, Red, Yellow & Green.



Olympic Motto:

Olympic motto is made from three Latin Words.

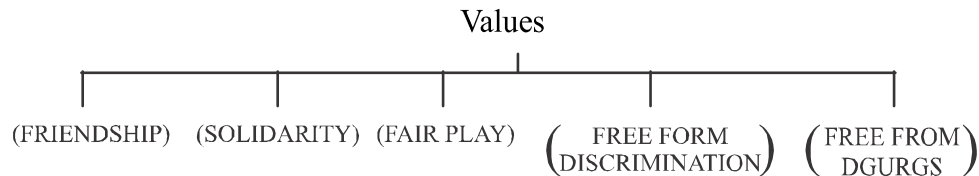


Objectives of Olympics

- a) To generate the sense of loyalty, brotherhood and team spirit among the participants.
- b) To bring the attention of the world community to understand the values of the programmes of physical education.
- c) To Promote amateurism among the sport men.
- d) To remove the barriers of caste, creed, religion and colour.

- e) To develop good habits among sports persons.
- f) To encourage moral values and unbiased behaviour through sports.

Values through Olympics



Olympic Ideal

Olympic Games are remembered for the Bishop Pennsylvania's famous sermon "The most important thing in Olympic is not to win but to take part. The important thing in life is not to triumph to struggle. The essential thing is not to have conquered but to have fought well."

International Olympic Committee (IOC)

For proper organization of Olympic games, the International Olympic Committee was constituted. One representative was included in this committee from each country. The head quarters of this committee is situated in Switzerland and five executive members of this committee This committee decides the venue and time for Olympic Games.

Indian Olympic Association (IOA)

Indian Olympic Association was formed in 1927, Mr. Dorabji Tata was its first president and Dr. D.B. noehren, secretary and Sh. G.D. Sondhi as Astd. secretary. IOA is functioning and is affiliated with International Olympic Committee.

Composition of Indian Olympic Association

Election of Indian Olympic Association are held in four year at the annual meeting of the General Assembly to elect the council members;-

President-01, Vice President, Secretary General, Treasurer and Executive Members

Sports Awards

To receive sports award is an honour for the sports person as well as honour for the

country, to produce such a good sportsman of international caliber, there are following award for prestigious coaches and outstanding sports persons given by the Govt, of India

Dronacharya Award

Dronacharya award is given to those coaches and trainers whose players are imparted coaching and training, so that they could get position at national and International Levels. So the Govt, of India started presenting Dronacharya award to the coaches in 1985 in memory to Guru Dronacharya of Mahabharata. It is presented to such famous coaches, whose teams or player's have shown good performance at International level consecutively for three yesteryears. This award carry statue of Dronacharya, scroll of honour, cash prize of 5 lakhs.

Arjuna Award

Arjuna award is the supreme honour, which is awarded to sports man by the Govt, of India. This award is given to such sport person during that year, who has been giving extraordinary performance during the past three year. This awarded was started in 1961. It is given in the memory of Arjuna of Mahabharata. These sports award carry

- a) Bronze Statue of Arjuna
- b) A Certificate
- c) Cash of Rs. 5 Lakhs

Rajeev Gandhi Khel Ratna Award

This award is presented for the most outstanding performance in the field of sport and games in a year which begins from 1st april to 31 st March. This award is presented to one sports person from individual sports, but it can be given to more than one person in case of team games, this award is given to the sportsmen and women of international fame and they get a medal and cash award of Rs. 7.5 lakhs.

CBSE Sports and its Organisational Setup

CBSE Organises its sports and games at cluster level Zonal level and National level in various categories and sports annually as per their calender. The sports and games are organised under the general directions of the CBSE and in conformity with its policies for

ensuring the smooth conduct of CBSE affiliated inter School games. The chairman of CBSE is the chairman of the sports and games committee.

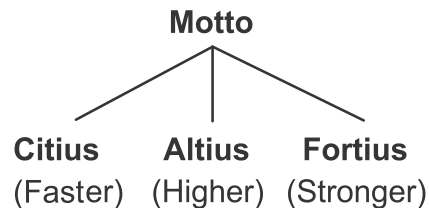
Chacha Nehru Sports Award

The aims and objectives of introduction of Chacha Nehru sports award is to identify, recognise, nurture and develop the extraordinary talent among the students studying in class VIII onwards in sports and games and students also know the importance of physical education and sports.

Very Short Answer Question (1 Mark 30 Words)

Q.1 What is the motto of the modern Olympic Games?

Ans. Olympic Motto: Olympic motto is made from three Latin words.



Q.2 Mention about Olympic flame.?

Ans. This flame ignited by the Olympic torch which is brought to the venue of modern Olympics by a relay of torch bearers. Torch is kept burning through out the game at the venue of the modern Olympics by a relay of torch bearers. Torch is kept burning through out the games at the venue of the Olympic games. Olympic flame was kept burning through out the Olympic games of Amstardam in Holland in the year 1928.

Q.3 Where will the Olympic game be held in the year 2020?

Ans. It (Olympic games) of 2020 will be held in Tokyo (Japan)

Q.4 What do you understand by Olympic awards?

Ans. The first, second and third position holders are awarded with gold, silver and bronze medals and a certificate respectively. The next five position holders are also awarded with certificates only.

Q.5 When did India first participate in Olympic games ?

Ans. India first time participated in 1928Amsterdam Olympic games.

Q.6 Write a short note on the Olympic flag.

Ans. Olympic flag was created in 1913 by Baron De Coubertin. It was first inaugurated in Paris in June 1914. Olympic flag is made of white silk and contains five interlocking rings/circles in five colours representing five continents of the world namely America, Europe, Australia, Asia and Africa. The five rings have different colours namely yellow, green, red, blue and black. The interlocking of ring circle symbolizes co-operation and friendship.

Q.7 Who was Baron de Coubertin ?

Ans. Baron de Coubertin is known as the father of modern Olympic games. The credit to start the modern Olympic games goes to Baron Pierre de Coubertin of France.

Short Question (3 Marks)

Q.1 Briefly explain about Chacha Nehru Sports Awards. How it is beneficial to the sports person.

Ans. The objective of introduction of this award is to identify, recognise, nurture and develop extraordinary talent among games. This will help in the development of sports activities, importance of physical education and sports. The financial support is in the form of scholarship, that will motivate the students to excel in their sport activities. The scholarship of Rs. 500/- per month is given to all identified sports talent in class IX-XII based on the performance at National level in various disciplines of CBSE inter school sports and games.

Q.2 Briefly explain the development of values through Olympic movement ?

Ans. The aim of Olympic games is to create peace and co-operation amongst the nations with the spirit of sports competition, Olympic games plays a significant role to develop the following values :-

- | | |
|---------------|--------------------------------|
| a) Friendship | b) Solidarity |
| c) Fair Play | d) Freedom from discrimination |

a) Friendship :-

The value of friendship is steeped in the tradition of the ancient Olympic. The athletes express this value by forming life long bonds with their teammates as well as their opponents.

b) Solidarity :-

The Olympic movement is committed to developing programmes that, together creates a meaningful and comprehensive social response.

c) Fair Play:-

Olympic movement ensures fair play. Athletes participate in the Games in Loyal competition with respecting the regulation . Fair play means without using any doping aid to enhance the performance for winning medal and not using and wrong method for winning medal.

d) Free of Discrimination :-

Main aim of Olympic is that there should be no racial discrimination of the athletes all are equal. They have equal right to participate in every event to show their performance.

Q.3 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.

Q.4 Briefly Discuss about Dronacharya Award ?

Ans. Dronacharya Award was started in 1985. This award is given to those coaches who impart coaching temporality or permanently to the teams or players. The following capabilities are necessary for the eligibility of this award:-The coach, who has been imparting training to a player or a team of an indigenous sport and that team has raised the standard of sport during the last three years is also eligible for this award. The coach is also eligible for this award whose player has achieved top position like won gold medal, silver medal or bronze medal at Olympic games or at world cup tournament. Te player who has won the gold medal at Asian Games or Common Wealth Games.

This award is presented by youth welfare and Human Resources Developed Minister, Govt, of India. In this award 5 lakh rupees cash, a symbol of Guru Dronacharya and a certificate are presented to the coach.

Long Question (5 Marks) (150 Words)

Q.1 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 fact 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 truce 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 years. In 394 A.D. The king of Rome stopped the organization of games, stadiums were destroyed and revived after many decades, that called Modern Olympic Games.

Q.2 Give the important function of International Olympic Association.

Ans. The international Olympic Association consists of members from various countries.

President: The President of IOC is selected by its members for a term of eight years. The current IOC president is Thomas Bach.

Vice President: In the IOC four vice presidents are elected. They are elected for four years. **Executive Board:** The IOC executive board consist of President, Vice President and other members. **Main Function of International Olympic association committee :-**

- 1) It decides the venue and date of Olympic games.
- 2) It ensure the regular celebration of Olympic games.
- 3) For conducting the competition and general for the Olympics fundamental rules set by this committee.
- 4) It also acts against any form of discrimination affecting Olympic movements.
- 5) It leads the fight against doping in sports.

Q.3 Describe the formation and objectives of Indian Olympic association.

Ans. Indian Olympic Association was established in 1927 sir Dorabji Tata and Dr. Noehren became the founder President and General Secretary of the International Olympic committee, the election of the office bearers of the Indian Olympic Association is held after every four years The council consists of various members.

- a) President
- b) Vice President-9
- c) Joint secretaries-6
- d) Secretary General -1

Executive Members: one honorary Treasurer, seven representative of state Olympic association s and twelve representatives national sports federations.

Objective of Indian Olympic Association :-

The main objectives of Indian Olympic Association are:-

- 1) Enforcement of all rule and regulations of international Olympic committee and in Indian Olympic association.
- 2) Development and promotion of the Olympic movement.
- 3) To take disciplinary action against and federation for misbehavior or any other undesirable activity discredit to the nation
- 4) To co-operate with national sports federation, organize and control selection, training, coaching of the team that will represent India.
- 5) Admitting the members of state Olympic association/national sports federations which submit their annual reports and audited statements of accounts.

Q.4 Enlist the various sports awards and Explain any one award in detail ?

Ans. Recognition of any outstanding achievements is highly motivating and more so when it comes from the top functionary of prevailing system. The Govt, of India, sports has instituted following national awards for outstanding sports persons and coaches.

1. Arjuna Award
2. Rajiv Gandhi Khel Ratna Award
3. Dronacharya Award ArjunaAward :-

Arjuna award is the supreme honour, which is awarded to sports person by the govt, of India. This award is given to such sports person who has given extraordinary performance in their field for last three years. This award was started in 1961 in the name of Arjuna in Mahabharata. This award includes a statue of Arjuna, and five lakh rupees cash, the president of India presents this award on 29th August (The birthday of legendary, hockey wizard Late Dhyan Chand, olympian every year.)

Rules forArjuna Award :-

1. It's main aim is to improve the standards of sports in the country.
2. The Govt, of India demands a list of sports persons from National Sports federations which is recognised.
3. The total number of Arjuna awards are restricted to 15, one award in each discipline, however it can be increased in extraordinary performance by a sports person.
4. Sports Federation sends a list of three players, in which one will be selected but in case of female two awards will be given one male and one female.

Q.5 Explain in brief the CBSE sports and its organizational set up.

- Ans.**
- a) CBSE organizes its sports and games at Cluster Level, Zonal Level and National Level in various categories and sports annually as per their calender.
 - b) The sports and games are organised under the general directions of the CBSE.
 - c) The chairman of the CBSE shall be the chairman of the sports and games committee.

Aims and objective of CBSE Sports

- a) To arrange and organise CBSE affiliated Inter School Sports.
- b) To encourage and promote friendly relations among the schools sports men.
- c) To promote the ethic values in the sportsman.
- d) To organise the refresher, orientation and various training programme for physical education.
- e) To organise some other activities, other than sports, which are beneficial for the students.

General Rules for the organisation of Tournaments and Competitions

- 1) The various competition shall be organised at Cluster, Zonal and National level by the Sports Organising Committee.
- 2) No team is allowed to take part in the tournament without any responsible person authorised by the principal.
- 3) All the competition at Cluster and Zonal level shall be organised on the knockout basis.
- 4) Due to some unavoidable reason if tournament is suspended, the rescheduling of the dates, venue of unfinished competition shall be decided by the Sports Organising Committee.

Unit - 3

Physical Fitness, Wellness and Life Style

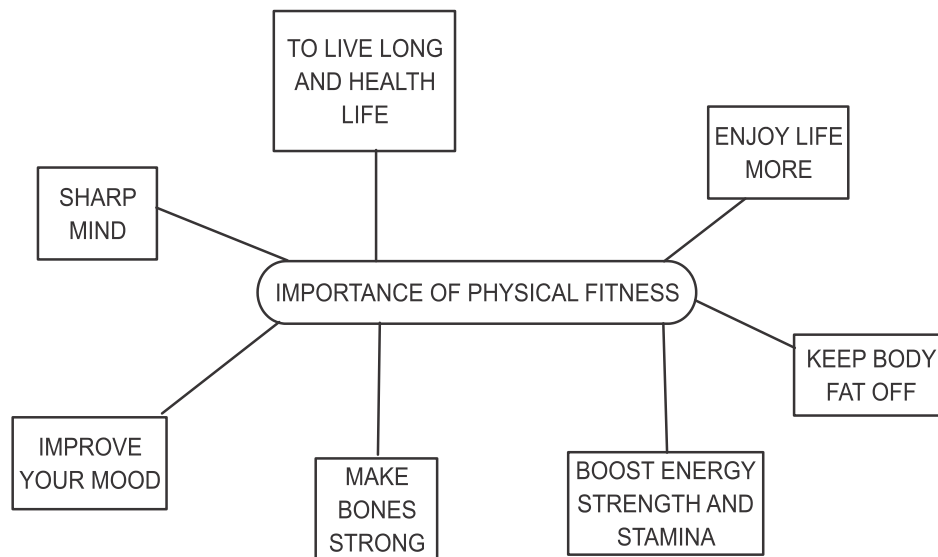
- ✍ 3.1 Meaning and Importance of Physical fitness, wellness and life style
- ✍ 3.2 Components of Physical fitness
- ✍ 3.3 Components of Health related fitness
- ✍ 3.4 Components of wellness
- ✍ 3.5 Preventing health threats through life style change
- ✍ 3.6 Concept of positive life style

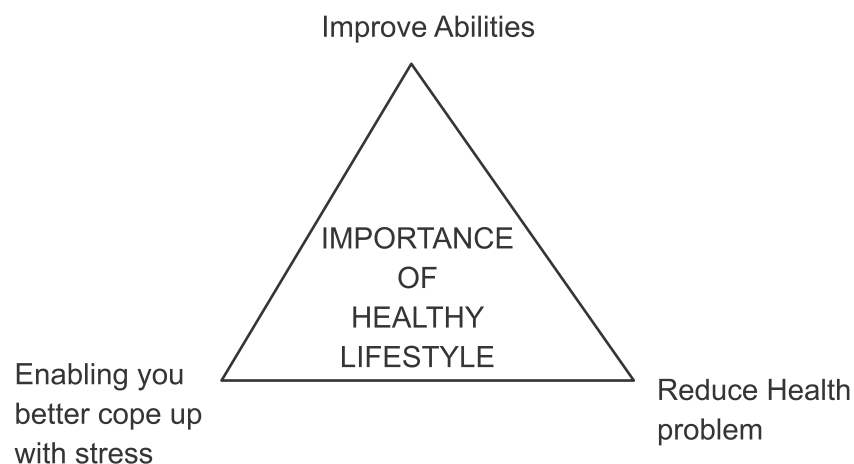
Physical Fitness, Wellness And Lifestyle

- a. Meaning and Importance of physical fitness, wellness and lifestyle
Meaning of **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.

Wellness - Wellness is the capacity of an individual by which he leads a balanced life

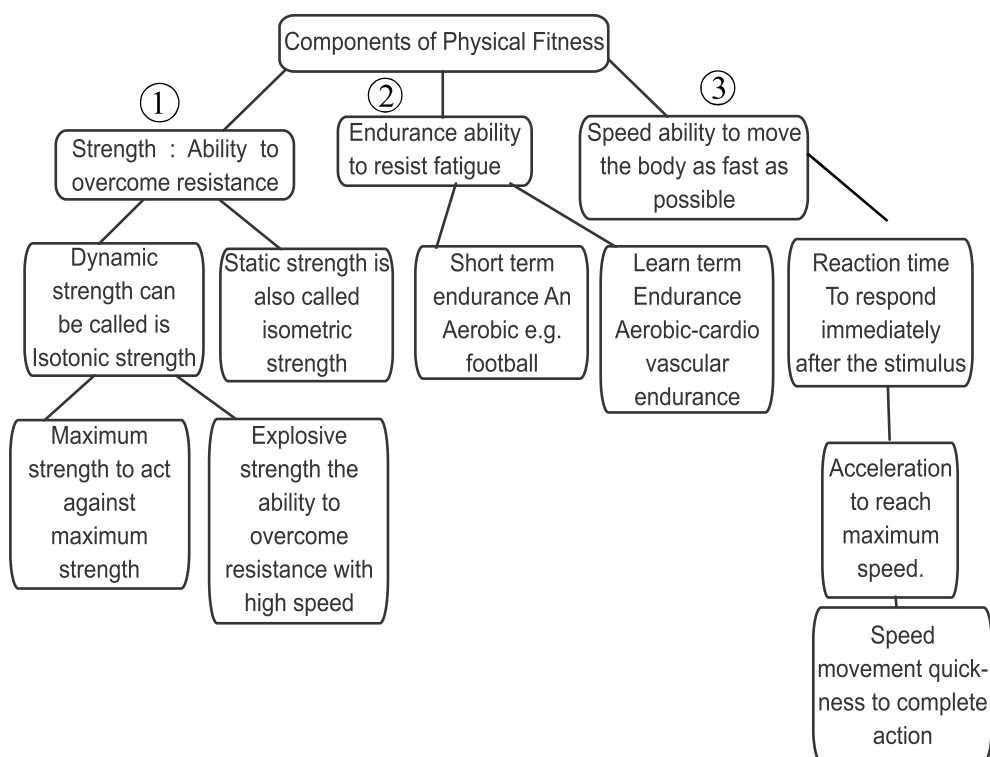
Life style - A way of life or style of living that reflects the attitude and values of a person or group
Importance of Physical fitness, wellness and lifestyle

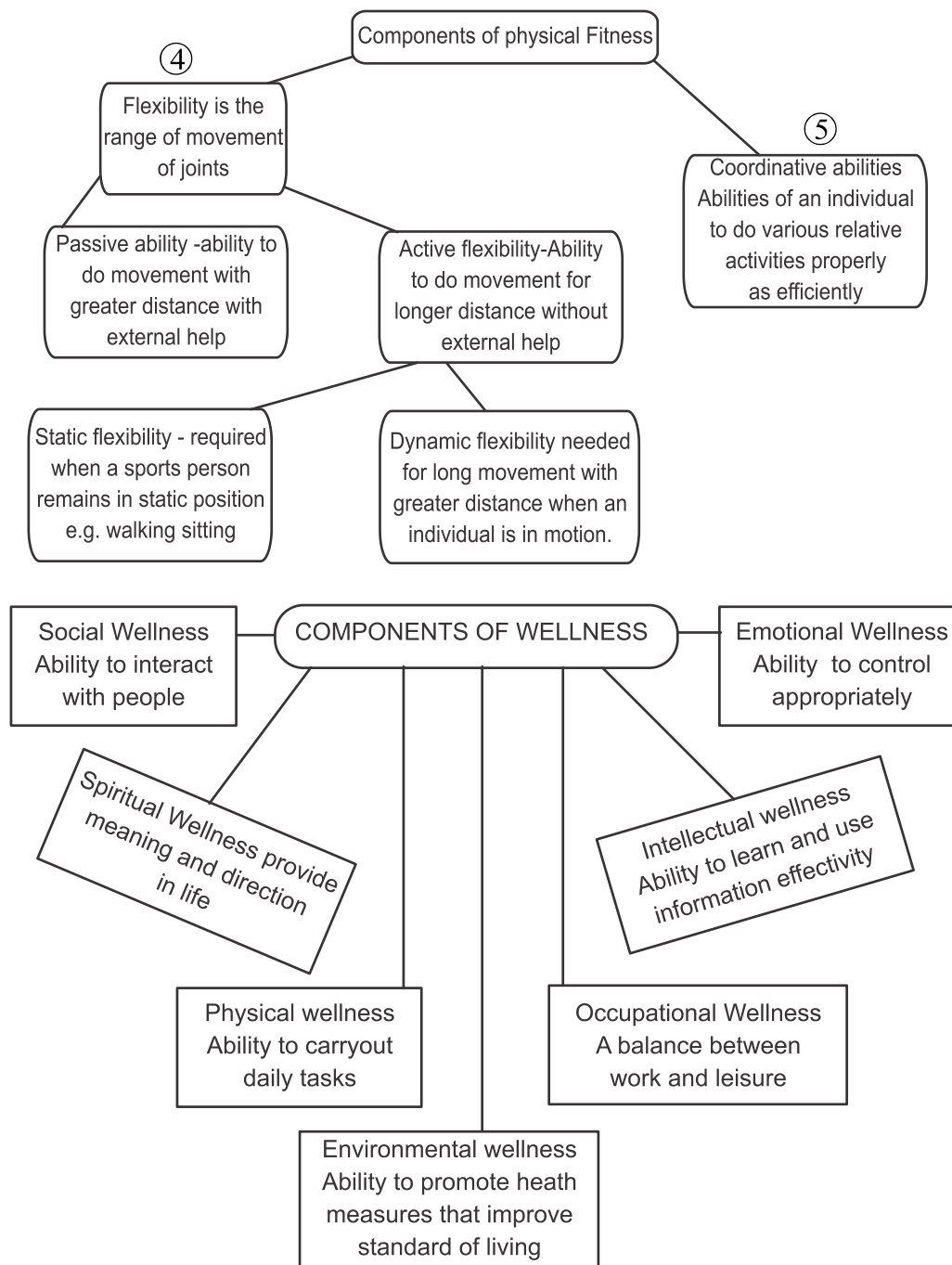




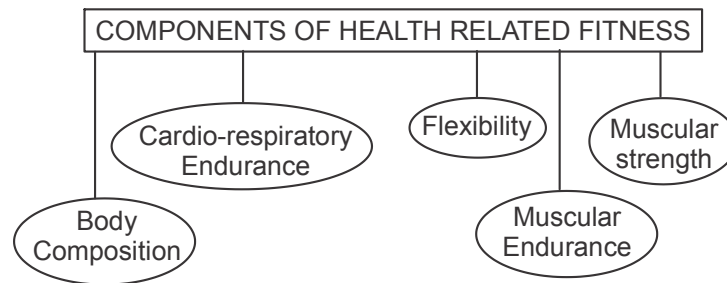
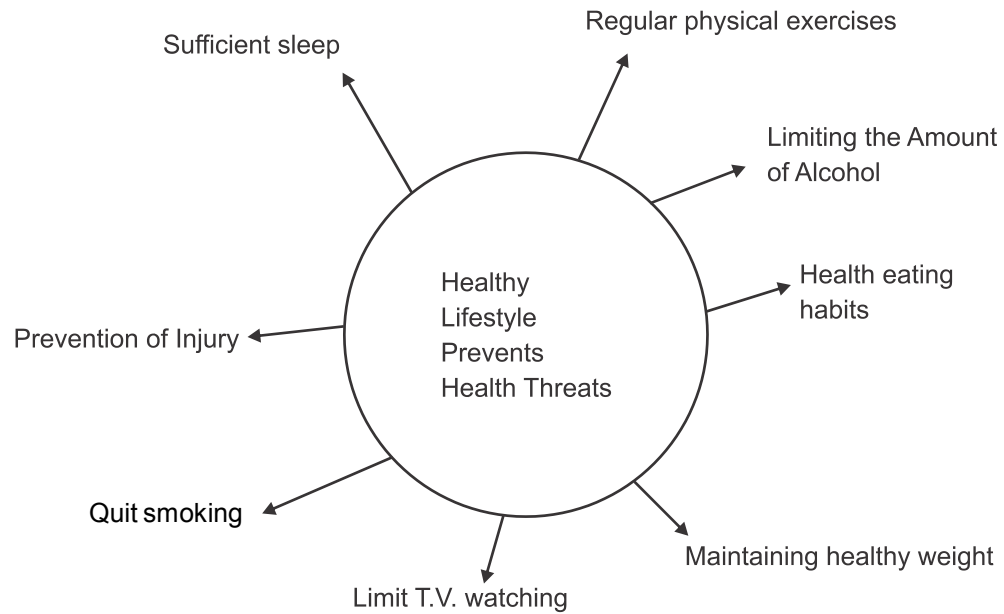
Components of Physical Fitness

There are mainly five physical fitness components. They are directly related to each other

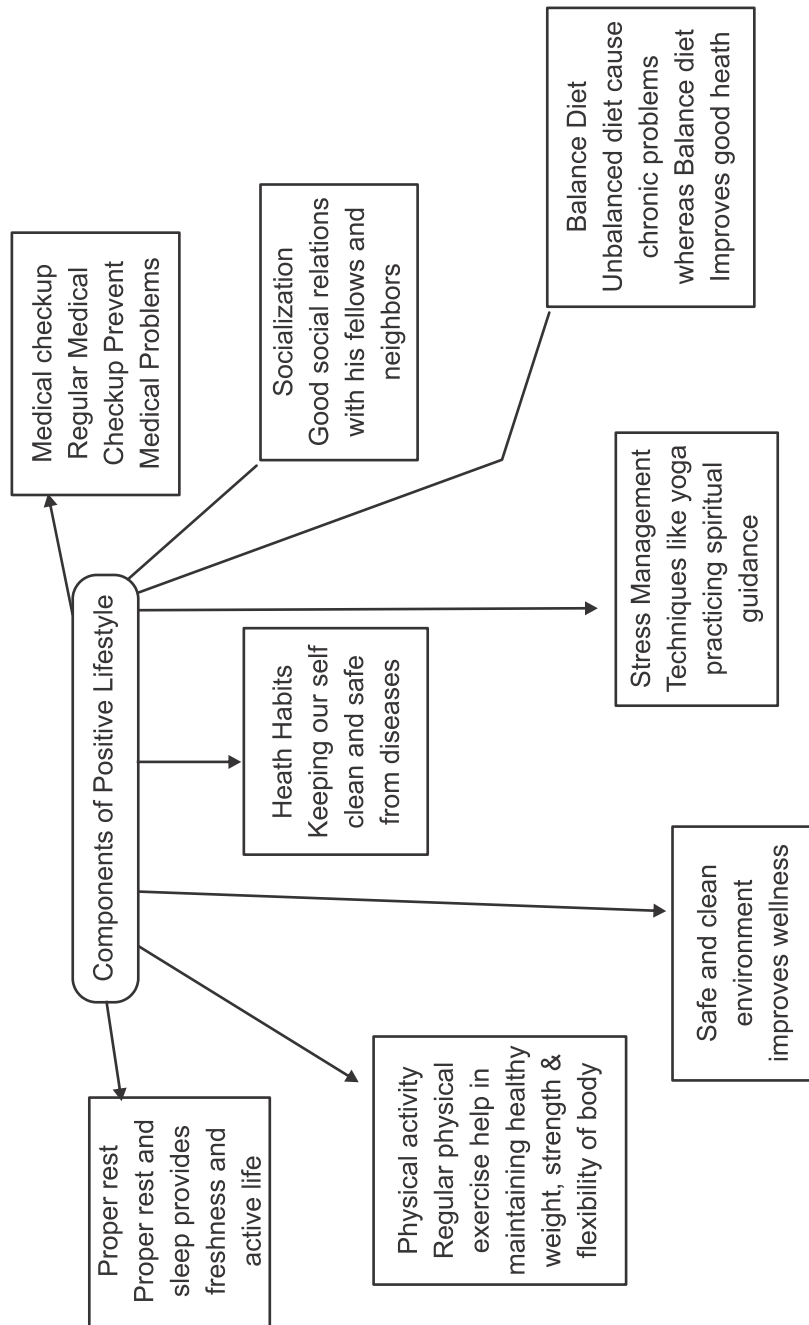




> **Preventing Health Lifestyle through Lifestyle changes**



Components of Positive Lifestyle



1 Mark Questions (30 Words)

Q.1 What do you mean by physical fitness?

Ans. It is the ability of a person to do daily routine work without fatigue; more over to participate in playful activities and still reserves enough capacity to meet any emergency.

Q.2 What do you mean by wellness?

Ans. The facts or condition of being physically and mentally healthy.

Q.3 What do you mean by lifestyle?

Ans. Lifestyle is a manner of living that reflects the person's value and attitude.

Q.4 What do you mean by health related Physical fitness?

Ans. 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.

Q.5 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 unforeseen situation as and when required.

3 Mark Questions (60 Words)

Q.1 Describe the importance of healthy positive lifestyle.

Ans. Importance of healthy/ positive lifestyle are-

- 1) **Increase the longevity :-** A healthy lifestyle increases the longevity. 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 regulators 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.

Q.2 Discuss 'healthy diet' as a component of positive lifestyle.

Ans. Healthy diet or good nutrition is one of the main components of positive lifestyle. In fact, a healthy diet of good nutrition is necessary to lead a healthy or positive lifestyle. The basic of a healthy diet are lots of fruits and vegetable, whole grain food and low fat diary products. Such diet required everyday in order to maintain the adequate amount of vitamins nutrients and minerals needed to maintain a healthy body. That is why it is rightly said that to eat is a necessity but to eat intelligently is an art.

Q.3 Health in "an asset" comment.

- Ans.**
1. It is said that "a sound mind lives in a sound body". The low health status is a border.
 2. Unhealthy people has to depend upon others, more over, a lot of money is spent on medicines to improve or maintain the health status.

5 Marks Questions

Q.1 How can healthy threat be prevented through lifestyle change? Discus in detail:

- Ans.**
1. **Regular Physical Exercise :-** It helps in preventing obesity, high blood pressure, heart diseases, stroke, diabetes, some types of cancer, constipation, depression and other healthy threats.

2. **Healthy eating habits :-** Healthy eating habits can help the individuals in preventing as well as controlling the disease such as high blood pressure, heart disease, diabetes, osteoporosis, muscular degenerating renal stones, dental diseases and including certain type of cancer.
3. **Limit T.V. Watching :-** Watching T.V. for a number of hour regularly is associated with increased various research studies.
4. **Quit Smoking :-** Quitting smoking is significant for a healthy lifestyle. Infact smoking, use of tobacco in any form increases the blood pressure which may cause stroke and coronary artery disease.
5. **Sufficient sleep :-** Sufficient sleep is also very significant part of a healthy lifestyle.
6. **Prevention of injury :-** Prevention of various types of injuries owing to fatal accidents plays a vital role in maintaining a healthy lifestyle.
7. **Limit the amount of alcohol:-** To use alcohol in limited amount is also an important part of healthy lifestyle.

Q.2 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.

Q.4 Narrate the components of positive lifestyle in detail.

Ans. Positive healthy lifestyle is the most valuable source of reducing the incidence and impact of a number of health problems, for recovery, for coping with life stressors and for improving the quality of life.

1. **Healthy Diet:-** Healthy Diet or good nutrition is one of the main components of positive lifestyle. Infact, a healthy diet is necessary to lead a healthy diet of good positive lifestyle.
2. **Physical Activity:-** It is another component of positive life style. Regular physical exercise is needed to maintain a healthy weight and to enhance strength and flexibility of the body.
3. **Stress Management:-** Stress can be managed properly through meditation and relaxation techniques only.
4. **Socialization :-** An individual should develop good social relations with his fellows and neighbours. He should pay visits to his home from time to time. Such relations strengthens the social bondage among them.
5. **Personal Hygiene :-** Stress should be laid on personal hygiene such as cleanliness and proper care of eyes, nose, ears, throat, hair, teeth, etc.
6. **Proper Sleep:-** Lack of sleep may cause exhortion or fatigue. It also cause the body to release Cortisol which further leads to heart diseases. So it si significant to have proper and sound sleep for healthy lifestyle.

Q.5 Describe the components of wellness?

Ans. Components of wellness:-

1. **Physical Activity :-** It makes the person fit and active. It improves various system of body and improves our health. It also improves our growth and development.
2. **Balanced Emotional life:-** Wellness requires balanced emotional life and release of emotions. More ever it should be under control.
3. **Intellectual Attitude:-** Wellness requires positive intellectual attitude. It improves our behaviour, intelligence, alertness, futuristic and insight thinking.
4. **Spiritual wellness :-** It makes the person ethically good, morally good, peaceful more over guides the value of life.
5. **Occupational wellness :-** It makes the person to be hard worker and earn the livelihood with honesty. It helps to achieve the balance of work and leisure and gives satisfactions.

6. **Managing Stress :-** Wellness needs the proper management of stresses and tension of life. It keeps us calm and controls our anxiety.

Q.5 Enlist the different components of Health related fitness and explain them in detail?

Ans. There are following components of Health related fitness:

- (1) Body composition
- (2) Cardio-respiratory Endurance
- (3) Flexibility
- (4) Muscular Endurance
- (5) Muscular strength

1. **Body Composition:** The body composition means the amount of the 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 obesity from the health point of view, the normal percentage of body fat for young men and women should not exceed 15 and 25 percentage. It means that for health related fitness an individual should have ideal body weight and fat percentage.
2. **Cardio-Respiratory Endurance:** It is the maximum functional capacity of the cardio-respiratory system to carry on the work or Physical activity involving large muscle group over an extended period.
3. **Flexibility:** Flexibility 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.
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.
5. **Muscular Strength:** Muscular strength is the maximum amount of force that can be exerted by a muscle group against a resistance during a single contraction.

Unit -4

Physical Education and Sports for Differently Abled

- ✍ 4.1 Aims and objectives of adaptive physical education
- ✍ 4.2 Organisations promoting adaptive sports (Special Olympic Bharat, Paralympics, Deaflympics)
- ✍ 4.3 Concept of Inclusion, its need and implementation
- ✍ 4.4 Concept of Inclusion, its need and implementation
- ✍ 4.5 Role of various professionals for children with special needs (counsellor, occupational therapist, physical education, physical education teacher, speech therapist and special education)

Aims and objectives of Adaptive Physical Education

Meaning of Adaptive Physical Education : Adaptive Physical Education is a modified program of games, sports and other development activities that is suited to the interest, capacities and limitations of students and individuals with special needs. It is created for students with special needs so they can also enjoy the experience of sports and recreations. Every school has students who are differently abled and require special service to be able to realise their maximum potential.

Aims and Objectives :

1. The aims of Adaptive Physical Education is to ensure that every child with special needs is provided with services that meet his/her Unique need.
2. Adaptive Physical Education aims to motivate each and every CWSN to participate in Physical Education related programs.
3. Its aim is to develop gross motor skill of CWSN.
4. Its aim to enhance self confidence of CWSN as well as to teach them social skills, control over their emotions and expression on the normal programs.
5. Its aim to teach the rules and strategies of games and their application while playing.

Integrated Physical Education :- Concept and Principles :- Under this one must have the knowledge of different sub topic and other utility, so that the students could be trained properly. The knowledge of integrated physical education will promote the fitness and willingness of the individuals. It will help in designing high quality programmes.

Adaptive Physical Education :- Concept and Principles there are many children who suffer from various types of disabilities like mental retardation, deafness, blindness, speech impairment etc. For such children and special programme may be organized, so that physical, musical cognitive, social and emotional abilities can be developed in them.

Principles :- For successful implementation of adaptive physical education certain principles may be kept in mind such as medical examination interest and capacity of the students, appropriate equipment, proper environment, specific instructional strategies etc.

Special Olympic Bharat:-

This organization prepares the progress with physical and mental disability for special Olympic. At national level, they are trained to participate in 24 single and team games by the sports authority of India. This organization was established in 2001 as per the act of 1982.

Para Olympics

This is similar to Olympic game for disabled sports person in 1960 first time it was organized in Rome. The head quarter of international para Olympic is situated at Bonn, Germany. The international para Olympic is responsible for organizing summer and winter Olympic games. At present it comprises of 176 National Para Olympic Committees.

Deaflympics

The ‘Deaflympics’ are games for deaf athletes. Previously they were called the International games for the Deaf. These games are organised by “The International committee of sports for the Deaf” since the first event and they are sanctioned by International Olympic committee. The deaf olympion can not be guided by sounds for example, the starter gun, bullhorn commands or referee whistles. The Deaflympics were held in paris in 1924 and were also the first ever international sporting events for athletes with disability.

The Deaflympic wintergames, was added in 1949. The games began as a small gathering of 148 athletes. Now these games are grown into a global movement.

To qualify for the games, athletes must have a hearing loss of atleast 55db in their “better ear”.

Hearing aids, cochlear implant and the leke are not allowed to be used in competition.

Deaflympions can not be guided by sounds so alternative methods are used to address the athletes. For example the football referees wave a flag insted of blowing a whiste, on the track races are started by using a light, instead of using a starting pistol.

Host cities (summer)	Year
Sobia, Bulgaria	August 2013
Samsun Tunkey	July 2017
Host cities (Winth Diaflymics)	March 2015
Khanty mansiysk Rissia	
Torino Italy	2019

Concept and need of Integrated Physical Education

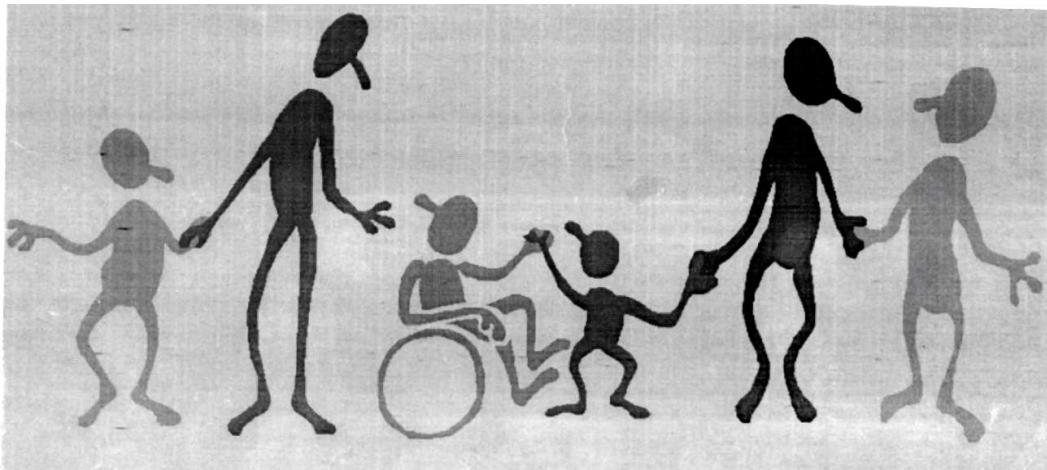
Integrated Physical Education uses physical activities and games to teach other subjects. This is a new concept in the field of Physical Education. Research and studies have shown that integrating two or more subjects in one area can stimulate the interest of students and hence promote the learning of each subject. Teachers are increasingly conducting activities both inside and outside the classroom to teach various concepts of Science, Social Science and Mathematics.

Integrated physical education is a comprehensive concept. It is not only limited to physical activities, games and sports but has become a complete discipline. Within the past two decades, the knowledge in this field has increased tremendously. Due to research works, various subdisciplines such as sports sociology, sports biomechanics, sports medicine, sports pedagogy, Exercise Physiology, Sports Psychology, Sports Philosophy and sports management, etc. Integrated physical education lays emphasis on multidisciplinary learning with the integration of its subdisciplines.

Integrated physical education provides opportunities for students to see new relationships, to transfer what they have learnt from one setting to the next and to reinforce learning in various ways.

This knowledge of integrated physical education would be able to help in the fitness, health and wellness of all individuals. High quality physical education programmes can be prepared with the help of integrated physical education.

Concept of Inclusion





4.4 b. Need of Inclusion

Inclusion in physical education helps the students with disabilities to increase their social skills and in making friends.

A child feels that he/she also belongs to the entire group of class so a feeling of belongingness is developed.

Inclusion helps a child to increase his/her motor skills and experience success with peers.

Inclusion Implementation

To make inclusion work, general classroom teachers, support specialist, parents and students themselves must work together to create the best educational environment possible.

With knowledge of inclusive practices and strategies, teachers can manage, classrooms that encourage learning and discovery among all students, regardless of physical abilities.

School principals must cooperate and share the message that all staff members, not just special education teachers, are expected to be involved in education children with disabilities.

Inclusion also requires specially trained staff. Since classroom teachers need training and ongoing support to effectively teach many types of learners, they must meet regularly with inclusion specialists.

School Counselor

Special education counsellors work with special need children 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 areas of academics, personal and social and career development.

Occupational Therapist

The goals of occupational therapy for a child are to improve participation and performance of a child and all the child's "occupation" like self care, play, school and other daily activities.

The occupational therapist will assess the child and modify the environment, or the way of doing a task to promote a better participation and independence.

Physical Education Teacher

Physical education program plays a very progressive role in improving cognitive functions and academic performance. Social skills and collaborative team work can also be enhanced through the different programs of physical education.

The physical education teacher helps in executing these programs.

Physiotherapist

Physiotherapist the best known therapist who work with children with special needs. They use exercises to help their patients and keep the best possible use of their bodies. They also try to improve breathing to prevent the development of deformities and to slow down the deterioration caused by some progressive diseases.

Speech Therapist

Speech therapist is known by many names like speech language pathologist, speech pathologist and speech teacher. They work with children with a variety of delays and disorders spanning from mild articulation delays to more complex disorders such as autism, down syndrome, hearing impairment, motor speech disorders and other developmental delays.

Speech teacher helps your child with speech, talking and communication.

Special Education Teacher

Special education teachers work in classrooms or resource centers that only include students with disabilities. Students with disability may attend classes with general education students also known as inclusive classrooms. Special education teacher's duties vary by the type of setting they work in, student disabilities and teacher specialty.

Very Short Answer Type Questions (1 Mark Each)

Q.1 What is adaptive physical education?

Ans. Through adaptive physical education CWSN (students) are encouraged to participate in safe, satisfactory physical activities. Activities and rules are modified to accommodate CWSN students.

Q.2 What is integrated physical education?

Ans. Integrated physical education is a comprehensive concept, it is not only limited to physical activities, games and sports but has become a complete discipline. It is a combination of other subjects with physical education.

Q.3 What is inclusion?

Ans. Inclusion is not a favour we do for students with disabilities.

Inclusion means to enable students with special needs to study and learn along with other students. Students with special needs participate in the same activities, in the same space, with the same assessments as all other students. Modifications are applied when needed.

Q.4 What do you mean by inclusion in physical education?

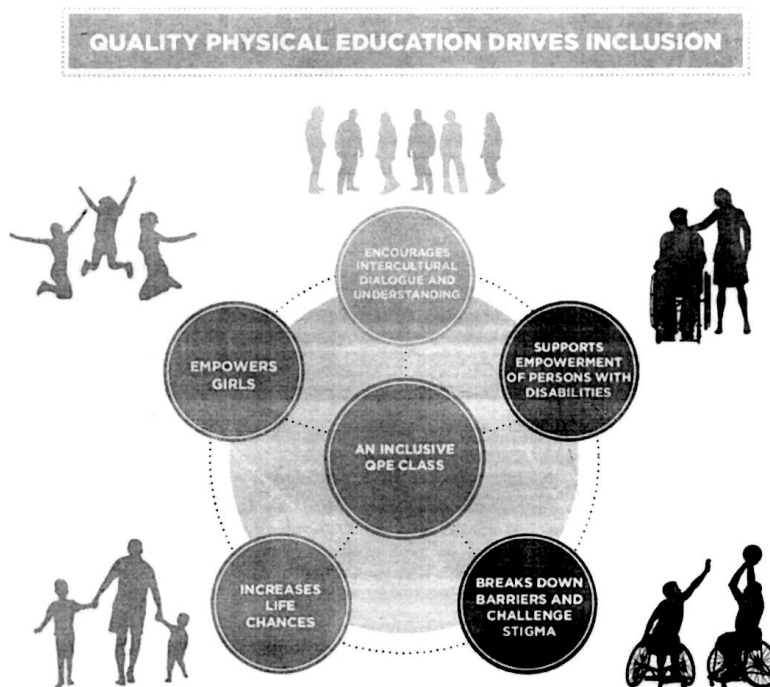
Ans. Inclusion in physical education means that students with disabilities participate in all activities equally with other students

Students with disabilities learn the same curriculum content, with the same lesson

objective, in the same space, with the same assessment as all other students. Modifications are applied where needed.

Q.5 What are the two benefits of inclusive education.

- Ans.**
1. Increase social skills.
 2. Increase motor skills.
 3. Increase friend skills.



Question for 3 Marks (60 Words)

Q.1 Write a short note on the origin of Para Olympic Games.

Ans. In the second world war majority of people suffered . They lost their will power and kept remembering the horrors of wars all the time. In 1960 Rome Olympic, Sir Ludwig Collected 400 disabled Athletes and organized games and it was named Para- Olympics. Shooting was the first game to be introduced in Para Olympic games, the international Para Olympic committee is responsible for organizing summer and winter Olympic game. The head quarter IPC is situated in Bonn (Germany). The symbol of Para Olympic Games is three colours red, Blue and green flag and the motto of Para Olympic is 'Spirit in Motion' 2014 winter para Olympic games was successfully hosted by Russia.

Q.2 Describe the principles of integrated and comprehensive physical education.

- Ans.** (i) It should be based on the inter related sub-topics of physical education.
(ii) It should cater to the requirements of different people.
(iii) It should be capable of facing the challenges of the present and the future.
(iv) It should be capable of providing comprehensive and deep knowledge about physical education.
(v) It should motivate an individual to engage in a lifelong healthy and active lifestyle.
(vi) It should be able to develop social and emotional skill among people

Q.3 Write a note on special Olympic Bharat?

Ans. This organization was established in 2001, its aims is to increase the participation of differently abled person's in games and sports. Its another objectives was to develop leadership quality and healthy. This organization organizes sports competition at state level. It also serve talented players and train them for international games. After 2002, about 23,750 participants have participated in national games. Between 1987 and 2013, a total of 671 Indian athletes participated in Olympic. They won 246 Gold medals, 265 Silver medals, 27 bronze medals and they raised the glory of the country in the world.

Today around 1 million athletes are the members of this organization and 84905 coaches train these athletes. This organization does the all round development of the players through games and sports.

Q.4 How can we implement inclusive education in physical education?

Ans. PEER TO PEER: EVERYONE'S A PLAYER, EVERYONE'S A LEADER

Special Olympics believes in the power of sport and in the power of young people to build a more inclusive world. In a high quality Inclusive Physical Education classroom students recognize their abilities to create inclusive communities as they learn to value difference and appreciate each individual's unique gifts and talents.

Peer to peer teaching is a fundamental strategy for implementing successful Inclusive Physical Education programs, but it is important that it be implemented in a truly inclusive manner and grounded in equality.

An inclusive peer to peer teaching model provides opportunities for students of all abilities to participate as leaders in some way, reinforcing and confirming the potential of every student to lead and contribute meaningfully.

Question for 5 Mark (150 Words)

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 a dated physical education. Otherwise it will be difficult to find out what kind of disability, the student is suffering from.
- There fore 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 Explain the concept of Inclusion.

- Ans.** A defining characteristic of an excellent physical education program is that it includes students with a diverse range of abilities, needs, interests and

learning styles in meaningful learning experiences. The term "Inclusive Physical Education" reflects a program where respect and acceptance of all students, specifically students with disabilities, is an essential component of the classroom environment and teaching strategies.

Inclusion is about creating a classroom in which every student is welcomed, valued, respected and enabled to reach his/her full potential. In a successful Inclusive Physical Education program, all students are fully engaged in instructional activities, sharing equally and learning together. Although the activities may be modified or adapted, students with disabilities learn the same concepts, skills and content as all other students in the class. The result is educational equity and access for all students!

Inclusive Physical Education requires educators to believe in the concept that success for each student can be different. The educator must be willing to modify and adapt lessons and activities to ensure that every student learns and achieves success at his own pace and according to his own abilities. Educators see the abilities of all students as contributing to the whole class. Effective teaching for students with disabilities is basically the same as effective teaching for all students.

Q.3 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 their full potential. Introducing an appropriate individualised education programme (IEP) at early age can make all the difference, 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 special education students.
 3. Encouraging family involvement in IEP.
 4. Consulting with and working with other school staff to better understand the child's special needs.
 5. Collaborating with other school and community professionals like, teachers, school, psychologist, physical therapist and occupational therapist etc.

6. Identifying other students who should be assessed to determine the eligibility for special education.



Q.4 What is the need of inclusion in physical education?

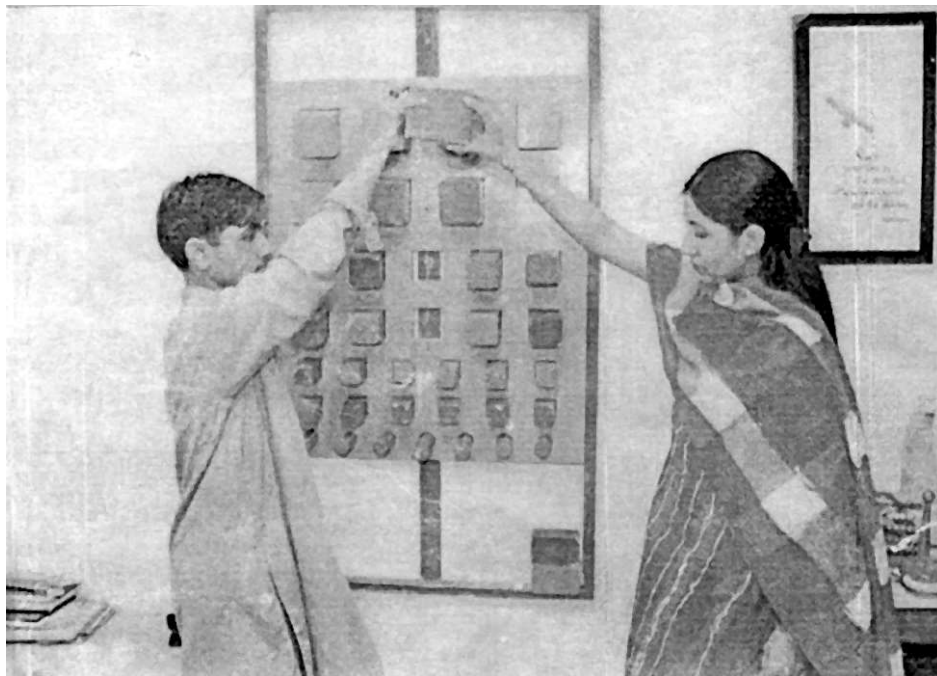
Ans. Inclusion is needed for following reasons—

1. Inclusion in physical education increases social skills of students with disabilities .
2. Inclusion is needed to increase motor skills of students with disabilities.
3. A disabled student gets equal chance to participate in age appropriate activities so, it increases the confidence level.
4. Typical students get a chance to increase friendships with disabled children.
5. Inclusive education provides an opportunity to typical students to go beyond tolerance to acceptance and advocacy.
6. Inclusive education enables a student to increase their knowledge and acceptance based on the “contact theory”. Through frequency, meaningful and pleasant interactions, changes in attitude can occur.

What is the role of occupational therapist for special need children?

- Self care – An occupational therapist will help a child perform and be independent in self care skills like eating, dressing, toileting, bathing and grooming.

- **Play** – An occupational therapist helps children participate and interact with others in play. They may suggest modifications in the position, mobility aids or modified toys to help a child to play.
- **School** – Occupational therapists help children participate and adapt to regular school. They may suggest aids for writing and other classroom activities to help them participate equally with other children. Children with special needs may also require special furniture to help them sit and write better.
- **Environmental modifications:** Occupational therapists can suggest modifications in the house, school or playground that will help the child participate more easily. Helping the child become independent early in life, will encourage them to live independently as an adult.
- **Fine motor skills and Hand writing** occupational therapists also play a role in helping a child improve their fine motor skills handwriting. They will be able to identify the specific deficits in the child and suggest activities that will help improve these skills.
- **Splinting** – Occupational therapists can also make simple splints to help the child perform activities in a better way.



Paediatric treatment – Physiotherapy can be used to treat children affected by ‘Muscular Dystrophy’. These and other conditions may require the child to have help to improve balance, strength and co-ordination.

Techniques of physiotherapy

1. Massage and manipulation
2. Exercise and movement
3. Electrotherapy
4. Hydrotherapy



Q.5. What is the contribution fo special education teacher in developing education plans for special need children?

- Ans.**
1. Assess student's skills to determine their needs and to develop teaching plans.
 2. Adapt lessons to meet the needs of students.
 3. Develop Individualised education programs (IEPs) for students.
 4. Plan, organise, and assign activities that are specific to each student's ability.
 5. Implement IEPs, assess students.
 6. Update IEPs throughout the school year to reflect student's progress and goals.



Q.6. What is the role of a Physical Education teacher for children with special needs.

Ans. Physical Educations teacher : Physical Education forms an important part of the K-12 curriculum. It helps to develop physical abilities and healthy habits in students. Regular physical exercises prove effective for the overall development of children. Such Programmes postively impact the life of children with special needs by enhancing their motor skills, improving self steem, controlling obesity and encouraging an active lifestyle. Physical education teacher must find out the abilities of the children with special needs and adopt necessary measures to support their participation in Physical activities and improve their overall fitness levels.

1. Conducting physical activity programs help children to cope with anxiety, depression and stress. These help in their interaction with other students which increases their self steem and confidence levels. Such interactivions also enhance their communication skills and decision making skills.
2. Session are conducted with parents and teachers to implement ways to encourage children with special needs to participate in sports activities.

- Physical education teacher need to determine the abilities of students with special needs so that to design special sports activities according to their need.

4. Speech Fluency/Stuttering

Stuttering is a communication disorder that affects speech fluency. Therapist can teach the child strategies on how to control behaviour like tension in the neck, shoulders, face, jaw, chest, eye blink, etc. and thus increasing speech fluency and intelligibility.

5. Voice and Resonance

Voice disorders refer to disorders that affect the vocal folds that allow us to have a voice. These can include vocal cord paralysis, nodules or polyps on vocal folds. Therapists can work with children to decrease these behaviours (vocal classes) and repair the strain/damage of the folds.

Q.7. What is the role of speech language pathologist for special need children?

Ans. Speech therapist/pathologist works with children with a variety of delay and disorder such as autism, Down syndrome, hearing impairment, motor speech disorders, and other developmental delays.

They help child with :

1. Articulation skills/speech intelligibility articulation is the physical ability to move the tongue, lips, jaw and palate (known as the articulators) to produce individual speech sounds which we phonemes.
2. Expressive Language Skills
While speech involves the physical motor disability to talk, language is a symbolic system used to convey a message. Proper use of these is developed by speech therapist.
3. Receptive Language/Listening Skills
Receptive language, refers to child's ability to listen and understand language. Therapist can help teach the child new vocabulary and how to use that knowledge to follow direction, answer question and participate in single conversations with others.

Physiotherapist – Physiotherapist are trained to evaluate and improve the function of the body, with particular attention to physical mobility, balance, posture, fatigue and pain.

The physical therapy programme involves educating the child about the physical problems caused by their disability, designing and individualised wise programme to address the problems, and enhancing mobility and energy conservation through the use of a variety of mobility aids and adaptive equipments.

Physiotherapy can be used to help children who have a neurological condition that affects the nervous system, such as multiple sclerosis, stroke and cerebral palsy.

Physiotherapy can be used to treat injuries that affect the bone, joints and muscles such as sports injuries and arthritis.

Unit - 5

Yoga

- ✍ 5.1 Meaning and importance of Yoga
- ✍ 5.2 Elements of Yoga
- ✍ 5.3 Introduction of asanas, Pranayama, Dhyana & Yogic Kriyas
- ✍ 5.4 Asanas related to meditation - Sukhasana, Tadasana, Padmasana and Shanshakasana
- ✍ 5.5 Relaxation techniques to improve concentration - Yog Nidra

YOGA

Meaning and Importance of Yoga :

5.1 Meaning

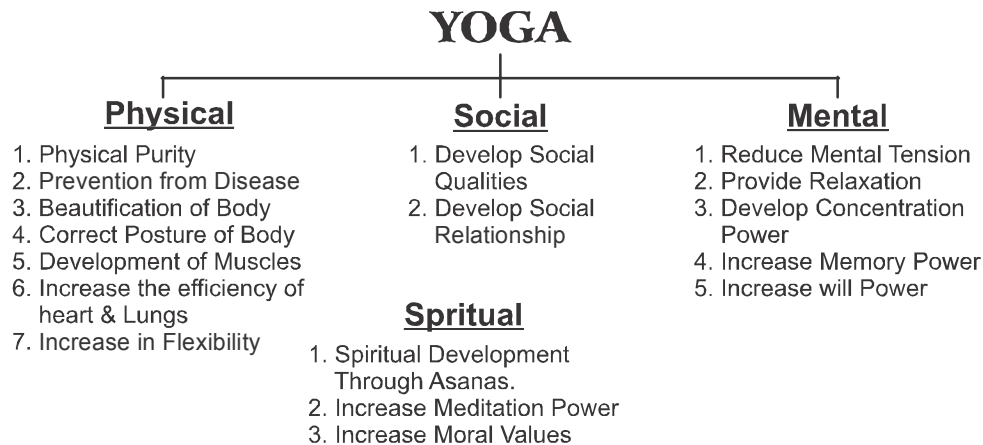
The term yoga is derived from a Sanskrit word 'Yuj' which means join or union. In fact joining the individual self with the divine or universal spirit is called yoga. It is a science of development of man's Consciousness.

Patanjali - “Checking the impulse of mind is yoga”.

Maharishi Ved Vyas - “Yoga is attaining the pose”.

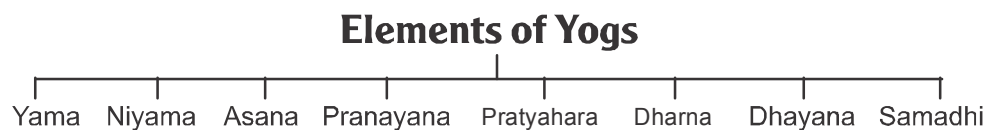
In Bhagwat Gita, Lord Krishna says, “Skill in action or efficiency alone is yoga.

Importance of Yoga :-



5.2 Elements of Yoga

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



5.3 Introduction to Asanas, Pranayam, meditation & yogic Kriyas

Asana:- According to Patanjali Means "Sthiram Sukham Asanam" i.e. that possible which is comfortable and steady."

Pranayama:- The word Pranayama is comprised of two words "Prana Plus Ayama" Prana means life force and Ayama means control. In this way pranayama means "The control or regulation of Prana"

Components of Pranayama



Types of Pranayama



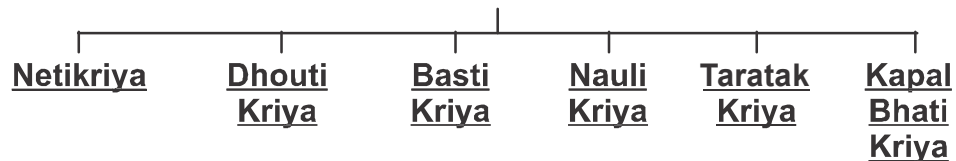
Meditation :-

Dhyana is a process of Complete Constancy of Mind. It is a prior stage of samadhi.

Yogic Kriya/Shudhi Kriya :-

Yogic Kriya Cleansing techniques that cleanses Various internal as well as external organs of the body. There are six yogic kriyas also known as "Shatkarmas".

Yoga



Body Related Benifits of Asanas and Pranayama



Improve Concentration Power	Correct Body Posture	Rehabilitation of Injuries
Increase Flexibility	Improve Breathing System	Improve Function Heart & digestive System
Improve Overall Health	Reduce Fatigue	Activate All Body System

5.4 Yoga for Concentration and Related Asanas (Sukhasana, Tadasana, Padmasana and Shashankasana)

We all know about the amazing health benefits of Yoga, but the greatest thing amongst all is that Yoga works on changing our internal make-up.

According to a recent study conducted at the university of Ellinois at Urbana Champaign, practicing Yoga daily for 20 minutes can improve brain function and actually focus better on daily task at hand.

Yoga helped umprove concentration and focus by calming the mind and getting rid of distracting thoughts.

Here are 5 eassiest effective Yoga asanas you need to try to boost concept rating and jump start your brain.

1. Tadasana (Mountain posa)
2. Vrikshasana (Trace pose)
3. Savasana (Corpse pose)
4. Padmasana (Lotus pose)
5. Bhramari Pranayama



SUKHASANA

Sukhasana or the easy sitting pose is one of the simplest pose for meditation suited for all beginners. Sukhasana comes from the Sanskrit word 'Sukham' which can mean 'comfort', 'easy', 'joyful', 'pleasure', etc. Sukhasana can be done by all age groups.

SUKHASANA THE EASY SITTING POSE



TADASANA (MOUNTAIN POSE)

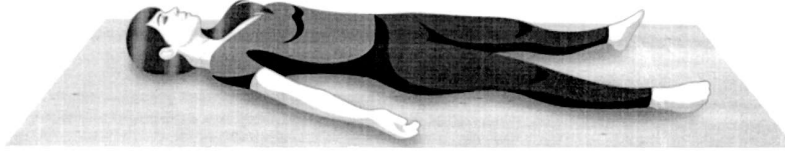
This asana is like the base or the mother of all asanas, from within the other asanas emerge. Tadasana increases the levels of oxygen in the spinal cord and frontal part of the brain”.

It improves concentration and boosts energy.

The word ‘Tada’ is come from the Sanskrit word, which means ‘palm tree’ or another meaning is mountain and meaning of asana is posture or ‘seal’ so this asana is called Tadasana. Tadasana is the beginning and ending asana of Surya Namaskar according to Ashtanga Yoga.

This is the best exercise to increase the height.

5.5 Relaxation Technique for Improving Concentration (Yog-Nidra)



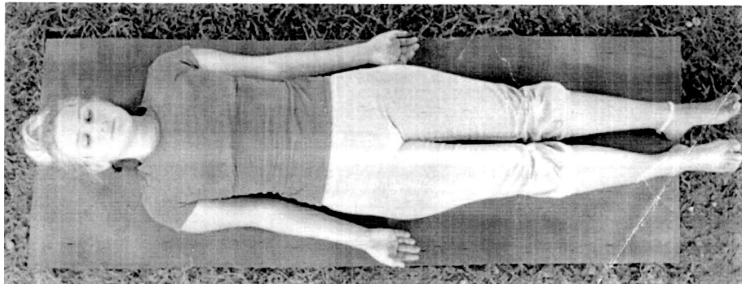
A yoga routine provides deep restoration to your body and the mind. And to make your practice more effective, it's ideal to end your yoga sequence with yoga nidra (yogic sleep). In yoga nidra, we consciously take our attention to different parts of the body and relax them.

Simply described as effortless relaxation, yoga nidra is an essential end to any yoga pose sequence. Yoga postures 'warm up' the body; yoga nidra 'cools it down'.

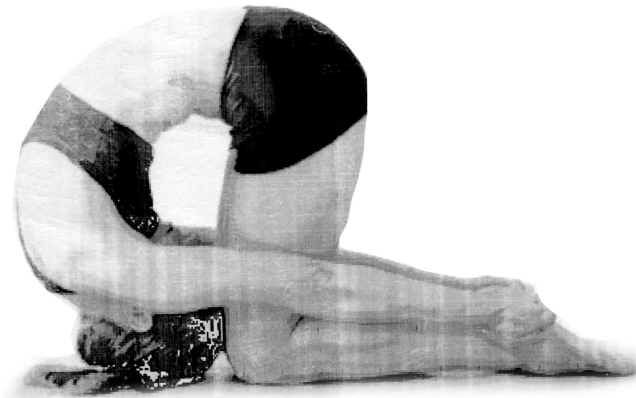
Yoga practices increase the energy levels in the body.

Yoga Nidra helps conserve and consolidate this energy and relax the entire system, preparing it for pranayama and meditation. It is, therefore, important to keep aside sufficient time for yoga nidra after yoga postures.

Relax Yourself With Yoga Nidra - As Restorative As Sleep



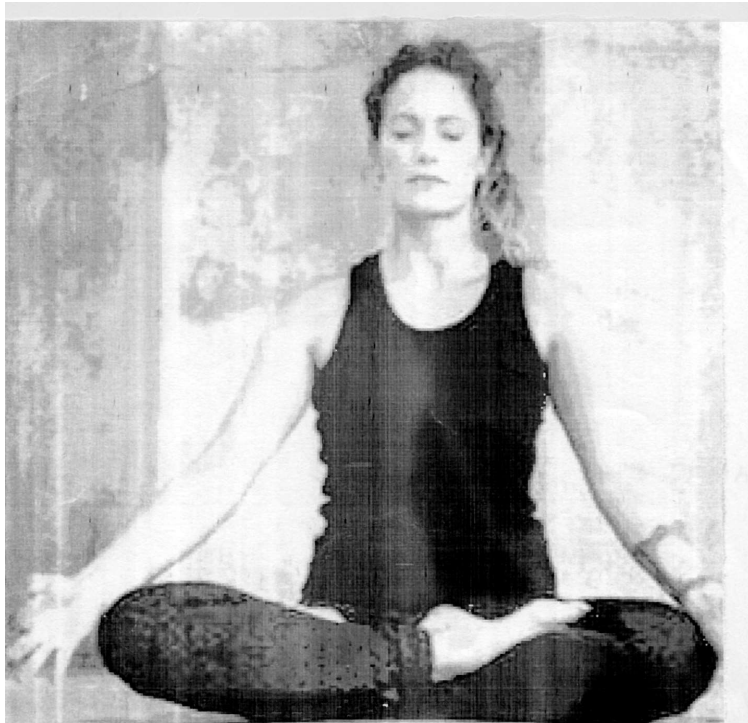
Shashankasana



The Sanskrit name for Hare pose is Shashankasana. The meaning of 'Shashank' is moon. Shashank itself is made up of two words 'shash' meaning 'hare', and 'ank' meaning 'lap'.

The Shashankasana pose is said to benefit the practitioners by helping in calming the nerves and providing a feeling of tranquility. The Shashankasana is similar to a sitting hare, from which it derives its name.

PADMASANA (LOTUS POSE)



Padmasana (Lotus Pose)

The word Padmasana is a Sanskrit word which means "lotus flower" so it's also known as the "Lotus pose". It is so called because of the lotus-like formation which is made by our legs during this asana. Another name of Padmasana is "kamalasan". The word Kamal is a Hindi word which means a lotus flower. It is a yogic exercise in which one crosses the legs while maintaining a straight posture. It is an important position for meditation.

Very Short Answer Type Questions

(1 Mark)

Q.1 Define Yoga.

Ans. Unification of Jivatma with parmatama is called Yoga.

Q.2 What is Dhayana or concentration?

Ans. Complete concentration of mind is dhayana.

Q.3 What the names of any three meditative asanas.

Ans. Padmasana, Sidhasana, Gomukasana.

Q.4. What are the benefits of concentration.

Ans. It creates a positive effect on the brain and calm it.

Q.5 What is the role of yoga in sports?

Or

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.9 What is the rate of meditation in sports?

Or

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.

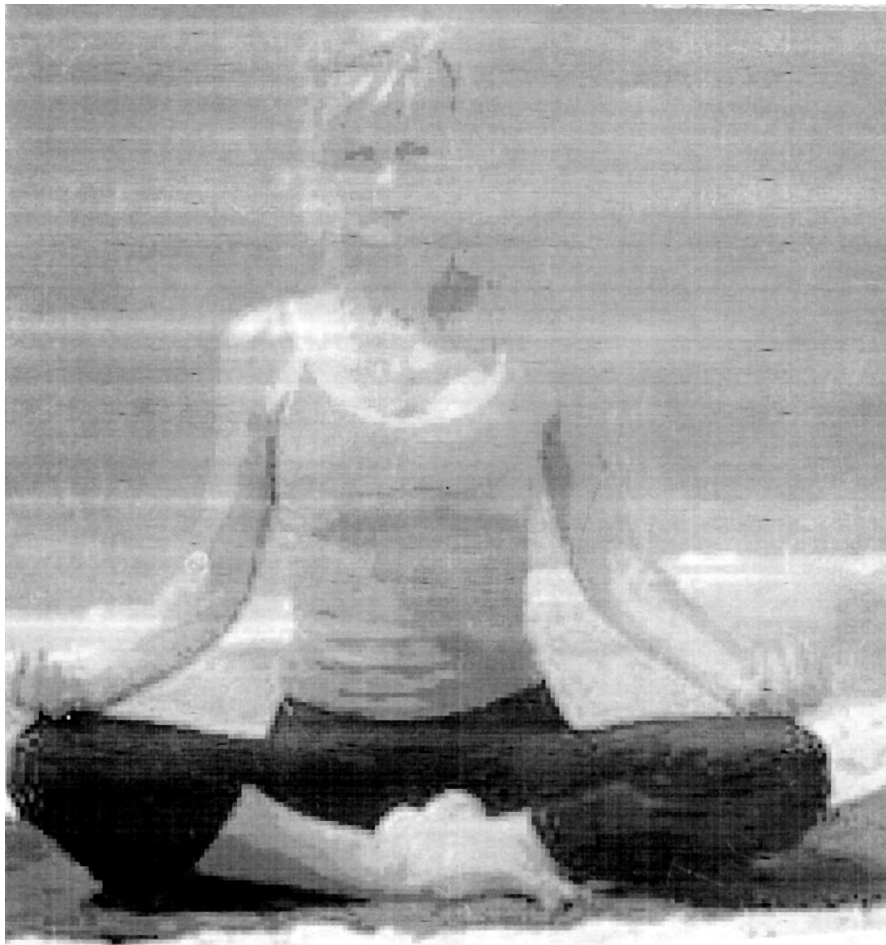
5. It activates the brain and mind properly.
6. It controls anger problem.

Q.7 What is Yog Nidra?

Ans. Yog nidra is an effortless relaxation. It is an essential end to any Yoga pose sequence. Yoga posture warms up the body; Yoga nidra 'cools' it down.

Q.8 What are the benefits of Yog Nidra?

- Ans.**
1. Cools down the body after yoga postures.
 2. Restoring normal temperature.
 3. Activates the nervous system to absorb the effects of Yoga asanas.



Short Answer Type Questions
(3 Marks Each)

Q.1 How to get ready for a Yoga Nidra.

Or

What are the preparations on the part of performer before doing Yog Nidra?

Ans. Getting ready for Yog Nidra:

1. The stomach has to be empty or light before the practice. It is not recommended to practice Yoga asanas or Yoga nidra after a full meal.
2. A comfortable clutter free space. A yogi's home is calm, comfortable.
3. Some people may feel a little cold after Yoga Nidra, so, it is a good idea to keep a light blanket handy.

Q.2 Explain the procedure, Benefits and precautions during Padmasana.

Steps of Padmasana (Lotus Pose)

Sit on the floor and stretch your legs, your legs should be straight in front. Hold the right leg in both the hands, fold the legs slowly and place it on your left thigh. Ensure that your feet should touch your navel.

padmasana step 1

Same like earlier fold the left knee, and hold it with both hands and place it on the right thigh close to the other. At this point your both knees should touch the floor and the foot should face upwardly.

Your spinal cord should be straight at this point. If you feel some difficulty while sitting in the posture for a long time, you can change the legs and then sit on the same position.

padmasana step 2

Your spinal cord should be erect, your both hands should be together or put the palms facing upside on the knee joints and the thumb must touch your index finger and the other fingers should face the upward.

Padmasana step

Breathing process should be slowly-slowly and deeply. (Inhale and Exhale) and focus on your breathing. Do this asana for 2 to 3 minutes in the beginning stage, once you are used to it then increase the time 15 to 30 minutes. Remember one most important thing don't bend your body or head while doing this Asana.

Benefits of Padmasana

Padmasana is the highly preferred asanas by yoga practitioner in the beginning stage for increase the focus of mind and concentration. It helps in improving the concentration power and it will calms the brain also.

This Asana helps to preserve vital fluids in the body and prevents abdominal disease* and female disorders connected with the reproductive organs.

Doing this Asana gives your mind peace, solitude and longevity to the practitioner. It increases the hunger and helps to relax the body.

It can also help in the stretches the ankle and knees. This Asana is the base for all asanas and it strengthens the hip and knee joints of the female and can get painless peaceful mind.

You can reduce the unwanted fat of hip and the thigh. This is the simplest and easiest asana which can practice by all the age group of men and women they can get benefits of yogasana.

Cautions

People who are suffering from ankle injury should not practice this asana. In case you have undergone a recent knee surgery please avoid this asana. If you have sprain in the leg, then our advise is not to do this asana. Don't perform this if you suffering from severe back pain.

Note:-Do all the Asana under the Yoga instructor.

Q.3 Explain in detail the steps, benefits and precautions during Sukhasana.

Sit on the floor with legs stretched out. Always use a yoga mat or a cushion or a carpet while sitting on the floor.

Fold the left leg and tug it inside the right thigh. Then fold the right leg and tug it inside the left thigh.

Keep the hands on the knees. Jnana mudra or Chin mudra can be used if you are using this posture for meditation.

Sit erect with spine straight.

Relax your whole body and breathe normally.

Maintain this position for as long as comfortable.

Benefits To Body Part:

The Sukhasana is a comfortable, sitting yoga pose that is ideal for meditation. In Sanskrit, Sukh means, happiness, peace or relaxation and this pose is aimed at providing all of it. There are many physical, emotional and mental benefits associated with this pose, some of which include -

Amplifying your state of serenity and tranquility

Broadens your collarbones and chest

Calming your brain

Eliminating stress, anxiety and mental exhaustion

Improving alignment

Lengthening your spine

Opening your hips

Promoting inner calm

Reducing fatigue

Strengthening your back

Stretching your ankles and knees

Precautions:

- Don't do sukhasana in inflammation in the knee or hip, spinal disc problems and chronic knee injuries.
- Perform this asana under the Guidance and supervision of a certified Yoga guru at least until you master it.

Q.3 Explain in detail the procedure, precautions and benefits of Shashankasana.

Ans. Procedure:

1. First assume vajrasana. Both your arms should be placed on your knees.
2. Keep your neck and spinal cord straight.

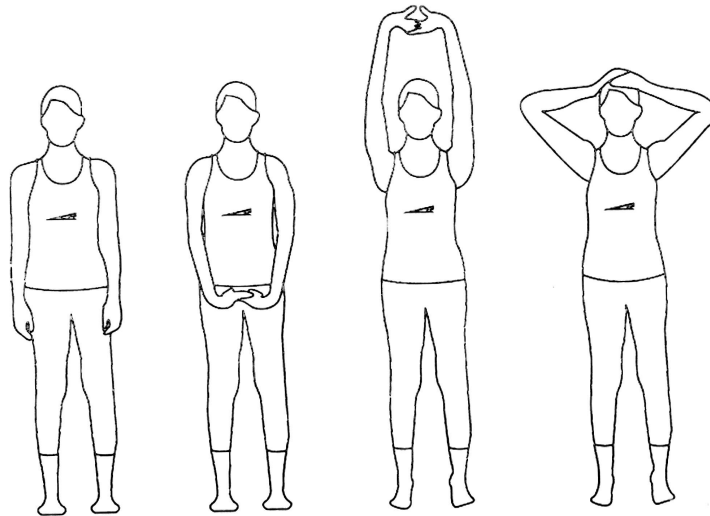
3. Shut your eyes and begin focussing on your breathing and your body.
4. Take a deep breath and without allowing the elbow to bend, bring your hands above your shoulders.
5. Slowly exhale and reach down to touch the ground while your head and both your hands.
6. Let your upper torso relax and remain in this position for a while. The neck should be kept straight between the arms.
7. To finish, you should exhale and place your palms on your knees.

Precautions

Avoid practice of this pose if you suffer from vertigo, slipped disc, high blood pressure and heart related problems.

Benefits

1. It strengthens the muscles.
2. It helps in the extension of the neck, arms and spine.
3. Practicing this pose helps improve the circulation of blood to the scalp, face and brain. It gives a nice glow to the face.
4. This pose helps in regulating the adrenal glands.
5. The hare pose is also peneficial to the reproductive organs.



Q.4 What is the procedure, precautions and benefits of Tadasana?

Ans. Procedure:

1. Stand erect, and place your legs slightly apart, with your hands hanging alongside your body.
2. You must make your thigh muscles firm.
3. Strengthen the inner arches of your inner ankles as you lift them.
4. Now, imagine a stream of white light (energy) passing through your ankles, up to your inner thighs, gently turn your upper thighs inward. Elongate the tailbone such that it is toward the floor. Lift the pubis such that it is closer to the navel.
5. Look slightly upward.
6. Now breathe in and stretch your shoulders, arms and chest upwards. Raise your heels, making sure your body weight is on your toes.
7. Feel the stretch in your body right from your feet to your head. Hold the pose for a few seconds. Then, exhale and release.

Precautions—

It is best to avoid this asana if you have the following problems—

1. Headaches
2. Insomnia
3. Low blood pressure

Benefits of Tadasana

(e) These are some amazing benefits to Tadasana.

1. This asana helps improve body posture.
2. Your buttocks and abdomen get toned.
3. This asana reduces flat foot.
4. It also makes your spine more agile.
5. It is an excellent asana for those who want to increase their height in their formative years.
6. It also helps improve balance.

Long Answer Type Questions

(5 Mark Each)

Q.1 Explain the benefits of Yog Nidra in detail.

Ans.

10 REASONS

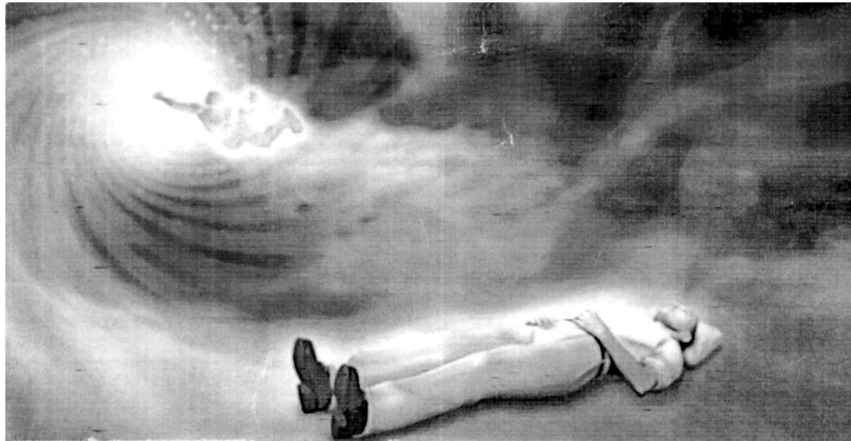
YOG NIDRA IS GOOD FOR YOU



YOG NIDRA BENEFITS ARE

1. It helps in relieving muscular, emotional, and mental tension.
2. Yog Nidra relaxes the mind by relieving stress and anxiety.
3. It treats insomnia, psychological disorders, and psychosomatic diseases.
4. It trains the mind and helps in enhancing memory and increasing learning capacity.
5. Yogic sleep also results in increased energy levels.
6. It heals endocrinal imbalances.
7. Yog Nidra not only detoxifies the body, but also clears up the subconscious.
8. It improves creativity.
9. It also leads to improved senses and more cultivated body awareness.

10. Yoga nidra restores the mind and body.



Q.2 What is the procedure to do a perfect Yog Nidra?

Ans. How to do a perfect Yog Nidra:

1. Lie down straight on your back in Corpse Pose (Shavasana). Close your eyes and relax. Take a few deep breaths in and out. Remember to take slow and relaxed breaths, and not ujjayi 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: genital area, stomach, navel region chest

5. Take your attention to the right shoulder and right arm, palms and fingers then repeat this on the left shoulder and left arm, torso, face and finally the top of the head.
6. Take a deep breath in, observe the sensations in your body, and relax in this still state for a few minutes.
7. Now, slowly becoming aware of your body and surroundings, turn to your right side and keep lying down for a few more minutes. Rolling over to the right side makes the breath low 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.

Yoga Nidra Instructions by Sri Sri Ravi Shakar

Note that Yoga Nidra is not about 'conscious effort' but 'conscious relaxation'. For example, the moment you hear the word 'apple,' its image instantly flashes through your mind. You don't need put in an effort to think whether it's small or big, red or green. The same happens during yoga nidra

You don't need to 'concentrate' or 'focus' on what a leg is, or touch your nose. Nor do you need to physically move these body parts. You only need to gently take your attention to them, while taking deep breaths. The trick in yoga nidra is to: relax with awareness, remain effortless and consciously relax the body and mind.

It is quite natural to be distracted by random thoughts during yoga nidra. Do not try and curb them. If you fall asleep naturally, don't feel guilty once you wake up.

Yoga nidra is thus a joyous, effortless way to end your yoga practice. Let go, relax and enjoy the experience that follows

“As refreshing as sleep, I fondly call yoga nidra my ‘super nap’. In just a short while, it leaves me deeply rested and freshens me up in a way no tea or coffee does,” shares Pritika Nair. an avid meditator.

Unit - 6

Physical activity and Leadership Training

- ✍ 6.1 Introduction to physical activity and leadership
- ✍ 6.2 Qualities and role of a leader
- ✍ 6.3 Behaviour change stages for Physical activity
(Pre-contemplation, contemplation, planning, active maintainance)
- ✍ 6.4 Creating leaders through Physical Education
- ✍ 6.5 Meaning, objectives and types of adventure sports
(Rock climbing, trekking, River rafting, Mountaineering, surfing and Para-gliding)
- ✍ 6.6 Safety measures during physical activity and adventure sports

Introduction to Physical Activity and Leadership Training

6.1 **Physical Activity** : Physical activity simply means movement of the body that uses energy.

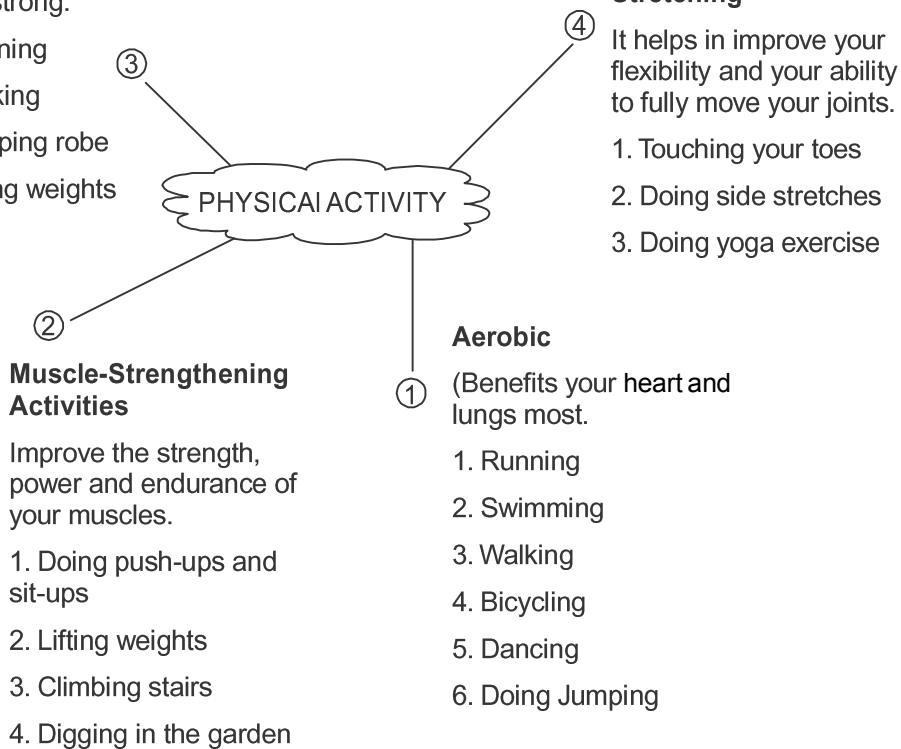
The four main types of physical activities are—

1. Aerobic
2. Muscle—strengthening
3. Bone—strengthening
4. Stretching

Bone Strengthening Activities

Helps in making your Bone strong.

1. Running
2. Walking
3. Jumping rope
4. Lifting weights

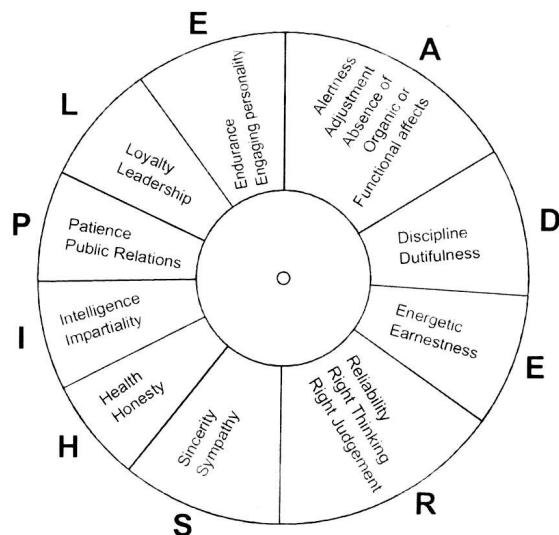


(b) **Leadership** – Leadership can be described as the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of an organization or a group of which they are members.

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.



6.2 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 passionate 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

Leadership: Leadership is the quality of a person to lead others in a family, society, tribe, group, or country.

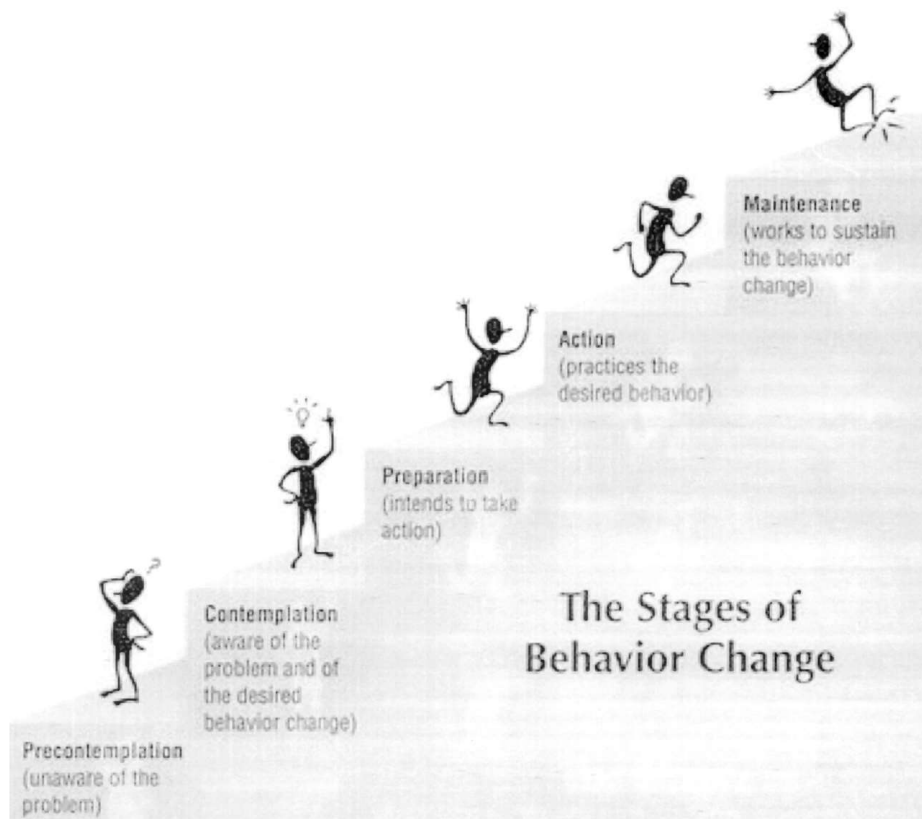
LEADERSHIP TRAITS

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

Be a Leader!

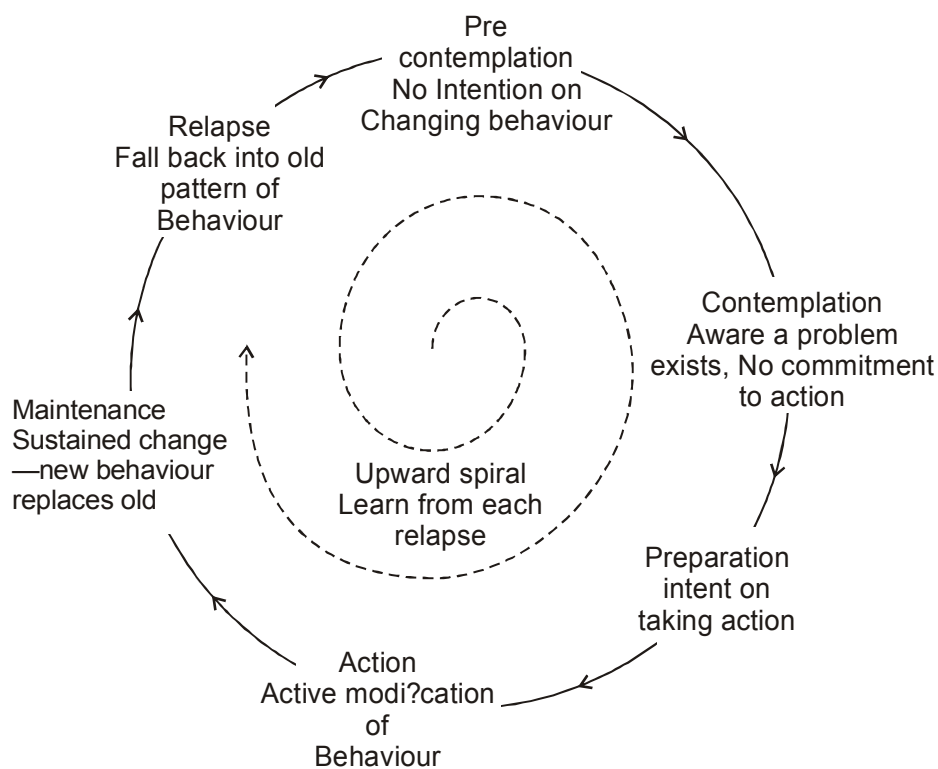
6.2 (b) Role of a leader in Sports

1. **Organiser**—A good leader in sports is a good organiser in organising different sports events.
 2. **Motivator**—A leader in sports understands his students and thier 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.
- 6.3 Behaviour Change Techniques/stages for Physical Activity



The five Stages of Change

Cycle of Change



6.4 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. Recognise their achievement by facilitating them at different forms.
5. Have faith and confidence in your students if they are defaulter.

6.5 (a) Adventure Sports

Meaning : Adventure sports are such type of sports, which involve extraordinary speed, height, physical exertion, and surprising stunts.

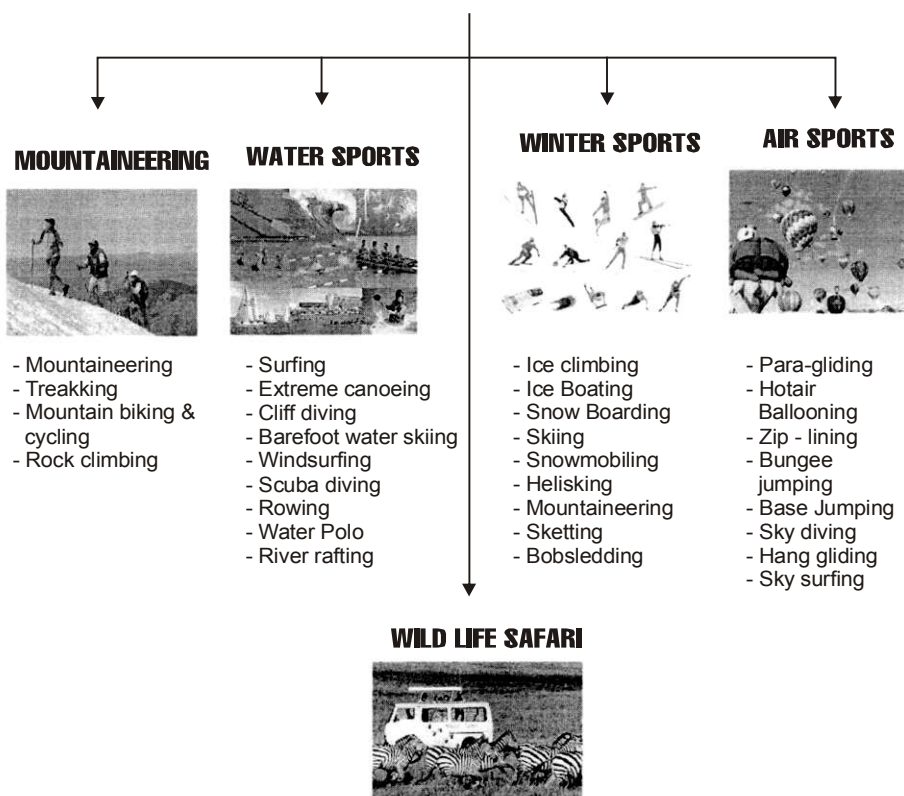
6.5 (b) Objectives of Adventure Sports

Aim: the main aim of adventure sports is to provide a carefully planned stimulating environment which will help each individual and excellent foundation for creative learning and independence.

Objectives:

- Thrill, excitement and fun.
- Exposure to nature.
- Self assessment.
- Over come fear and develop self confidence
- Enhancement of decision making power.
- Channelizing energy.
- Stress buster.
- Information and knowledge enhancement.
- Development of positive attitude toward life.
- Build concentration.
- Encouragement of social relationship and teamwork.
- Develop motor and cognitive skills, creative learning.
- Inculcate values amongst children.

Types of Adventure Sports



Types of Activities

Camping: Camping means going away temporarily to a place having temporary accommodation. It is like going away from home to a new home (camp) with limited facilities. There are various types of camping such as scout camp, N.C.C. camp, N.S.S. camp, Sports camp, adventure camp and social camp etc.

Rock Climbing

Rock climbing is a sport in which participants climbs up, down or across a natural rock or artificial rockwalls. In rock climbing, the objective or goal of a climber is to reach the end point or summit of a predecided route without falling. There are different types of climbing such as Aid climbing, freeclimbing, trad or traditional climbing “Sport climbing top rope climbing free soloing and bouldering.

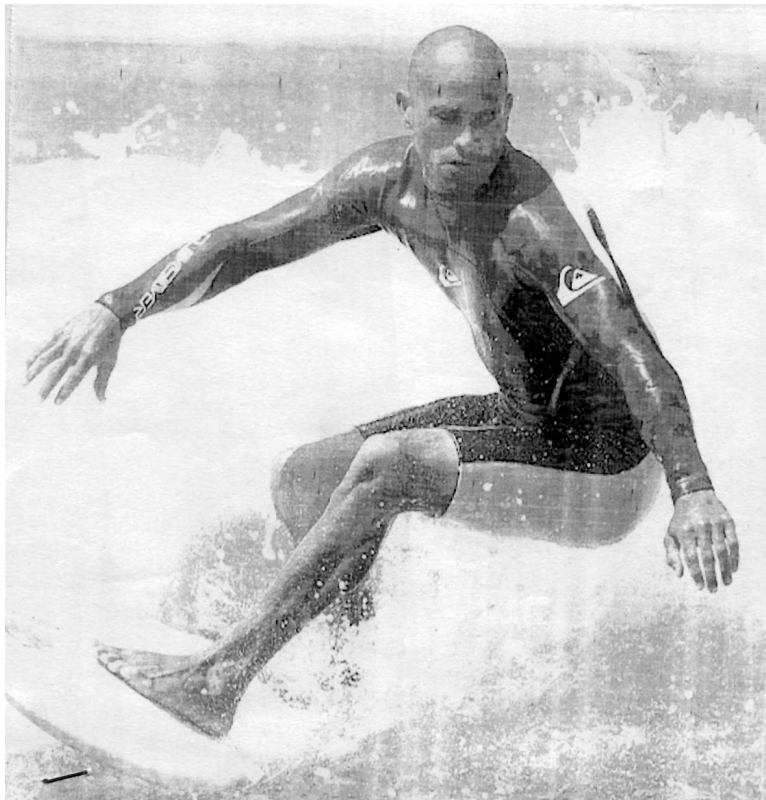
Trekking :

Trekking means going on a long and difficult journey, especially on foot. Its course often includes journey over mountainous regions and woods. Types of trekking

- a) **Easy trekking** :- The individuals specially the beginners are offered easy treks.
- b) **Moderates trekking** :- Moderates trekking are slightly difficult and challenging than easy treks.
- c) **Strenuous trekking** :- Strenuous trekking a lot of physical effort energy and determination is required.
- d) **Difficult trekking** :- Such type of trekking is suitable only for real adventure seekers.

River Rafting :

River rafting is another adventure sport. It is a river journey under taken on a raft or boat made of inflatable material. The difficulty of river rafting is from grade I to VI

River Rafting

Mountaineering :- Mountaineering is another type of adventurous sports prevailing all over the world. It is one of the finest outdoor opportunities available to the lovers of high places. Mountaineering is an adventurous sport that combines climbing and hiking up mountains or mountain terrains.

Surfing is a surface water sport in which the wave rider, referred to as a surfer, rides on the forward or deep face of a moving wave, which is usually carrying the surfer towards the shore. Waves suitable for surfing are primarily found in the ocean, but can also be found in lakes or in rivers in the form of a standing wave or tidal bore. However, surfers can also utilize artificial waves such as those from boat waves and the waves created in artificial wave pools.



Para gliding

Paragliding

A sport resembling hang gliding, in which a person jumps from an aircraft or high place wearing a wide, rectangular, steerable parachute.

Or

Paragliding is the recreational and competitive adventure sport of flying paragliders; lightweight, free-flying, foot-launched glider aircraft with no rigid primary structure.

The pilot sits in a harness suspended below a fabric wing comprising a large number of interconnected baffled cells.

6.6 (a) Safety Measures During Adventure Sports

Camping

Safety Measures : Camping sight, must be plain and clean, never approach wild, animals always be alert and aware of your surroundings, look out for snakes, spiders and other creatures, protect your eye, maintain discipline, careful around water,, pay attention to weather condition etc.

ROCK CLIMBING

Safety Measures

1. Choose appropriate venue.
2. Find an experienced mentor.
3. Always check harness and all equipment.
4. Check your knot.
5. Do not cross your legs etc.

TREKKING

Safety Measures

Safety Measures : An experienced group leader required to ensure your trekking route, use ankle boots, always trek in group, keep sufficient food, know about flora and fauna of your route etc.

MOUNTAINEERING

Safety Measures

Safety Measure : Mountaineering must be followed by an experienced guide, all safety measures of camping, climbing, and trekking must be followed, be cautious of avalanch etc.

River Rafting

Safety Measure: Don't go for river rafting alone. Swimming ability is required. Wear life vest and helmet. Check equipment for defects. Raft only in day time.

Surfing

Safety Measures: Read and obey the signs. Don't swim directly after meal. Don't swim under the influence of drugs or alcohol. Always swim under supervision or with a friend. Always swim or surf at places patrolled by surf lifesavers or life guard.

Paragliding

Safety Measures: Paragliding safety includes four items:

1. **Preparation—(a)** Gather information about the weather fore cast, the actual wind conditions, the site etc.
(b) Maintain your equipment with regular inspection and monitoring.
2. **A Good Launch**
A good launch requires keeping the legs down until well clear of the hill.
3. Reaching the landing zone with sufficient altitude for an approach. During the flight, the number one goal should be to make sure and reach the Landing Zone (LZ) with enough altitude to assess wind conditions and plan a safe approach.
4. **A good Landing** — Landing in the LZ into or mostly wind is the priority.

6.6 (b) Safety Measures during Physical Activities

Almost anybody can safely take up walking and light to moderate exercise is usually fine for healthy adults with no troublesome symptoms. It is wise to talk to a doctor if you have any questions about your health or plan to start more vigorous workouts, especially if you haven't been active recently.

6.7 Tips for Avoiding Injuries during Physical Activities

1. Take 5 to 10 minutes to warm up and cool down properly.
2. Plan to start slowly and boost your activity level gradually.
3. Listen to your body. Hold off on exercise when you are sick or feeling very fatigued.
4. Drink plenty of water during physical activity.
5. Choose clothes and shoes designed for your type of exercise. Replace shoes every six months as cushioning wears out.
6. Exercising vigorously in hot, humid conditions can lead to serious over heating and dehydration. Slow your pace when you feel exhausted.
7. Dress properly for cold - weather workouts to avoid hypothermia.

Very Short Answer Type Question 1 Mark

Q.1 Define adventure sports.

Ans. Adventure sports are such type of sports which involve extraordinary speed, height, physical exertion and surprising stunts.

Q.2 Write the names of any five adventure sports.

Ans. (1) Camping (2) Rock climbing
(3) Trekking (4) Surfing
(5) Para-gliding

Q.3 What are physical activities.

Ans. Physical activity simply means movement of the body that uses energy.

Q.4 Define leadership?

Ans. Leadership is the quality of a person to lead others in a family, society, tribe, group, or country.

Q.5 Write the two traits/qualities of a leader :

Ans. (1) Attractive physique (2) Laborious

Q.6 Write the names of different stages for behaviour change in physical education.

Ans. (1) Pre-contemplation (2) Contemplation (3) Planning (4) Active (5) Maintenance.

Q.7 What is camping?

Ans. Camping is an outdoor recreational activity involving overnight stays away from home in a shelter such as a tent, a caravan, or a motorhome.

Q.8 What do you mean by rock climbing.

Ans. Rock climbing is an activity in which participants climb up, down or across natural rock formations or artificial rock walls. The goal is to reach the summit of a formation or the end point of a usually pre-defined route without falling.

Q.9 What is trekking?

Ans. Trekking is long adventurous journey undertaken on foot in areas where common means of transport are generally not available.

Q.10 What is river rafting?

Ans. River rafting is adventure sport. It is a river journey undertaken on a raft or boat made of inflatable material.

Q.11 Write the types of trekking.

Ans. There are four types of trekking.

- | | |
|------------------------|------------------------|
| (1) Easy trekking | (2) Moderate trekking |
| (3) Strenuous trekking | (4) Difficult trekking |

Q.12 What is mountaineering?

Ans. Mountaineering is the activity of climbing the steep sides of mountains as a hobby or sport.

Q.13 Enlist any two qualities required for mountaineering.

- | | |
|----------------------|--------------------------|
| (1) Endurance | (2) Strong determination |
| (3) Physical fitness | |

Q.14 What is surfing?

Ans. The term surfing refers to the act of riding a wave, regardless of whether the wave is ridden with a board or without a board, and regardless of the stance used.

Q.15 What do you mean by para-gliding?

Ans. Paragliding is a sport resembling hang gliding, in which a person jumps from an aircraft or high place wearing a wide, rectangular, steerable parachute.

Q.16 Write the objective of adventure sports.

- Ans.**
1. To do something unique and daring in the field of sports.
 2. To accept the challenges posed by nature and natural surroundings.
 3. To promote the spirit of risk taking and team work.
 4. To serve as a training ground for future leaders in physical education.

Q.17 Write the names of two adventure sports related to water.

Ans. (i) Surfing (ii) River rafting

Q.18 Write two safety measures before camping.

- Ans.**
- (i) The place should be away from wild animals.
 - (ii) Camping should be held at a peaceful place.

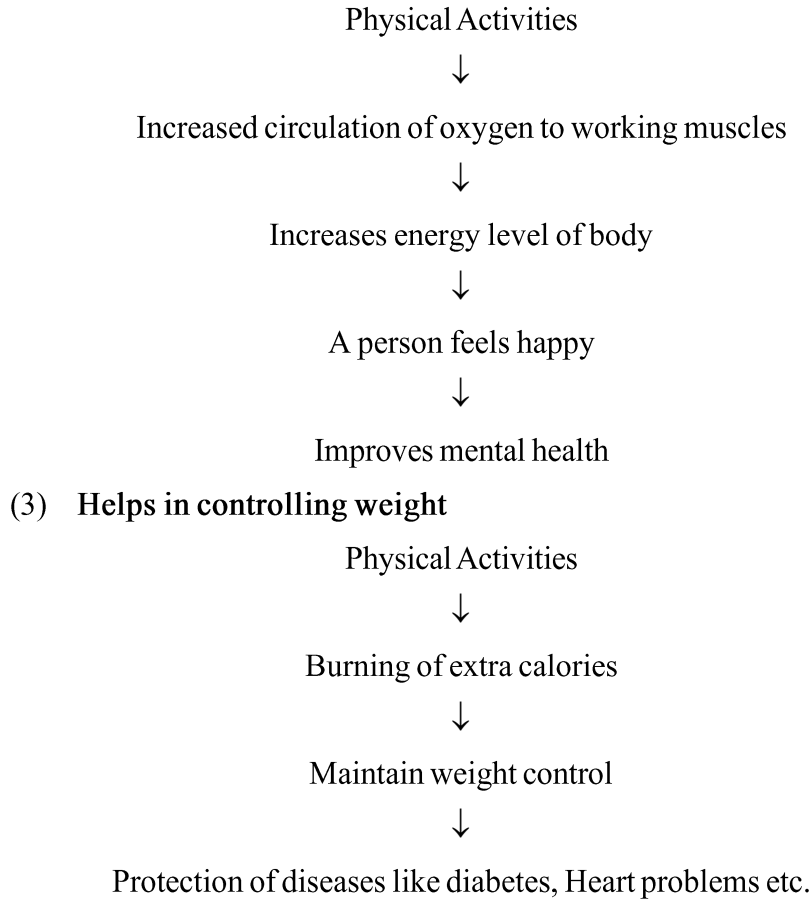
Short Answer Type Question

(80 to 90 Words) (3 Marks Each)

Q.1 Is physical activity increase the quality of life. If yes, then how?

Ans. Physical activities can play a major role in increasing the quality of life in following ways:

- (1) **Increase in the health of the heart**—The efficiency of heart increases and various changes takes place in heart.
 - (a) Lower blood pressure
 - (b) Less chance of heart attack
- (2) **Increase Mental Health**



Q.2 Explain the three qualities of a leader in sports.

- Ans. (i) Motivators**—Team players respect a sports leader who is a hard worker and maintains enthusiasm for team goals, as well as for individual player success. One of the most important qualities you need as a coach is passion—for the sport itself and toward individuals on the team.
- A successful sports leader keeps team members motivated and optimistic eventually realizes positive outcomes, such as team cohesion, performance and satisfaction.
- (ii) Effective communicator in sports**—A team filled with the best players in the league who communicates poorly will flounder in mediocrity, while a team filled with run-of-the-mill players who communicates flowlessly will be

contenders every year. Effective communication in sports is an absolute essential trait that quality teams must have to be successful, from the coaches, to team leaders, all the way down to the role players.

- (iii) **Visionaries**—Sports leaders inspire others because they maintain a positive attitude, high morale and persistent drive toward goals, Johnson says. Effective leaders, including coaches and team leaders, are highly focused on a vision for their team and drive others toward outcome and results for trekking that vision.

Q.3 What is trekking and explain the types of trekking.

Ans. Trekking:

Trekking means going on a long and difficult journey, especially on foot. Its course often includes journey over mountainous regions and woods.

- (a) Easy trekking: The individuals specially the beginners are offered easy treks.
- (b) Moderate trekking: Moderate treks are slightly difficult and challenging than easy treks.
- (c) Strenuous trekking: Strenuous trekking a lot of physical effort, energy and determination is required.
- (d) Difficult trekking: Such type of trekking is suitable only for real adventure seekers.

Q.4 Explain the safety measures during surfing.

Ans. Always swim or surf at places patrolled by surf lifesavers or lifeguards.

Swim between the red and yellow flags. They mark the safest area to swim.

Always swim under supervision or with a friend.

Read and obey the signs.

Don't swim directly after a meal.

Don't swim under the influence of drugs or alcohol.

If you are unsure of surf conditions, ask a lifesaver or lifeguard.

Never run and dive in the water. Even if you have checked before, conditions can change.

If you get into trouble in the water, don't panic. Raise your arm for help, float and wait for assistance.

Float with a current or undertow. Stay calm. Don't try to swim against it. Signal for help and wait for assistance.

Q.5 Explain the safety measures during paragliding.

Ans. With a good attitude, safety during paragliding can be simplified into four elements for each flight to be safe.

These four items are :

Preparation

A Good Launch

Reaching the Landing Zone with Sufficient Altitude for an Approach

A Good Landing

Preparation

Gather information about the weather forecast, the actual wind conditions, the site and anything that will help you decide if flying on such a day and time will be safe.

Maintain your equipment with regular inspections and monitoring.

Prior to each flight do a thorough preflight of your equipment. If there are any issues, do not fly!

Do a harness connection check prior to each flight.

Check your own mindset and fly only when you feel sure you are in the correct state of mind.

Practice regularly your ground handling and launch techniques to keep them current for each technique.

Make all of the above a routine that you do out of habit. Habits make all of the above much more predictable and harder to forget.

A Good Launch

Each successful flight begins with a good launch that includes keeping the legs down until well clear of the hill.

During each launch, have the ability and be prepared to abort quickly if any factor does not feel right or goes wrong. Knowing when to abort and having this ability will make you a better pilot.

Reach the Landing Zone with Adequate Altitude

During the flight, the number one goal should be to make sure and reach the LZ with some enough altitude to assess wind conditions and plan a safe approach.

Any other goals during the flight fall below this priority!

Failure to reach the LZ will mean landing out. Landing out is much more hazardous and greatly increases the chances for an accident.

A Good Landing

Each successful flight ends with a nice landing.

Landing in the LZ into or mostly into the wind is the priority.

Practice landing approaches and master being able to land as close as possible to your intended target.

Practice flair timing and touch on each and every flight.

Q.6 What are the safety measures during mountaineering?

Ans. Safety Measures: Mountaineering activities must be done under the experts and experienced leader, should have a thorough knowledge of track route of mountaineering, one should know flora and fauna of the route, always be alert and aware of your surroundings, keep sufficient food for the group, all the equipments should be checked before use, beware of avalanche.

Q.7 Value Based Question :-

Delhi Government schools went for Rishikesh- Neelkant trek. Rakesh, one of the student of these school decided to clean plastic waste and other waste of this 8km trek. He motivated all his friends to put waste in a bag as to keep environment clean.

- (i) What did Rakesh decided during the trek?
- (ii) What did Rakesh motivated to his friends to do?
- (iii) Which value Rakesh shows during the trek?

Ans. (i) Rakesh decided to clean the waste of the trek, during the trekking.

- (ii) Rakesh inspired his friends to clean the environment by cleaning the leftover waste from the trek.
- (iii) Following values were shown by Rakesh during trekking.
 - Leadership skills
 - Environment Friendly
 - Inspiring Others.

Long Answer Type Questions (150 to 200 Words)
(5 Mark Each)

Q.1 What are do's and don'ts for Adventure Activities?

Ans. Do's :-

- Adventure activities must be organized under the expert guidance.
- Proper knowledge of sight and route.
- Ensure safety of participants.
- Keep first aid arrangement.
- Arrangement of good quality of equipment.
- Be prepared to face weather change while you are camping.
- Bio-degradable and non-biodegradables waste products should be thrown in proper bins.
- Cleanliness should be maintained on camp site.
- Fire should be properly extinguished during camping in forests or hilly areas.

Don't :-

Don't:- Throw eatables and empty bottles on camp site.

- Clothes and utensils should not be washed in running rivers and canal waters.
- Used plastic cans and aluminum and toffee wrappers should not be thrown on hills and mountains.
- People should not defecate and urinate near river banks.
- Raincoats or clothes that have been only been used once should not be left in hills.

Cutting of trees is prohibited in forest and hilly areas during camping.

Drinking water river canal water should not be polluted under any circumstances.

There should be no noise pollution during trekking that can disturb the lifestyle of wild animals.

Deforestation is prohibited in forest and hilly areas during camping.

Q.2 How adventure sports helps to inculcate the quality of leadership?

or

How does leadership quality develop through participation in physical education?

Ans. Leadership is nothing but the quality of a person to lead a group. Through participation in adventure sports a numerous quality of leadership develops. They are as -

L : Loyalty, Leadership

E : Endurance, Engaging personality

A : Alertness, Adjustment, Absence of organic or functional defects, Ability to coordinate activities .

D : Discipline, dutifulness, dependability, desire to help others.

E : Energetic, earnestness.

R : Reliability, right thinking, right judgement.

S : Sincerity, sympathy, self control, sociability, scholarship, sacrifice, super motor capacity. H : Health, Honesty

I : Intelligence, industriousness, impartiality, interest in teaching. P : Patience, perseverance, personality, physical skills, public relations.

When a student or individual takes part in adventure sports he or she develops the above qualities. By assigning the duties in physical education it develops confidence, to lead their team. By doing adventure activities, it develops the discipline, confidence and the ability to take decisions. By taking part in those activity the student become energetic, reliable, social and honest.

Different adventure sport activities develop the quality of patience, public relation and it grooms the personality of an individual. Hence at last we can say that through participation in adventure sports, we can develop the leadership qualities in the individual.

Q.3 What are the objective of adventure sports?

or

How adventure sports helps in achieving the objectives of physical education?

Ans. The objectives of physical education are the development of an individual mentally, socially and emotionally fit. Through participation in adventurous sports, following objectives can be achieved.

To develop self confidence :- By overcoming the fear and experiencing the thrill one can develop self confidence. **To build the concentration :-** In these sports a person has to be very alert and attentive all the time. It develops the concentration.

To develop mental and physical fitness :- These sports help in developing the mental and physical fitness. Such sports fitness skills like jumping, climbing and swimming etc. **To improve social relations :-** During participation in adventure sports qualities like sympathy, co-operation, helpfulness, adjustment, group cohesion, unity, sincerity, patience, fraternity are developed.

To have bonding with Nature:- Most of the adventure sports are outdoor activity which give enough opportunities to experience nature which develops the bonding with nature. **To face the challenges against the Nature :-** These sports enhance one's capacity to deal with odd situations with courage and determination.

Proper use of abundant energy :- Adventure sports provide the participant a positive and a healthy channelization of their abundance and energy.

To provide amusement and excitement :- It is the vital objective of adventure sport to provide amusement and excitement.

To encourage creativity:- These sports allow and encourage creativity of an individual.

Inculcate adventure :- Motivate to learn sportsmanship.

Q.4 Explain behaviour change technique for physical activity in detail.

Ans. In order to make behaviour changes most people go through at least five distinct stages we move in a spiral pattern upwards through the stages, but there can be, and usually is, some back sliding between stages.

Below is an explanation of each stage in detail.

Stage - I : In this stage, you are not aware or deny there is a problem at all you blame circumstances beyond your control. “I can’t lose weight because of my wife’s cooking”.

Stage II : The individual is experiencing ambivalence about change. They can see reasons to change their behaviour, but they are still hesitant. The problem behaviour continues.

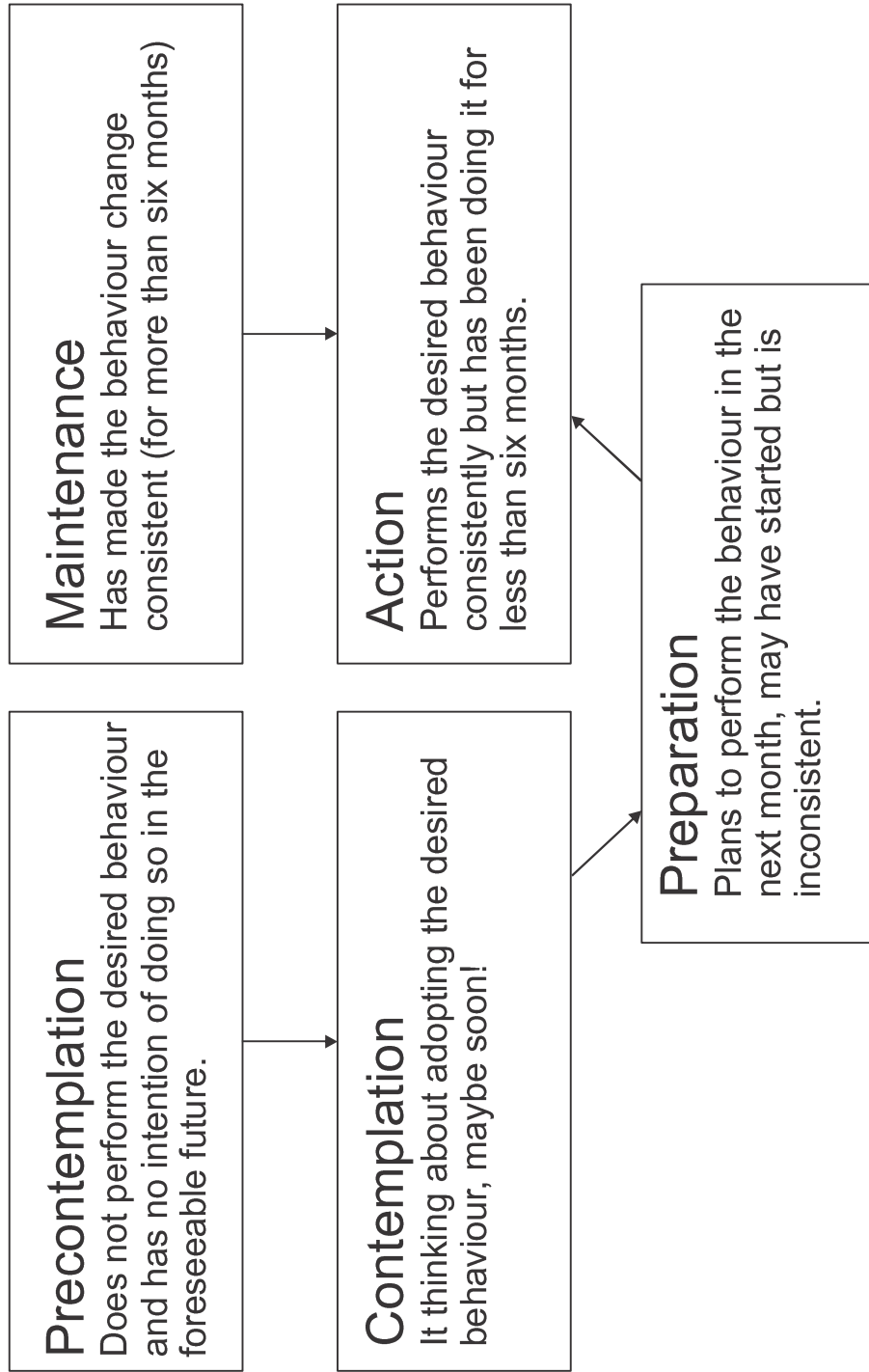
Stage III : Preparation: The individual has decided to change their behaviour, and they begin to think about how to do so. During this stage, they will begin to make minor changes to support their goal, but they might not have completely ended the unwanted behaviour.

Stage IV : Action: Significant steps are taken to end the problem behaviours. The individual might be avoiding triggers, reaching out for help, or taking other steps to avoid temptation.

Stage V : Maintenance: The changes made during the action stage are maintained. The individual may continue to face challenges, but at this have successfully changed their behaviour for a significant period of time.

Relapse : After making changes, some individuals will return to their previous problem behaviours. This can happen at any time during the previous stages. Not everyone will experience relapse, but it is always a risk.

STAGES OF CHANGE

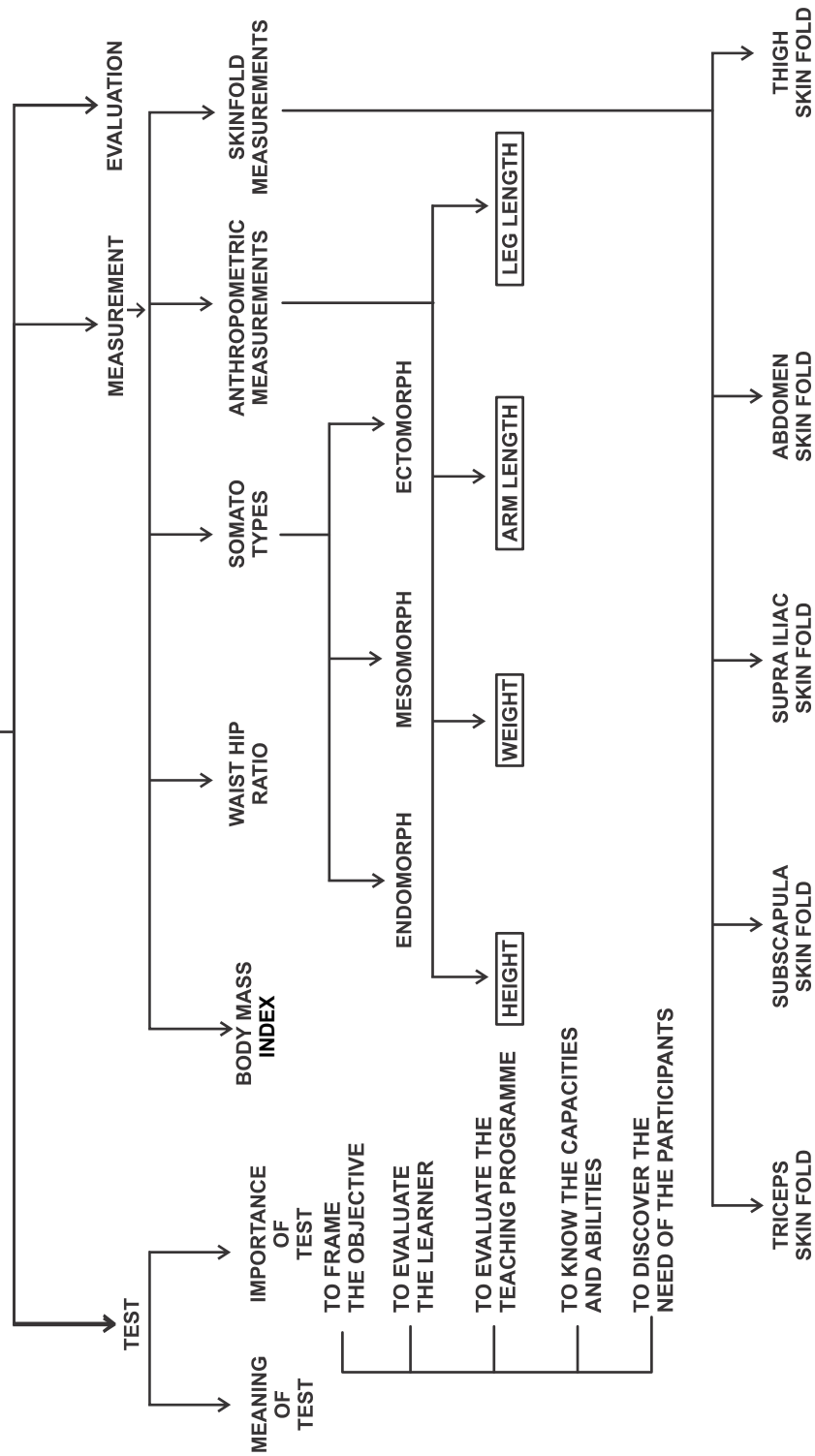


Unit - 7

Test, Measurement & Evaluation

- ✍ 7.1 Definition of Test
- ✍ 7.2 Definiton of Measurement
- ✍ 7.3 Definition of Evaluation
- ✍ 7.4 Importance of Test, Measurement and Evaluation
- ✍ 7.5 Calculation of B.M.I and Waist-Hip ratio
- ✍ 7.6 Somato-Types (Endomorph, Mesomorphy & Ectomorphy)
- ✍ 7.7 Procedures of Anthropomatric Measurement - (Height, Weight, Arm and Leg Leagth)

FLOW CHART



TEST AND MEASUREMENT IN SPORTS

CHAPTER-7

TEST

A test is a tool which is used to evaluate the skills, performance and reliability of the task completed by a sports person.

MEASUREMENT-

Measurement is about the collection of data about performance or task completed by a sports person by using a test.

Evaluation: It is a systematic determination of a subject's merit, worth and significance, using criteria governed by a set of standards.

IMPORTANCE OF TEST AND MEASUREMENT -

1. To frame the objectives.
2. To evaluate the learners.
3. To evaluate the teaching programme.
4. To know the capacities and abilities.
5. To discover the needs of the participants.

BODY MASS INDEX (B.M.I.)-

It is the value derived from the mass (weight) and height of an individual.

FORMULA FOR CALCULATING B.M.I. -

$$\text{Body Mass Index} = \frac{\text{Weight in Kg}}{\text{Height in m}^2}$$

WAIST HIP RATIO-

Waist Hip Ratio is the ratio of the circumferences of waist to that of the hips.

FORMULA FOR CALCULATING WAIST HIP RATIO-

$$\text{Waist hip ratio} = \frac{\text{Waist Circumference}}{\text{Hip Circumference}}$$

SOMATO TYPES (ENDOMORPH, MESOMORPH, ECTOMORPH)

Somato Types means human body shape and physique type.

According to W.H. Sheldon, 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 and can be top sports person in any sport.

3. ECTOMORPHY-

These are slim persons because their muscles and limbs are elongated. They have flat chest and have less muscle mass. They have less strength but dominate endurance sports.

PROCEDURES OF ANTHROPOMETRIC MEASUREMENT (HEIGHT, WEIGHT, ARM AND ARM LENGTH & SKINFOLD)

Meaning of Anthropometric measurement.

Anthropometric measurements means measurements of height, weight, arm, leg length, waist circumference and skin folds etc.

HEIGHT - Height of an individual must be measured using a stadiometer to the nearest half of a centimeter.

Weight - Correct weighing machine should be used and measurement must be recorded to the nearest 0.1 k.g.

Arm Length - Measurement should be done from the body tip of the shoulder to the tip of the little finger.

Upper Arm Length - To measure the upper length the arm should be bent 90 degree at the elbow with palm facing upwards.

Leg Length - It can be measured by using flexible steel tape from the outside edge of centre of the foot to the upper edge of the greater trochanter.

Upper Leg Length- Bend the knee at 90 degree angle & sit up straight. Measure the upper leg length from inguinal crease to the proximal border of patella to the nearest of 0.1 centimeter.

SKIN FOLD MEASUREMENTS -

Arms (triceps) skin fold

Sub Scapula skin fold

Suprailiac skin fold

Abdomen skin fold

Thigh skin fold

A. SHORT ANSWER TYPE QUESTIONS (1 MARK EACH)

1. What do you mean by a test ?

Ans. A test is a tool which is used to evaluate the quality, performance and reliability of the task completed by a person.

2. What do you mean by Measurement ?

Ans. Measurement is about collection of data and information about certain skills or levels of fitness of an individual by using tests and relevant techniques.

3. What do you mean by a Evaluation?

Ans. It is the process of education that involves collection of data from the products which can be used for comparison with preconceived criteria to make judgment.

4. Define Test.

Ans. A test is a tool which is used to evaluate the skill, knowledge, capacities or aptitudes of an individual or a group.

5. Define Measurement.

Ans. Measurement is the process of administering a test to obtain a quantitative data.

6. Define Evaluation?

Ans. • It is a decision making process which assists to make grade and ranking.
• It is a technique by which we come to know at what extent the objectives are being achieved.

7. Write the formula to calculate the W.H.R. B.M.I.

Ans.
$$W.H.R. = \frac{\text{Waist Circumference (in Inches)}}{\text{Hip Circumference (in Inches)}}$$

$$B.M.I. = \frac{\text{Weight in Kg}}{\text{Height} \times \text{Height (mts)}}$$

8. What do you mean by somato types ?

Ans. Somato types basically means body types which is further classified into three types i.e. Endomorph, Mesomorph and Ectomorph.

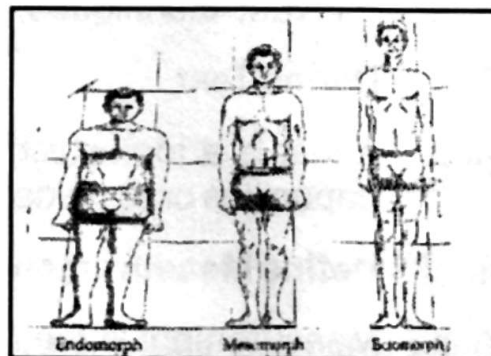
9. State the uses of Anthropometric measurements-

Ans. Anthropometric measurements of height, weight, arm and leg length, waist circumference and skin fold etc. are significant indicators of health which enable us to know the physical growth and development and health problems of an individual.

QUESTIONS CARRYING 3 MARKS EACH (60 WORDS)

1. Explain the procedure of measuring Somato Types in brief.

Ans. Somatotypes means human body shape, and physique types. 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.



The procedure of measuring somatotypes is based on the classification by W.H. SHELDON.

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 comparison 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.



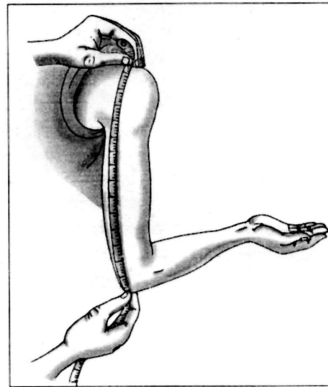
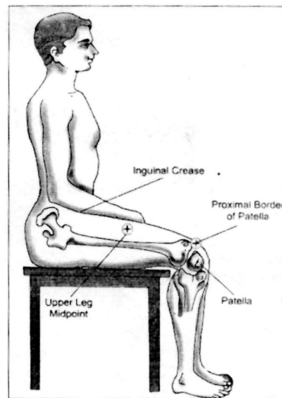
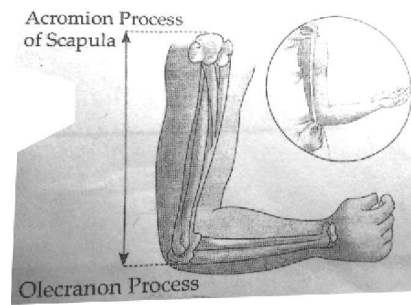
2. Discuss the procedure of measurement of arm length and upper arm length.

Ans. Procedure of measurement of 4 arm length -

The subject must stand with his arms hanging by the side of his body with his fingers outstretched. A measurement is made from the acromial i.e. the bony tip of the shoulder to the tip of the little finger.

Procedure of measurement of upper arm length -

The subject must stand upright with body weight distributed equally on both the feet. The right arm should be bent at 90 degree from the elbow with palm facing upwards. A measurement is made from acromial to the bony part of the mid elbow. Measurement must be taken to the nearest 0.1 cm. and recorded.



3. Elaborate the procedure of measurement of leg length and upper leg length.

Ans. Leg length

The leg length of a child or adult is measured with a flexible tape from the bottom to the upper edge of great trochanter.

Upper leg length-

The subject is made to sit on a box with one of the knee bent at 90 degree angle with his back upstraight measure the upper leg length from the inguinal crease to proximal border of patella. Record the measurement to the nearest 0.1 cm.



4. Calculate the BMI of a male person whose weight is 80kg and height is 1.6m. Also state the category in which he falls.

Ans.
$$BMI = \frac{\text{Weight in Kg}}{(\text{Height in m})^2}$$

$$\text{BMI} = \frac{80}{1.6 \times 1.6} = \frac{80 \times 100}{16 \times 16} = \frac{8000}{256} = 31.25$$

The above person falls in class -1 Category obesity.

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

Ans. BMI is a statistical 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 III	> 40.0

6. Explain in brief the procedure or Anthropometric measurement of weight?

Ans. The scale should be placed on hard floor surface so that the beam gets into balanced position.

Procedure for weight measurement -

1. The subject must wear light clothes.
2. He should stand in the centre of the platform of the weighing machine with his body weight equally distributed on both the feet.
3. Read the measurement in front of the needle and record it to the nearest 0.1 kg.

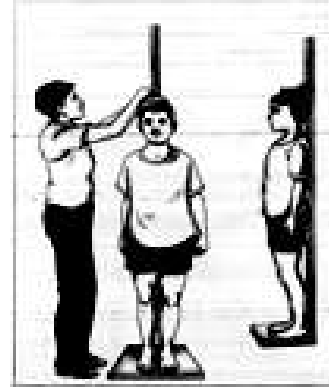


7. Explain in brief the procedure of Anthropometric measurement of height?

Ans. The child or adult should remove socks, shoes, jackets or any other heavy clothing. The floor surface should be plane and hard. The height should be measured using a stadiometer.

Procedure for height measurement -

1. The subject should stand with his feet flat and together on the floor. Arms should be by the sides and knees and back should be straight. The back of head, buttocks, calves, heels and shoulder blades should touch the measuring surface.
2. After that the horizontal sliding part of the stadiometers lowered gently so that hairs get pressed flat and subject should be asked to stand still.
3. Height of the subject should be read to the nearest half in centimeter and recorded.



LONG ANSWER TYPE QUESTIONS (5 MARKS EACH)

(150 WORDS)

1. Explain in detail the importance of Test and Measurement and Evaluation in the field of games and sports?

Ans. In the field of games and sports programme. It is important to select a target. If a person desires to improve himself in different aspects of fitness. He will have to undergo fitness programmes.

Test, Measurement & evaluation in physical education are the devices that are needed to collect the details regarding the needs, abilities and attitudes of a sports person.

A test is basically a situational presentation, where specific responses are collected from the subject. These responses are measured both qualitatively and quantitatively. Measurement is about collection of data as performance or task and completed by a sports person by using test and scientific techniques.

Evaluation is the process of physical education that involves collection of data from the products which can be used for comparison with preconceived criteria to make judgement.

Importance of Test, Measurement & Evaluation

The importance of test, measurement & evaluation in the field of games & sports are the following ways.

- (i) To frame the objectives: Setting target and goal according to the need and requirement.
- (ii) To realize that the objectives are achieved or not.
- (iii) To understand the need, ability and capacity for any individual.
- (iv) To evaluate the learner: so that feed back can be given.
- (v) To evaluate teaching programme.
- (vi) For the classification or grading of the students.
- (vii) To check the progress or improvement of the learner time to time.
- (viii) For diagnosis of learning program: Bio-mechanics, motor skill and cognitive etc.
- (ix) Prediction of future performance.
- (x) Selection of team or individual events and a player.
- (xi) For intensive type of research it is essential.
- (xii) For the pose of guidance of counselling.
- (xiii) Evaluate different methods of instruction.

Q.2 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.3 Explain the procedure for fixing marks for skin fold measurement.

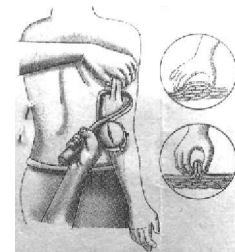
Ans. The marking of skinfold measurement should be proper for taking accurate anthropometric measurements. So, for proper marking of skinfold measurements the following procedures should be taken into consideration.

1. Triceps skinfold-

The child or adult must stand up straight with arms relaxed. With the help of a measuring tape mark a point with a pen at the centre of triceps. This is the point or mark from where the skinfold measurement should be done with the help of a skinfold caliper.

2. Sub Scapula Skinfold -

Find out the exact location of scapula. The skin fold area is just below the inferior angle of scapula. Skin fold measurement should be done with the help of skin fold calipers.



Procedure for using skinfold calipers of measurement

3. Suprailiac skinfold-

The intersection of a line joining the spinal and front part of armpit and horizontal line at the level of iliac crest can be marked for skinfold measurement.

4. Abdomen skinfold -

The abdomen muscles of the subject must be relaxed. He may be asked to hold the breath if any movement interferes the process of measurement.

A point should be marked 3cm to the right and 1 cm below the midpoint of umbilicus.

5. Thigh skinfold-

The child or adult whose measurement is to be taken must sit on a chair with his back completely straight. Now mark a point exactly between the knee cap and the inguinal crease on the thigh for skinfold measurement.

4. Explain the procedure of skinfold measurement in detail.

Ans. Skinfold measurements are also called as "fatfold thickness". These measurement provide the information or data of the thickness of double folds of the skin and sub cutaneous adipose tissue at specific sites of the body. In simple words skinfold provides the information about general fatness of the body.

The procedure of skinfold measurements is as under -

1. The arm of the subject or child should be hung loosely. Stand behind the subject and pull the vertical skinfold about 1/2 inch from the spot already marked. Keep the skinfold caliper perpendicular to the length of the fold centering the mark. Record the measurement to the nearest millimeter.

2. Sub scapula skinfold -

After locating the marked point on the sub scapular region, pull a skin fold for about 34 inch above and keep the skin fold caliper perpendicular to the length of skinfold. Release the capilar and note the measurement to the nearest millimeter.

3. Suprailiac skinfold -

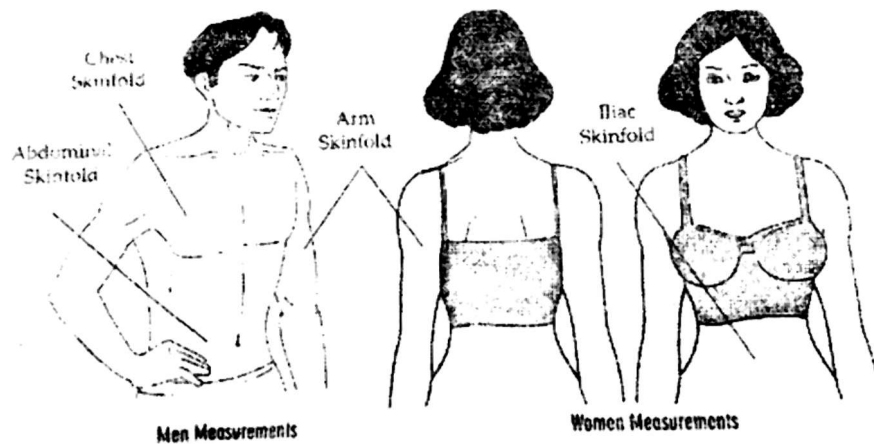
The subject should stand straight with his feet together and arms relaxed. Pull a skinfold 34 inch above the marked point with the thumb and index finger. The skinfold caliper should be kept perpendicular to the length of skin fold. Release the caliper and note the reading on the dial to the nearest of millimeter and record it.

4. Abdomen skinfold-

After locating the already marked point, pull a horizontal skinfold to about 34 inch. Place the skinfold caliper perpendicular to the length of skinfold. Release the caliper and note the reading the nearest of millimeter and record it.

5. Thigh skinfold-

The person is made to stand with his weight on the left leg and right leg forward with knee slightly bent. Grip a skinfold on the already marked area on the mid thigh. Place the skinfold caliper and note the reading to the nearest of millimeter and record it.



VALUE BASED QUESTION

Q.5 A group of students from Class-XI reports to the Physical Education Teacher for participating in various sports activities. Where the Teacher/ Coach has to classify the students according to their physical appearance and observe the group property. He find out that few students are having round shape body structure, few are fit and healthy and few of them are tall and this.

1. How will be the classification of the students be done by the Teacher?

Ans. The students will be classified according to:

1. Round Shaped Body - Endomorph

2. Fit and Healthy - Mesomorph

3. Tall and thin - Ectomorph

2. What kind of Games can be suggested for Round shaped body structured students ?

Ans. Weight lifting and Power lifting etc. which need extra strength and Power for these Games.

3. What kind of Games can be suggested for Mesomorphic students ?

Ans. Athletics especially running events.

4. What type of Games can be suggested for tall and thin students ?

Ans. Long Distance Running, Volleyball, Basketball etc.

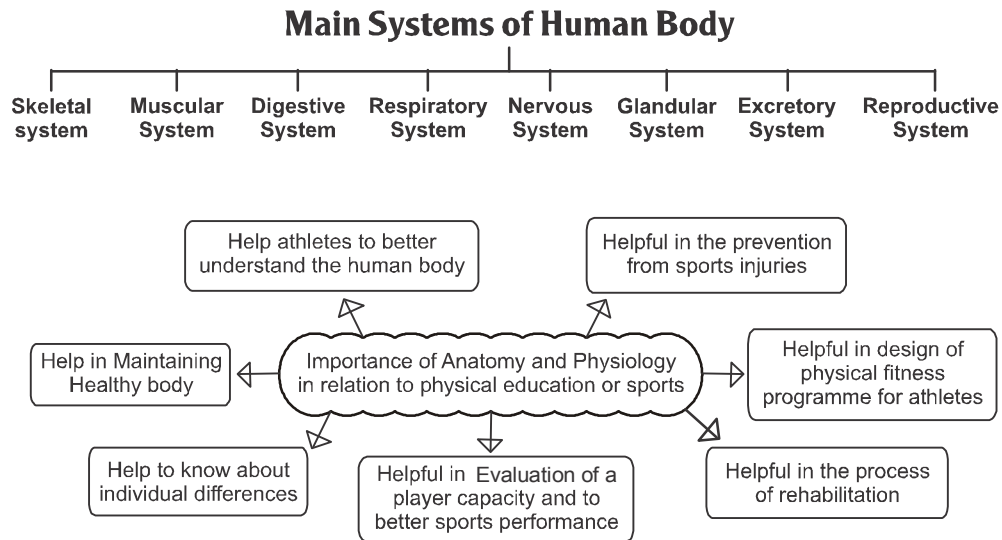
Unit - 8

Fundamentals of Anatomy and Physiology

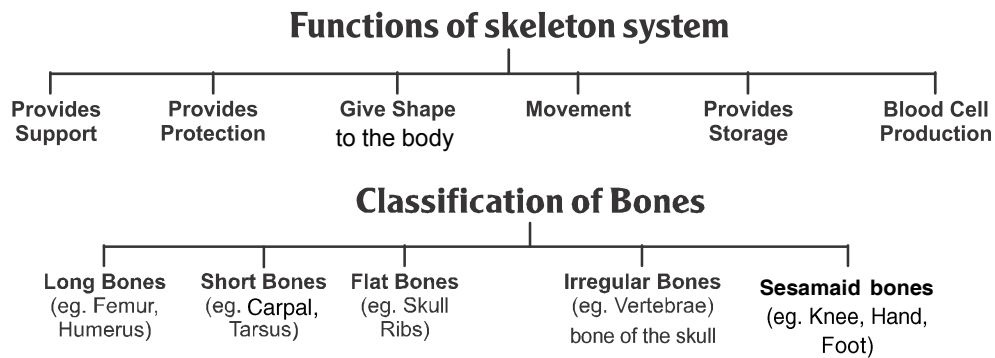
- ✍ 8.1 Definition of Anatomy, Physiology and its importance
- ✍ 8.2 Functions of skeleton system, classification of bones and types of joints
- ✍ 8.3 Function and structure of Respiratory system
- ✍ 8.4 Structure of Heart and Introduction to circulatory system

8.1 Anatomy : Anatomy is the study of the shape and structure of the body

Physiology: It is the study of functions and systems of human body.



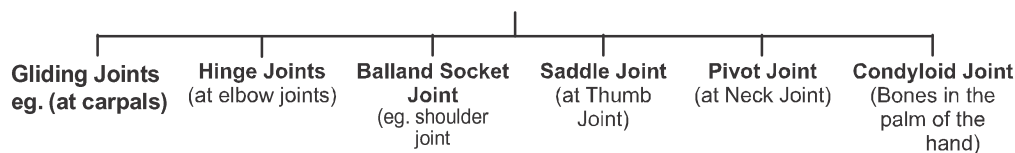
8.2 Skeleton System: This is the bony frame work of body consisting of numbers of bones. Total bones in human body are 206.



Types of Joints

- 1. Immovable Joints:** These joints are fixed and do not move eg. skull Joint
- 2. Slightly Movable Joints:** The movement of such joints is very limited eg. Inter-vertebrations.
- 3. Freely Movable Joints:** Such joints are freely movable.

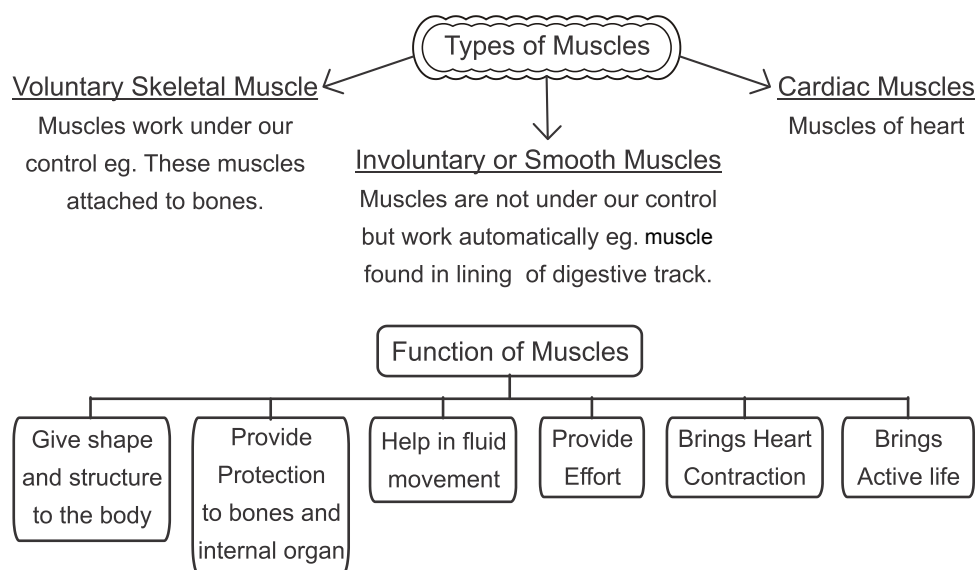
Joints are divided into six categories



8.3 Muscular System :- Properties of Muscles

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.

- Movement is possible in the human body due to the contraction and expansion of muscles.
- Human muscular system is made up of approx 600 muscles which act in group.
- The study of muscles is known as 'Myology'
- They also give shape to the individual.
- 40% to 50% of body weight is the weight of muscles in the body.
- Muscles also assist in the circulation of blood.

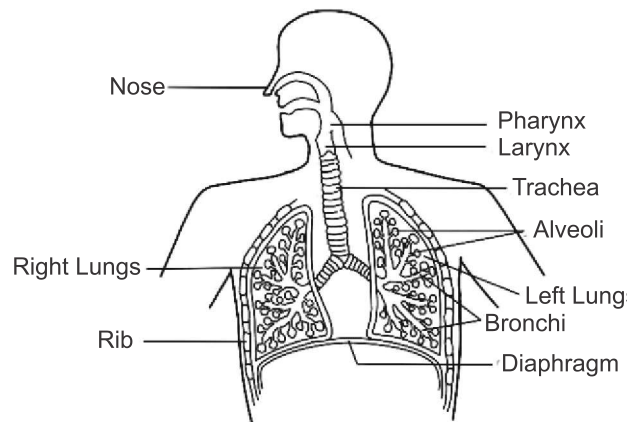
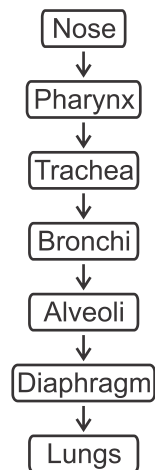


Structure of Muscle : Every muscle fibre made up of very large number of microscopic threads called myofibril. Each myofibril consists of protein molecules called Actine and myosin.

8.3 Structure and functions of Respiratory system:

- Respiratory System: The Respiratory system is a system which regulates the exchange of gases.

Structure of the respiratory system involves the following organs in human beings



Types of Respiration

1. External Respiration
2. Internal or Tissues Respiration

Functions of Respiration System

- To provide oxygen to blood
- Removal of waste products from the body eg. CO_2
- Maintain body temperature
- It affects circulation of blood

8.5 Structure of Heart and introduction of circulatory system

Circulatory System : Circulatory system serves the function of transporting materials in the body. It consist of heart and blood vessels (arteries, veins, capillaries)

Heart: The human heart is a hollow cone-shaped muscular organ. It is a pumping system inside the body.

Structure of Heart:	The heart is divided into four chambers. 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 and the bottom chambers are ventricles.
Function of Heart :	<ul style="list-style-type: none"> • Systemic Circulation • Pulmonary Circulation
Arteries -	Arteries are blood vessels that take blood away from the heart, except for pulmonary artery, which carries deoxygenated blood from the heart to the lungs.

Classification of Arteries



Veins	:	Veins are blood vessels that return blood to the heart.
Capillaries	:	Exchange of material take-place in capillaries.
Blood	:	Blood is a special mixture of fluid which acts as a medium of transporting nutrients and gases from one part of body to another.
Heart Rate	:	It is number of pumping of heart in one minute.
Stroke Volume	:	It is the volume of blood pumped by heart in one beat. It is approximately 80 ml per beat in normal adult, whereas trained players have 100 ml per beat as stroke.
Cardiac Output	:	Stroke volume x heart rate. It is 5 to 6 liters at basal level.
Blood Pressure	:	It is the force exerted by the blood on the walls of the bloodvessels
Second Wind	:	The breathlessness caused due to prolonged exercises is removed automatically by our body. It is called as second wind.
Oxygen Debt	:	The amount of oxygen taken by an athlete during the recovery period after strenuous activity is called oxygen debt.

MODEL QUESTIONS AND ANSWERS
VERY SHORT ANSWER 30 (WORDS -1 mark)

Q.1 Define anatomy.

Ans. Anatomy is the study of the structure of human body. The term anatomy comes from Greek words: ANA means apart and TOMY means to cut. It is because anatomy was first obtained through dissection.

Q.2 Define physiology.

Ans. Physiology is the study of functions of human body. In other words physiology is the science of mechanical, physical, bioelectrical, biochemical functions of human organs and the cells of which they are composed of.

Q.3 Name any four physiological systems of human body.

Ans. (i) Skeletal System (ii) Muscular System
(iii) Digestive System (iv) Respiratory System

Q.4 Define skeletal system.

Ans. The skeletal system is the bony framework of our body. It consists of all the bones of the body. It supports the body and gives it a shape.

Q.5 What do you understand by joint?

Ans. Joint is the place at which two or more bones meet in the skeleton of the body. Joint may be fixed or movable.

Q.6 Which is the longest and the smallest bone in human body?

Ans. The longest bone in human body is Femur (thigh bone). And the smallest bone in the human body is stapes (ear bone).

Q.7 What is a muscle?

Ans. Muscle is the tissue composed of fibers capable of contracting for effective bodily movements or muscle is the body tissue that can contract and produce movement.

Q.8 Enlist types of muscles.

Ans. (i) Voluntary/skeletal/striated muscle
(ii) Involuntary or smooth or spindle muscle
(iii) Cardiac muscle

Q.9 Which is the hardest working muscle in our body?

Ans. Cardiac muscle is the hardest working muscle in our body.

Q.10 Which is the strongest muscle in our body?

Ans. Jaw muscle is the strongest muscle in our body.

Q.11 How many bones are there in a Child and an Adult?

Ans. A child has 213 bones and an adult has 206 bones.

Q.12 What is tidal volume?

Ans. It is the volume of air that is taken in or given out during normal breathing.

Q.13 What is vital capacity?

Ans. It is the volume of air that can be breathed out by force expiration after taking a deep breath. It is about 4800 cc in males and about 3100 cc in females.

Q.14. What is heart rate?

Ans. It is the number of pumping/contractions of heart in one minute. It is about 72 times per minute under normal conditions in an adult.

Q.15 What is stroke volume?

Ans. It is the volume of blood pumped out by heart in one beat contraction. It is approximately 80 ml/beat in normal adult, whereas trained players have 110 ml/beat as stroke volume.

Q.16 What is cardiac output?

Ans. Cardiac Output = stroke volume x heart rate. It is 5 to 6 liters at basal level. In untrained person, it can go up to 20 liters and in trained athletes it can go up to 40 liters.

Q.17 Where is tricuspid valve situated?

Ans. Tricuspid valve is situated in the right half of the heart.

Q.18 Which is the main artery of circulation:?

Ans. The main artery of circulation is Aorta. It carries pure blood to various parts of the body.

Q.19 What do you mean by axial skeleton system?

Ans. Axial skeleton system transmits weight from head, trunk the upper limbs down to the hip joints. It is responsible for the upright position of the human being.

Q.20 What do you mean by appendicular skeleton system?

Ans. The appendicular skeleton system makes locomotion possible. It also protects organs of digestion, reproduction and excretion.

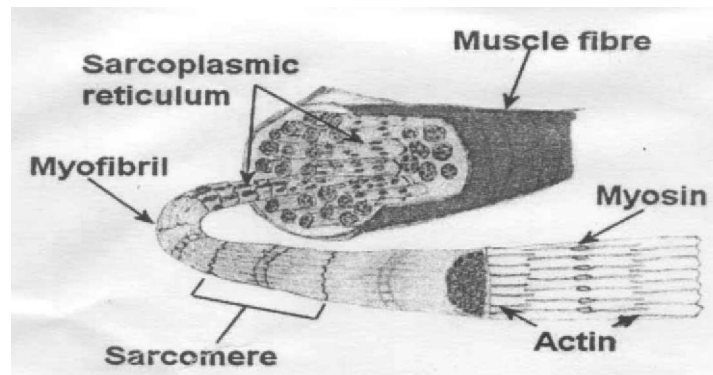
Q.21 Where are hinge joints found in human body?

Ans. Hinge joint are found in the elbow joints, knee joints and phalanges in finger in the human body.

SHORT ANSWER TYPE (60 WORDS - 3 MARKS)

Q.1 Explain structure of the muscle with the help of a diagram.

Ans. There are about 600 voluntary muscles in the body. Each muscle is made up of thousands of long and narrow muscle cells called muscle fibers. These muscle fibers are arranged in bundles and enclosed within a tough layer of connective tissue called epimysium (sarcolemma). Every muscle fiber is made up of very large number of microscopic threads called myofibril. Myofibril consists of protein molecules called actin and myosin.



2. Explain external and internal respiration.

Ans. Inhalation and exhalation are the two processes of external respiration. This breathing process oxygenate to the blood. It gets purified as carbon dioxide is removed from the blood. External respiration takes place in the lungs. Internal respiration is the process of respiration that takes place in the tissues and cells. Blood full of oxygen reaches the tissue where oxygen is used up during energy production process and carbon dioxide is then taken by the blood to the lungs.

Q.3 Define the phenomenon of second wind. What are its causes and symptoms?

Ans. The breathlessness caused due to prolonged exercise is removed automatically by our body within short span of time of such exercise. This sense of relief is called 'second wind'.

Causes of second wind: When we perform strenuous exercise, our body takes some time to adjust according to the increased demand of energy. So, the second wind occurs before the adjustment.

Symptoms of second wind:

- i. Faster breathing
- ii. Signs of tension and worry on the face
- iii. Headache
- iv. Suffocation in the chest appears
- v. Pain in muscles
- vi. Condition of giddiness appears. These painful feelings disappear with the onset of second wind.

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.

- iii. It regulates the blood pressure.
- iv. It regulates the heart rate.
- v. Regular exercise improves the efficiency of the heart.

Short Answer Question (80-100 words carrying 3 marks)

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
3. Helping in the economy of effort by working in association with long levers and pulleys.

Q.7 Write difference between slow twitch fibre and fast twitch fibre.

Ans. Slow twitch fibre are also know as red fibers which contract slowly. These play significant role in aerobic activities as we may see in long distance and cross country races. Fast twitch fibers: These fibers are also known as white fibers. These fibers contract quickly and provide strength and speed but they fatigue more quickly. Those individuals who need intense burst of energy for shorter duration as in boxing, jumping events or throws need more percentage of fast twitch fibers.

Value based question

Arjita is studying in class 8th She has started playing football recently. While chasing the ball, she feels breathlessness and hardness in muscles so, she takes some rest. After a short while she feels comfortable and started playing again.

Q.1 While running we feels breathlessness and after resting we feel better. Write the process behind this phenomenon.

Ans. Second wind.

Q.2 What should be done to avoid this process?

Ans. One should do continuous training.

Q.3 Football players needs which components of physical fitness more?

Ans. Speed, strength and endurance.

LONG ANSWERS QUESTIONS
(150 WORD CARRYING 5 MARKS)

Q.1 What are the functions of blood?

Ans. Important functions of blood are given as under:

- i. Transport of oxygen from the lungs to the tissues and carbon dioxide from the tissues to the lungs.
- ii. It carries food material absorbed from the intestines to the tissue, cells for growth, energy and repair process.
- iii. It carries the waste products of cellular activity and carries them to kidneys, lungs and intestines for excretion.
- iv. It carries hormones, vitamin and other chemicals to the place of need.
- v. It helps to maintain water balance in the body.
- vi. It regulates the body temperature.
- vii. White blood cells of the blood acts as a defensive mechanism

Q.2 What are the functions of skeletal system?

Ans. Main functions of skeletal system are given below.

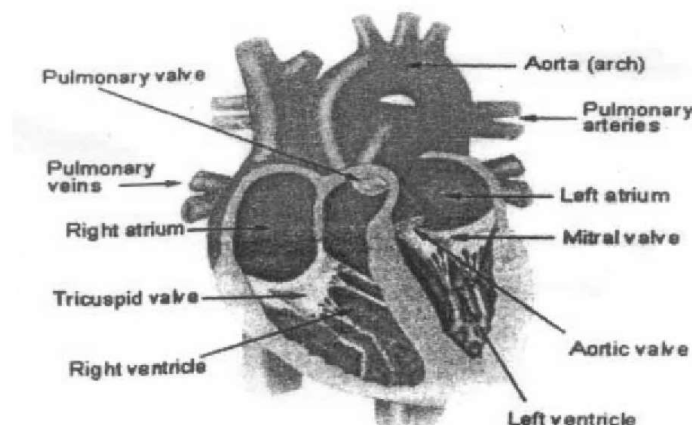
- (i) **Shape and structure** : The boney framework gives human being its shape and structure like tall or small, thin or stout
- (ii) **Support** : It gives support to the body. The bones provide support to our muscular system.
- (iii) **Protection** : Bones protect our vital organs. Example: skull 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.3 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, self repair.

Internal View of the Heart



Chambers of the Heart

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

- * Right atrium
- * Right ventricle
- * Left atrium
- * Left ventricle

The two atria 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 right atrium receives deoxygenated blood from systemic veins; the left atrium receives oxygenated blood from the pulmonary veins.

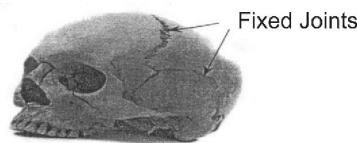
Valves of the Heart

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.4 Explain different types of joints in human body.

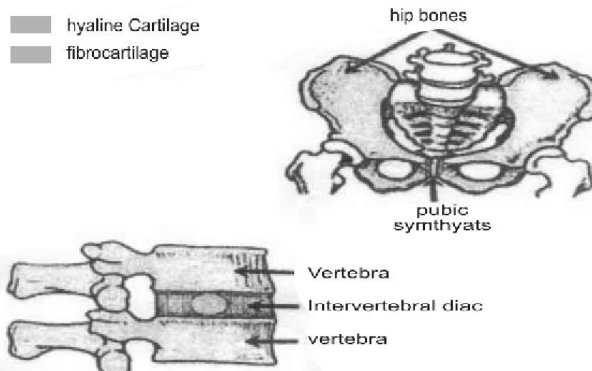
Ans. Following are the different types of joints,

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



- (ii) Slightly movable or cartilaginous joints:

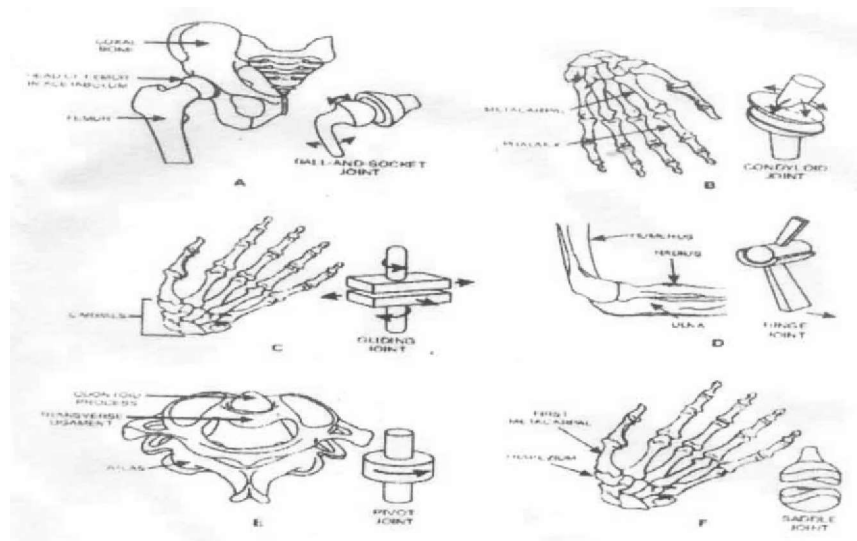
These joints provide very little movement. Example: backbone joints, pelvic joints.



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



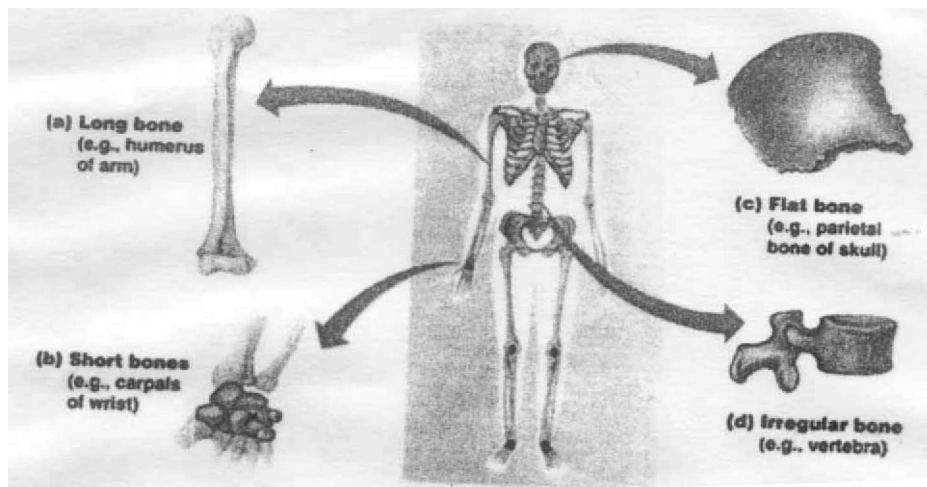
Q5. Write in detail about classification of bones.

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 friction. 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.

They are situated in Sutura points in the skull.



Q.6 Elucidate the importance of anatomy and physiology in the field of sports.

Ans. Study of anatomy and physiology plays very important role in the field of sports because of following reasons.

- (i) Helps in physical fitness: Strong and fit body is an inevitable asset in the field of sports. Study of anatomy and physiology helps a sport person to understand the structure and function of different parts of human body and to acquire a fit and healthy body.

- (ii) Provides knowledge about body structure; on the basis of knowledge of body structure, a sports person knows about the strength and weakness of his body and accordingly they can develop forte in the field of game which is suitable for the sports person as per their body structure.
- (iii) Helps in selection of games: on the basis of knowledge of body structure, the coach and player can choose an appropriate sport/ game which is suitable for a particular sport. Like tall students can be selected for basketball and volleyball. And short and stout students can be selected for weight lifting.
- (iv) Protects from sports injuries: on the basis of anatomy, sports equipments are designed that help in safe play.
- (v) Helps in the process of rehabilitation: knowledge of ligaments, tendons and muscles helps in rehabilitation from the injuries sustained during the game or sport.
- (vi) Helps in maintaining healthy body: study of anatomy and physiology provides detailed knowledge about all body parts, their nature and functions. This helps the player to adopt good, safe and healthy use of body.
- (vii) Helps to know about individual differences: there is a lot of difference between the body of male and female. The knowledge of anatomy and physiology helps in understanding these individual differences. On the basis of these differences, the size of the court, time of game and equipment are designed differently for male and female players.

Unit - 9

Kinesiology, Biomechanics and Sports

- ✍ 9.1 Meaning and importance of kinesiology and Biomechanics in Physical Education and sports
- ✍ 9.2 Lever and its types and its application in sports
- ✍ 9.3 Equilibrium – Dynamic and static, centre of Gravity and its application in sports
- ✍ 9.4 Force – Centrifugal and centripetal and its application in sports
- ✍ 9.5 Introduction to buoyancy force

9.1 (a) Meaning of Kinesiology

Kinesiology is the study of human or non-human movement. Kinesiology is the study of human and animal body movements, performance, and function by applying the sciences of Bio-mechanics, anatomy, physiology, psychology, and neuroscience.

9.1 (b) BIOMECHANICS

Biomechanics is derived from Greek words. Bio-means living things and mechanics is field of physics. Thus, it is branch of science, which deals with the forces related to body movements.

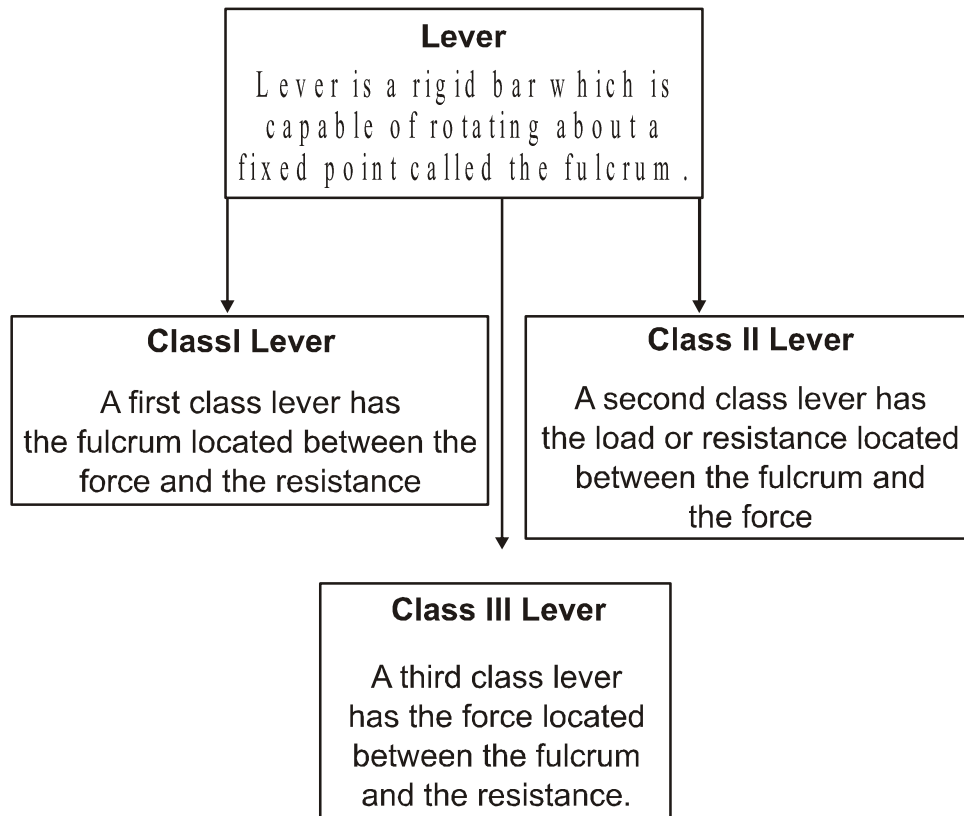
Biomechanics is defined as The systematic study of the mechanics of body joints.

According to wikipedia, "biomechanics is the study of structure and function of biological system of humans.

9.1 (c) IMPORTANCE OF BIOMECHANICS IN SPORTS

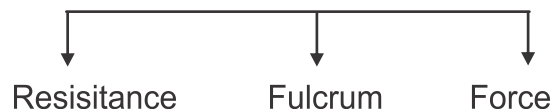
- Improve performance in sports
- Improvements in technique.
- Development of sports equipments.
- Helps in understanding human body.
- Knowledge of safety principles.
- Helps in research work.
- Creates confidence in player.
- Helps in maintaining healthy body.
- Increase the popularity of sports.

9.2 LEVERS - ITS TYPES AND ITS APPLICATION IN SPORTS



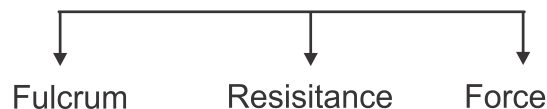
- **Class I Lever** : A first class lever has the fulcrum located between the force and the resistance.

Example: See saw, a pair of scissors, cycle bracket etc.



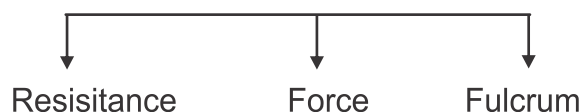
- **Class II Lever** : A second class lever has the load or resistance located between the fulcrum and the force.

Example: Punching machine, calisthenics and straight push-ups etc.



- **Class III Lever :-** A third class lever has the force located between the fulcrum and the resistance.

Example: - Base ball bat, tennis racket, and boat paddles etc.



9.3 Equilibrium :- DYNAMIC AND STATIC AND CENTER OF GRAVITY AND ITS APPLICATION IN SPORTS

Equilibrium :- It is defined as a state of balance or a stable situation, where opposite forces cancel each other out and where no changes are occurring.

Types of Equilibrium

- (i) **Dynamic Equilibrium :-** It is the balance of the body during movement.
- (ii) **Static Equilibrium :-** Dynamic stability is a balance of the body during its rest or stable position.

Or

Static equilibrium is when the centre of gravity is in a stable position.

GUIDANCE PRINCIPLES TO DETERMINE THE DEGREE OF STABILITY

1. Broader the base, greater the stability.
2. Lower the centre of gravity, higher the stability
3. When the body is free in the air, if the head and feet moves then hips help move up and vice-versa.
4. Body weight is directly proportional to stability.

Centre of gravity :- Centre of gravity is that point in a body or system around which its mass or weight is evenly distributed or balanced and through which the force of gravity acts. The centre of gravity is fixed, provided the size and shape of the body do not change.

9.4 Force - CENTRIFUGAL AND CENTRIPETAL AND ITS APPLICATION IN SPORTS

Force - Force can be define as a push or pull by one body acting upon another. Force is a product of mass and acceleration of an object or person.

$$F = mxa$$

TYPES OF FORCES

1. Centripetal force
2. Centrifugal force
3. Gravitational force
4. Frictional force
5. Static force

IMPORTANCE AND APPLICATION OF FORCE IN SPORTS

1. Helps to move:
2. Stops the moving objective.
3. Helps to accelerate.
4. Helps in throwing object.
5. Helps to lift the object.
6. Helps to pull the object.

9.5 Introduction of Buoyancy

The Buoyancy refers to a force that arise from the pressure exerted on an object by a fluid.

The buoyancy force always points upwards because the pressure of a fluid increases with depth.

The buoyant force on an object can be calculated using the Archimedes principle.

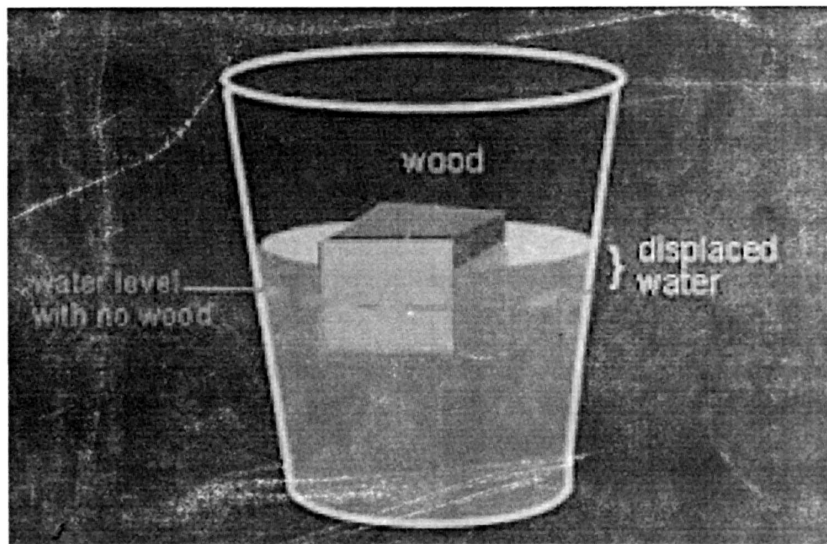
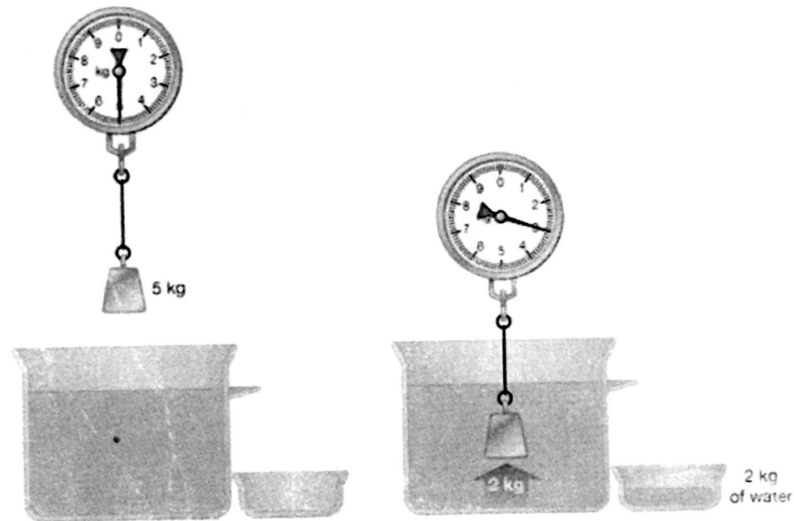
Types of Buoyancy

Positive Buoyancy : The object or person floats upward in the water or remains floating on the water or remain floating on the surface.

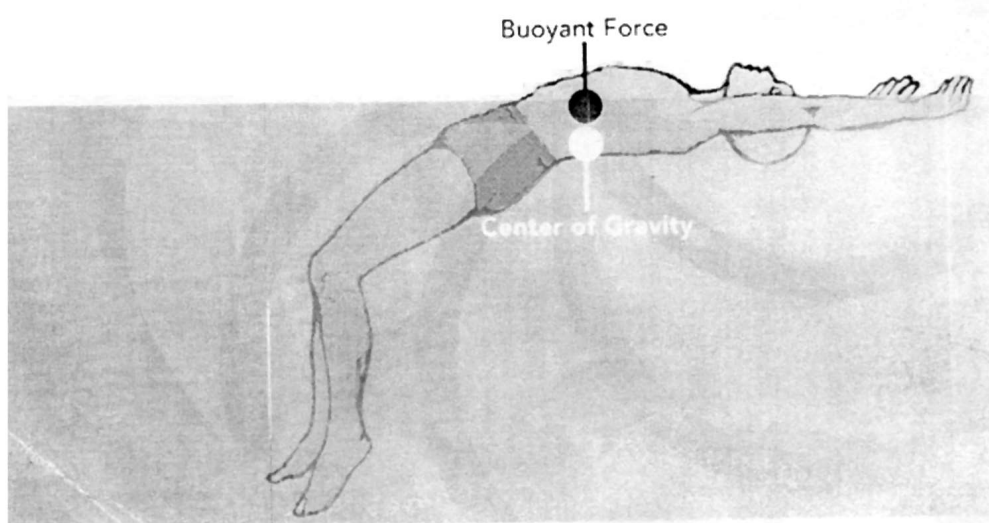
Negative Buoyancy : The object or person sinks downwards in the water or remains at the bottom.

Neutral Buoyancy : The objects or person neither sinks downwards nor floats upwards but remains suspended in the water at a single depth.

Archimedes' principle



Archimedes principle states that what the upward buoyant force that is exerted in a body immersed in a fluid, whether fully or partially submerged, is equal to the weight of the fluid that the body displaces, and acts in an upward direction at the centre of mass of the displaced fluid.



MODEL QUESTIONS AND ANSWERS

VERY SHORT ANSWER QUESTION (30 WORDS -1 mark)

Q.1 Define the term biomechanics.

Ans. Biomechanics is defined as systematic study of mechanics of body joints. According to Wikipedia, "Biomechanics is the study of the structure and function of biological system of humans"

Q.2 What is a lever?

Ans. Lever is a rigid bar which is capable of rotating about a fixed point called the fulcrum.

Q.3 What do you understand by equilibrium?

Ans. Equilibrium is defined as a state of balance or a stable situation, where opposite forces cancel each other out and where no changes are occurring.

Q.4 What are the different types of equilibrium?

Ans. There are two types of equilibrium. Dynamic equilibrium and static equilibrium.

Q.5 What is a force?

Ans. Force can be defined as a push or pull by one body acting upon another. Force is a product of mass and acceleration of an object or person.

Q.6 What is center of gravity?

Ans. Center of gravity is that point in a body or system around which its mass or weight is evenly distributed or balanced and through which the force of gravity acts.

Q.7 Why do we lean forward while climbing up a hill?

Ans. We lean forward while climbing up a hill to keep the center of gravity low to maintain stability.

Q.8 Which type of lever is used while we curl our biceps?

Ans. Class III lever is used while we curl our biceps.

Q.9 Who will have greater stability?

- a. A fat person or a thin person of same height?
- b. A girl standing in stand at ease position or a girl standing on one leg?

Ans. a. A fat person.

- b. A girl standing in stand at ease position.

SHORT ANSWER QUESTION5 (GO WORDS-3 MARKS)

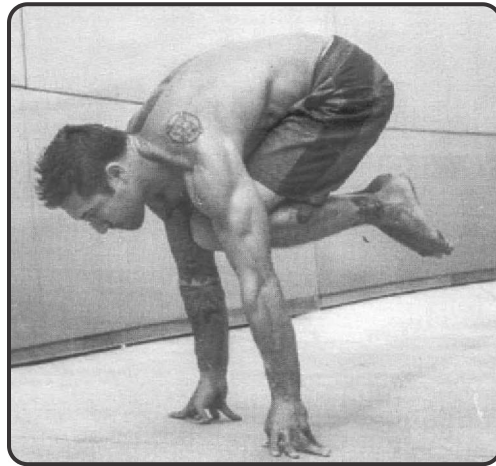
Q.1. Explain dynamic equilibrium.

Ans. Dynamic stability is balancing the body during movement. It frequently happens that the line of gravity of an athlete will fall outside the base of support for movement. For example, in a sprint start, the body weight is ahead of the supporting foot but before the body can fall forward the other foot moves ahead to provide support and the process repeats itself. A man carrying heavy bucket in his right hand leans towards his left hand side to maintain equilibrium. While climbing up a hill the climber bends forward so that he does not fall. The equilibrium is maintained by bringing the CG down.



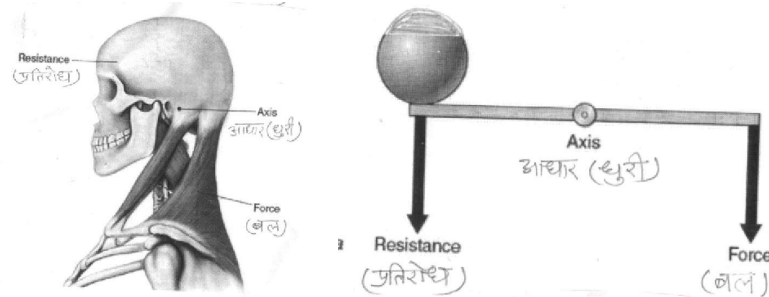
Q.2 What is static equilibrium?

Ans. A body is said to be in stable equilibrium if it comes back to its original position when it is slightly displaced. Static stability is very important in shooting, archery and hand stand in gymnastics, etc. Stable objects generally have wide bases and low CG. Bottom of the ship is made heavy to keep CG as low as possible. This makes the ship stable.

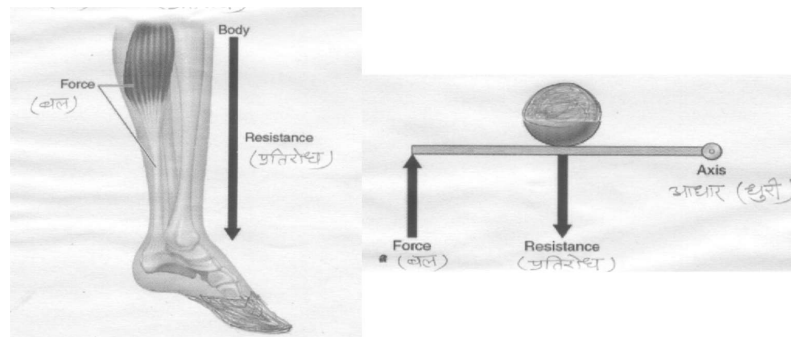


3. Give example of each type of lever which our body uses during various activities.

Ans. Following is the example of class I lever which is used by our body. Our skull is the lever arm and the neck muscles at the back of the skull provide the force (effort) to hit football while we lift our head up against the football (load). When the neck muscles relax, our head nods/hits forward.

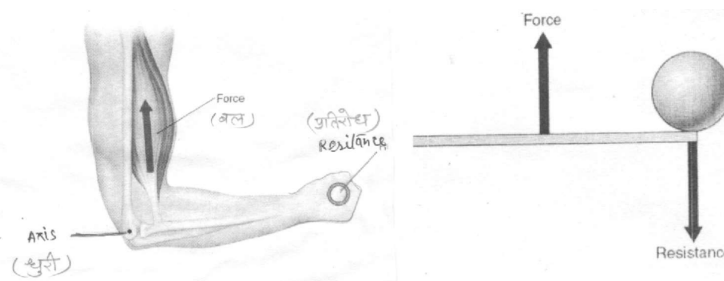


Following is the example of class II lever which is used by our body. Our calf muscles and Achilles tendon provide the effort when the calf muscle contracts. The load is our body weight and is lifted by the effort (muscle contraction).



Resistance

Following is the example of class III lever which is used by our body. The biceps muscle provides the effort (force) and bends the forearm against the weight of the forearm and any weight that the hand might be holding.

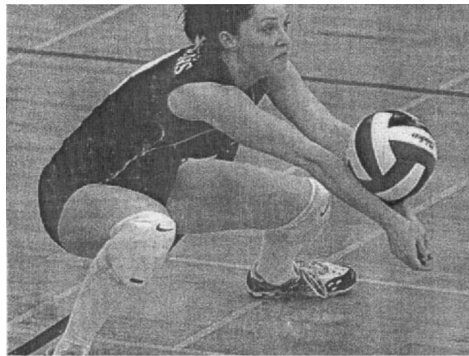


LONG ANSWER QUESTION (15Q WORDS - 5 MARKS)

1. Explain in detail the principle of stability and its uses in sports.

Ans. (i) Broad base of support : for greater stability increase the area of the base and lower the centre of gravity as much as is consistent with the activity involved. Examples:

- (a) a basketball player stops, spreads his feet wide as shoulder line and lowers his CG to dodge the opponent.



- b. Defense position of the player in volleyball.
c. Wide stance of a golfer.
d. Tackling position of a player in football.

(ii) Stability is directly proportional to the weight of the body the object or a person with heavy weight will have greater stability as compared to person with less weight. Example: it is difficult to move a heavier person as compared to less heavier person. On the basis of this principle, wrestling, boxing, judo, etc. are organized according to different age groups.



- (iii) Direction of an acting force: to start quickly in one direction, keep the-CG as high as possible and as near as possible to the edge of the base nearest to the direction of intended motion.

Example: The crouched position in starting a race, the CG is kept high by not bending the knees extremely and by keeping the hips high, also the lean of the body is towards the hands so that the weight rests on the hands. From this position, the movement hands are raised from the ground; motion starts by reason of the pull gravity. This pull is added to the force exerted against the starting block by the feet and thus aids in speed.



- (iv) When the body is free in the air, if the head and feet move down, the hips move up and vice versa.

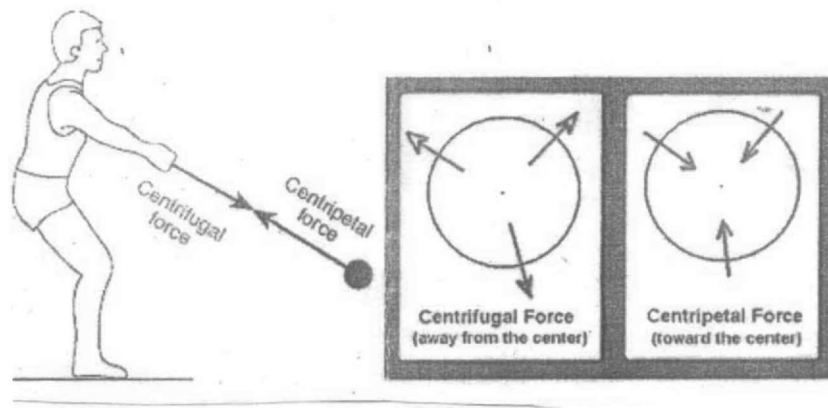
Example:

- a. This principle is applied in the high jump in western or valley roll technique at the take off, the head and one foot is thrust up as high as possible. As the head and one leg clear the bar, they are dropped which raises the hips to clear the bar. As the hips are lowered, the opposite leg is raised to clear the bar.
- b. This is also used in pole vault, hurdles and jackknife, dive in swimming.



2. What do you know about centripetal force and centrifugal force? Explain its application in sports.

Ans. Centripetal force: this is the force that pushes or pulls an object towards the axis of rotation in order to make it follow a curve or circular pathway. When a player swings a bat, he applies centripetal force to make that bat follow the arc of swing. Centrifugal force: this is the force that pushes or pulls an object outward from the axis of rotation. This force is equal and opposite of the centripetal force. Centripetal and centrifugal force have innumerable application in sports like, Centripetal force is needed by the player to maintain his grip. If the rotational momentum is more, the centrifugal force could cause the player to lose his grip and the bat may go off the hand. These forces act when a runner takes a sharp bend leans inward to obtain the necessary centripetal force. A cyclist going round the curve leans towards the centre of the curve in order to get necessary centripetal force.



Q.4 Elucidate the importance of biomechanics in sports.

- Ans. (i) Improves performance in sports :** principles of biomechanics tell us about right techniques, effective and result oriented posture to get more efficient results by applying minimum muscular force which in turn improves performance in sports.
- (ii) Improvement in technique:** with the help of biomechanical principles the physical education teacher corrects the mistakes. This helps in improving the game and performance of the player.

- (vi) **Development of improved sports equipment:** the principles of biomechanics are used to modify the sports equipments. For example, T-shirts, studs, spikes, swimming costumes, hockey sticks, different size footballs and low weight helmets for protection
- (iv) **Improve in the training techniques:** a teacher can analyse the player's movement or action with the help of the biomechanical principles. It helps in improving the training techniques.
- (v) **Prevents sports injuries:** it helps to find out the factors or the forces that can lead to the injuries during the game situation. It also helps in prevention of the sports injury.
- (vi) **Helps in understanding human body:** it gives the knowledge of different systems of our body. For example, nervous system, muscular system and skeletal system.
- (vii) **Knowledge of safety principles:** biomechanics gives the understanding to analyse different movements that can harm the player. The teachers remove those unnecessary and harmful movements.
- (viii) **Helps in research work:** biomechanics helps in teaching and learning process, It also helps the teacher to acquire precision and accuracy of movement.
- (ix) **Creates confidence in player:** The player knows that he is executing the movement scientifically with the help of principal of biomechanics. Thus the confidence of the player is enhanced.
- (x) **Helps in maintaining healthy body:** Principles of biomechanics gives deep knowledge about the effect of physical forces and movements over the body as well as the movements which are safe and promotes health. Thus biomechanics helps in maintaining healthy body.
- (xi) **Increases the popularity of sports:** biomechanical principles have brought remarkable improvements in respect of technique, equipment, skill and play fields. It helps in promoting the games and sports in the masses.

Q.5 What is the importance of kinesiology in physical education and sports?

Ans. 1. By following the principles of kinesiology, the coach can guide his fellow contestants to avoid sports injuries while performing.

2. Kinesiology helps the sports coach to get better results from their athletes and is usually helpful in right performance of the sport skill and technique.
3. It enables the physical educators to teach right modes of physical activities to their pupils.
4. Physical educators can impact various activities on the basis of knowledge of kinesiology.
5. Kinesiology helps physical educators and physicians in learning and correcting physical deformities of a person.
6. It enables the coach to provide effective scientific training of players.
7. Kinesiology plays an important role in personality development of a sports person.
8. Kinesiology helps the sports coaches and trainers in the application of their relative methods of coaching efficiently and precisely.

Unit - 10

Psychology and Sports

- ✍ 10.1 Definition and Importance of Psychology in Physical Education and Sports
- ✍ 10.2 Define and differentiate between Growth and Development
- ✍ 10.3 Developmental characteristics at different stages of development
- ✍ 10.4 Adolescent problems and their management
- ✍ 10.5 Define Learning, Laws of Learning and Transfer of Learning
- ✍ 10.6 Plateau and Causes of Plateau
- ✍ 10.7 Emotion : Concept and controlling of Emotions

a. **Psychology:** Psychology is the study of mind and behaviour.



- b. **Sports Psychology** : Sports Psychology is an applied Psychology involving applications of psychological principles to the field of physical education and sports.
- c. **Importance of sports psychology**

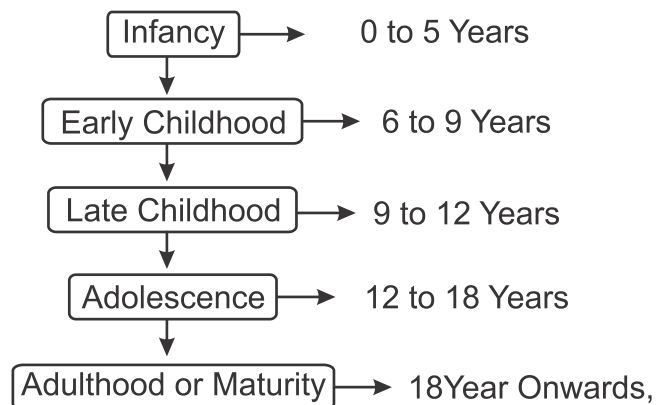


- d. **Growth and Development:** The term ‘growth’ means the growth of parts of the body, may be in size, height and weight.

Development can be defined as progressive series of changes in an orderly coherent pattern.

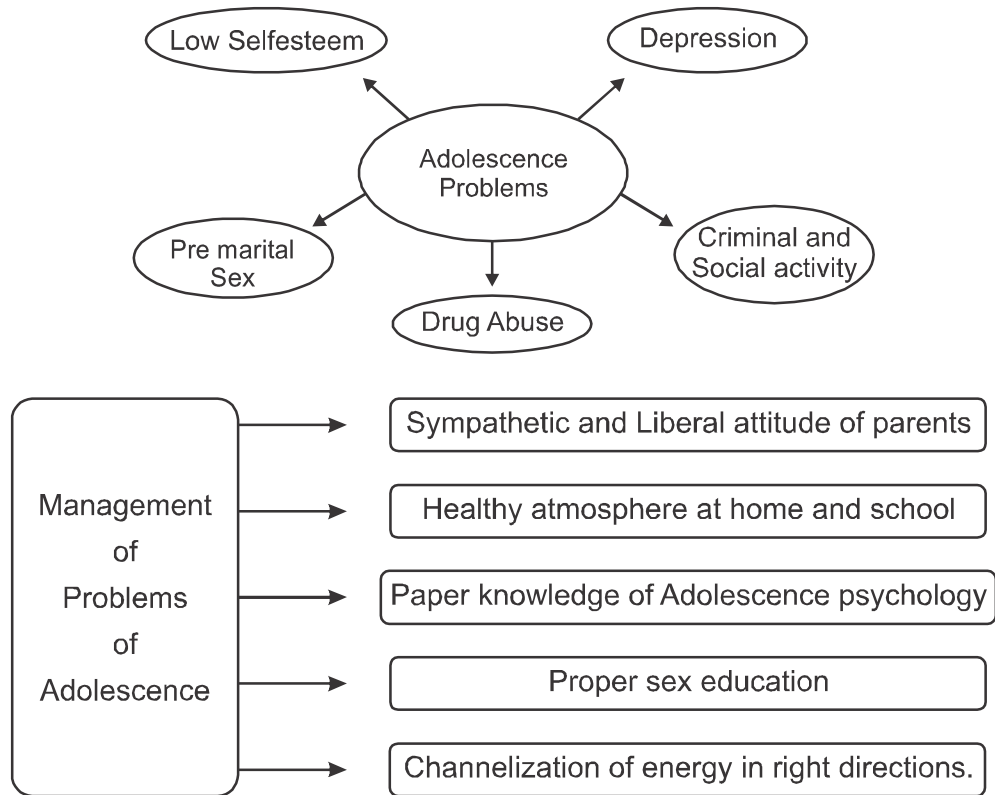
- e. **Different stages of growth and development**

5 stages of growth and development :



f. **Adolescence, Problems of Adolescence and Management of Problems of Adolescents**

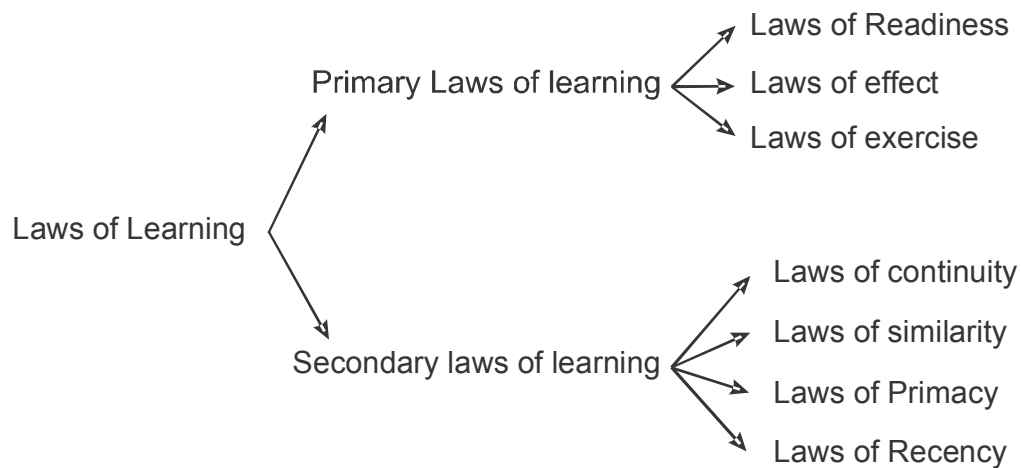
Adolescence : Adolescence is the period of change from childhood to adulthood



g. **Define Learning, Laws of Learning and Transfer of learning**

Learning : Learning is a life long process : it starts in the womb and ends in the tomb.

Learning is adaptation and adjustment.

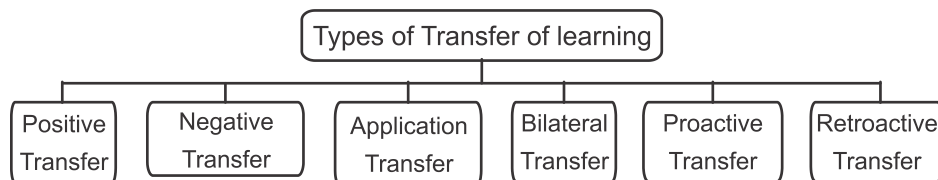


Transfer of learning, Types of Transfer of learning, factor affecting transfer of learning-

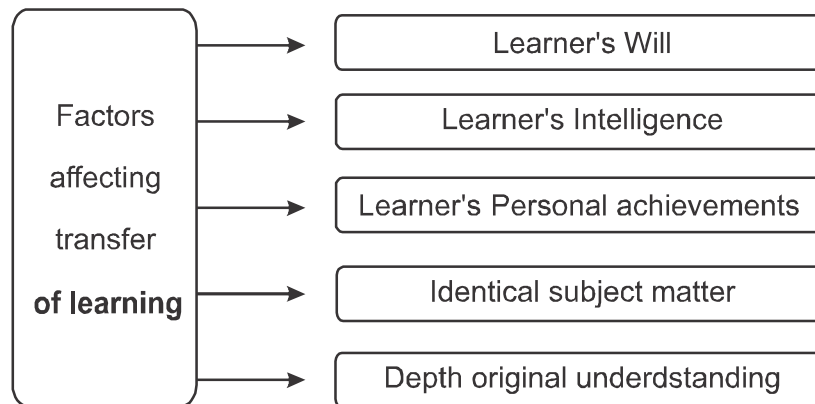
Transfer of learning : Transfer of learning occurs when a person's learning in one situation influence his learning and performances in other situation.

Types of transfer of learning –

- (i) Positive Transfer : When there is an improvement in a performance as a result of previous learning or training
- (ii) Negative Transfer : When learnt one skill makes learning of the second skill more difficult
- (iii) Application Transfer : When previous learning is applied successfully to life situations.

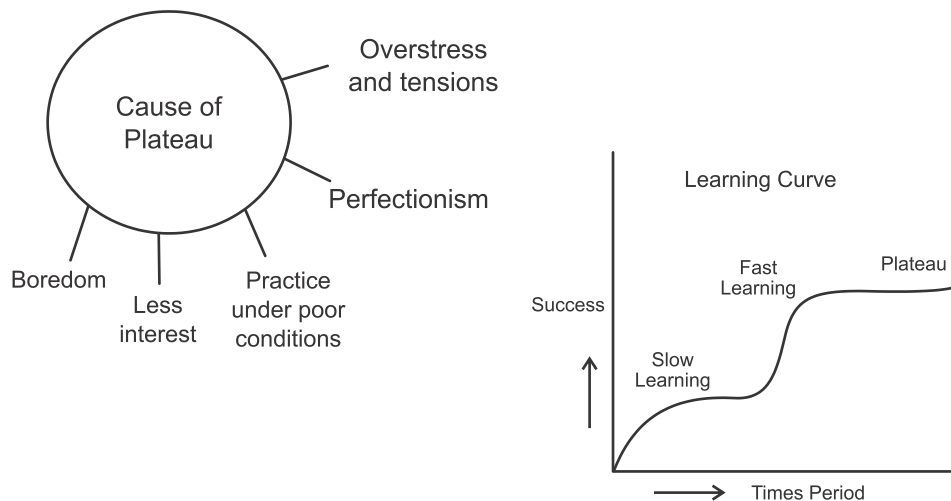


- (iv) Bilateral Transfer : When there is a change of performance in a number on one side of the body as a result of training the corresponding number on other side.
- (v) Proactive Transfer : Learning of a skill affects the learning of a skill yet to be learnt.
- (vi) Retroactive Transfer : A skill recently being learnt affects the previously learnt skill.



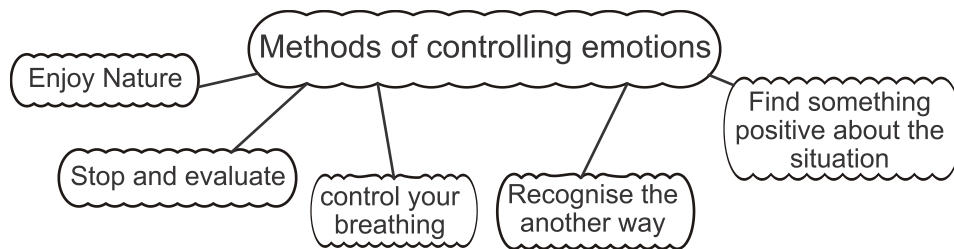
h. Plateau and causes of Plateau

Plateau:- A period of little or no apparent progress in an individuals learning, marked by an inability to increase speed, reduce number of errors etc and indicated by a horizontal stretch in a learning curve or graph.



i. **Concept of emotions and methods of controlling emotions.**

Emotions:- emotions are intense feelings that are directed at some one or something. Emotions are subjective conscious experiences characterized by expressions, biological reactions and mental status.



**VERY SHORT ANSWER TYPE QUESTIONS
(CARRYING 1 MARK) (30 WORDS)**

Q.1 Give definition of Psychology?

Ans. Psychology is the science of human behaviour.

Q.2 What do you understand by term Sports Psychology

Ans. Sports psychology is the application of psychological Principles to sports and physical activity at all levels of skill improvement.

Q.3 Define the term Growth and development?

Ans. Growth - The term growth in physical education means the growth of the parts of the body, may be in size, height and weight Development can be defined as progressive series of changes in an orderly coherent pattern.

Q.4 Define Adolescence?

Ans. Adolescence is the period of great stress and strain, storm and strife or Adolescence is the period of change from childhood to adulthood.

Q.5 Which type of physical activities can be played in early childhood?

Ans. The play activities in this age group should not be strenuous because physical capacities develop slowly. The fundamentals of various games and sports which are simple should be introduced.

Q.6 Which type of physical activities can be played during adolescence?

Ans. In this age group team sports, individual sports, athletics, gymnastics, swimming and floor dancing etc. can be played.

Q.7 What do you understand by learning?

Ans. Learning in the broadest sense, is the organizations of behavior according to the performance demands of some task.

Q.8 Mention two laws of learning

Ans. 1. Primary laws of learning
2. Secondary laws of learning

Q.9 Define Transfer of learning?

Ans. Transfer of learning occurs when a person's learning in one Situation influences his learning and performances in other situations.

Q.10 What is positive transfer of learning?

Ans. When there is an improvement in a performance as a result of previous learning or training.

Q.11 What is negative transfer of learning?

Ans. When learning one skill makes learning of the second skill more difficult.

Q.12 Write note on Infancy?

Ans. During this stage of body, the growth and development occur in progressive manner individual gains considerable weight and height. The cognitive development starts.

Q.13 Enlist the problems of adolescence.

Ans. - Aggressive and violent behaviour
- Physical problem, Lack of concentration
- Attraction towards opposite sex

SHORT ANSWER TYPE QUESTIONS

(60 WORDS) CARRYING 3 MARKS

Q.1 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.

2. 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.

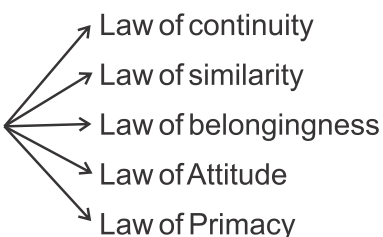
3. Better selection: The knowledge of sports psychology guides the coaches for better selection of players.

Q.2 Explain the law of exercise.

Ans. Law of exercise - Repetition of experiences increase the probability of a correct response but it will not enhance learning without satisfying effect following the response. This law is also known as law of use and disuse. Practice makes the learning bond stronger thus more we practice or use the better is learning.

Q.3 Enlist the secondary laws of learning and explain any one law.

Ans. Secondary laws of learning



- Law of continuity
- Law of similarity
- Law of belongingness
- Law of Attitude
- Law of Primacy

Law of belongingness

If the mutual relationship between stimulus and response is natural then learning is more effective for example running, jumping and throwing are natural activities therefore these activities are easy to learn. Along with this, these activities can be learnt quickly. The activities which are artificial or unnatural are difficult to learn such as to run backward while using hands and legs properly is difficult.

Q.4 Describe any two developmental characteristics of adolescence

Ans. Physical characteristics

- (i) Gain in height, weight and ossification of bones is almost complete
- (ii) Endurance is developed to a great extent
- (iii) Co-ordination of muscles reaches its peak.

Mental characteristics

People of this age begin to think and feel differentially. Hormonal changes reflect in behaviour and mood. Teenagers become short tempered, moody and irritable. They also become very self conscious and extra sensitive.

Q.5 Highlight the differences between growth and development

Ans.	Growth	Development
(i)	Growth is used in purely physical terms. It generally refers to change in size, length and weight of an individual.	(i) Development implies changes in shape, form or structure resulting in improved functioning or working.
(ii)	Growth is one of the aspect of development process	(ii) Development is a wider and comprehensive term; it refers to overall changes in the individual
(iii)	Growth does not continue	(iii) Development is a continuous process

Q6. Describe the developmental characteristics during early childhood.

Ans. Physical characteristics

- It is a period of slow but steady growth in height. Bones are soft.
- Weight increase is steady
- Pulse rate is higher than adults
- The heart size is smaller in comparison to the body
- Strength is not well developed

Q.7 Give the ways to overcome Plateau?

Ans.

- (i) Develop interest : Develop interest and bring recreation in training. This gives enjoyment and pleasures to perform activity.
- (ii) Reduce competition : Too much competition should be avoided and equal levels should be considered for competition.
- (iii) Proper rest and recovery : Proper rest and recovery should be taken to overcome plateau. Care should be taken that it should not be too long.

Q.8 Explain the concept of emotions.

Ans. Emotions are consistent responses to internal or external events, which have particular significance for organism. These response may be verbal, physiological, behavioral and natural mechanism, Emotions may be positive or negative like joy versus sadness, anger versus fear, trust versus distrust, surprise versus anticipation.

Q.9 Prateek was a football player but has now lost interest in the game. He has also considerable amount of weight and has also completely withdraw from his family and friend.

Q.1) Which disorder is Prateek suffering from ?

Ans. He is suffering from Depression.

Q.2) Mention any two symptoms of this disorder ?

Ans. 1) Change in sleeping pattern

2) Tiredness

3) Negative Thoughts.

Q.3) How to overcome this problem?

Ans. 1) Indulge himself in creative activities.

2) discuss his feelings with parents, teachers and friends.

LONG ANSWER TYPE QUESTION

(150 WORDS) 5 MARKS

Q.1 Explain any four problems of adolescents

- Ans. (1) Aggressive and Violent Behaviour :** Adolescent has aggressive 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 associated with adolescence 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** unfortunately 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 the 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 life he has to follow.

Q.2 Discuss the factors affecting transfer of learning.

Ans. There are some of the factors which affect the transfer of learning. They are :-

- (1) Learner's Will:** If the learner has strong will, he will be able to transfer his learning more to new situations.
- (2) Learner's Intelligence :** Learner's Intelligence plays a vital role in the transfer of learning. It has been observed that the shutouts who have more intelligence are for better in transfer of learning in comparison whose who have normal intelligence
- (3) Depth of original 'understanding :** If a student has enough depth of original understanding of skill, he becomes more capable of learning new skills.
- (4) Learner's Personal Achievement :** The learner's personal achievement in the field of education have a positive effect on the transfer of learning.
- (5) Training in transfer -** If a student has imparted training in transfer he becomes capable of learning new skills very easily. If he is not provided such training it will be very difficult for him to learn the skills.

Q3. What is Plateau? Mention its causes.

Ans. The general trends of rapid beginning continues for some time after it slows down and reaches a level where no further improvement occurs. The learning curve travels in almost a horizontal plane. These horizontal stretches indicative of no apparent progress are called plateau.

Causes of Plateau

- (1) **Boredom** - Some routine work often brings boredom, it is one of the cause of boredom
- (2) **Lack of Practice** - Lack of practice often causes plateau and stagnated performance
- (3) **Dirty environment** - Poor, dirty and unsafe environment may cause plateau.
- (4) **Lack of Motivation** - Lack of Motivation and less feedback often causes long learning plateau.

Q.4 Define learning and state primary law of learning?

- Ans.** (i) Learning may be defined as the process by which behaviour originates or is altered through training or experience.
- (ii) It is regarded as modification of both behaviour and the way of perceiving.

Primary laws of learning are as follow-

- (1) **Law of effect** - is a satisfying effect following the response strengthens the connection between stimulus and the behaviour.
- (2) **Law of exercise** - repetition of experience increases the probability of a correct response but it will not enhance learning without a satisfying effect following the response.
- (3) **Law of readiness** - The execution of an action in response to a strong impulse is satisfying but the blocking of action or forcing is annoying.

Q5. Explain emotion. How can we control emotion?

- Ans.** (i) Emotions are intense feeling that are directed at someone or something. They are subjective, conscious experiences characterised by expressions, biological reactions and medical status.
- (ii) It is complete physiological state that involve three distinct components
- (a) a subjective experience
 - (b) a physiological response
 - (c) a behavioural or expressive response

Methods of controlling emotions :-

1. **Stop and evaluate** - One of the best method you can do is mentally stop yourself and look at the situation. Then think the positive aspects of your current situation.
2. **Physical activity** - It changes the mood by taking in distraction, thus perform physical activity.
3. **Take proper food** : Amount of salt may be reduced in food. Quantity of potassium may be controlled which is responsible for systolic and diastolic pressure reduction in blood. We should include pear, tomato, banana, orange and nuts in our food.
4. **Avoid tension** : Tension increases high BP. So we should remain tension free in difficult situations also participation in games and entertainment activities reduce high BP.
5. **Exercise regularly and participation games and sports** : Regular exercise help ,in reduction of high blood pressure. Average types of exercise done vigorously for a longer period of time are very effective in reducing high BP. In the beginning exercise may be done at slow pace, then the pace may be increases slowly.

Long Question (Addition)

Q.6 Discuss methods adopted for management of adolescent problems in details:

Ans. 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 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 - 11

Training in Sports

- ✍ 11.1 Meaning and concept of sports training
- ✍ 11.2 Principles of sports training
- ✍ 11.3 Warming up and limbering down
- ✍ 11.4 Load, Adaptation and recovery
- ✍ 11.5 Skill, technique and style
- ✍ 11.6 Symptoms of overload and how to overcome it
- ✍ 11.7 Concept of free play

TRAINING IN SPORTS

11.1 Meaning and concept of sports training

Training has been referred to as a systematic exercise of effort for a considerable time, to develop ability to face greater load, specially for competitions. Sports training provides the other with the basic means to adapt to his particular stressor, through controlled exercise. This adaptation on the part of an athlete's body answered, that his body is prepared for a greater load, This process is called training.

Concept of Training :- Training for achieving something of for competition is not a new idea, with the passage of time, more time and efforts are being devoted to training of preparation for competitions, with the invention of new techniques every now and then in the field of athletics, weight training methods has shown very encouraging results.

Training for any game or event has become very technical and a scientific approach is needed to get the desired results.

11.2 Principles of Sports Training

The principles of sports training are as following :

1. Principles of continuity
2. Principle of over load
3. Principle of Individual Differences
4. Principle of general and specific preparation
5. Principle of progression
6. Principle of specificity
7. Principle of variety
8. Principle of warming up and cool down
9. Principle of rest and recovery.
10. Warming up and Limbering Down

11.3 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:- (1) General Warm-up

(2) 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 continuous 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.

11.4 LOAD, ADAPTATION AND RECOVERY

- (i) **Load :-** Load is defined as a weight or source of pressure. It is generally called an external stressor. It can also be explained as the amount of work to be done by a person or a machine. In the training of an athlete as a player, it refers to the total amount of work expected from him on a daily, weekly or monthly basis. Loading in training can be done in various ways, therefore load is known as a work of exercise that a sports person performs in a training session.
- (ii) **Adaptation :-** Continued exposure to an extra load in the training of an athlete leads to an adjustment in his body function that enable him to bear the extra load without feeling uneasiness. To obtain a higher degree of adaptation the load of stressor should be increased gradually, overloading no doubt leads to adaptation.
- (iii) **Recovery :** means the restoration of the body to a normal state after a period of intense training for competition. This period is also referred to a period of regeneration during which stressor related efforts are gradually eliminated. The increase in heart rate and respiratory rate depends on the intensity of the workout. The time taken by an individual's pulse rate to come down to 80-85 beats per minute would be the recovery period. During the recovery period, the body's resting state is restored.

11.5 SKILL, TECHNIQUE AND STYLE

- (i) Skill is an element of performance that enables the performer to do a large amount of work with little effort. The apparent visible ease of muscular work indicates a skillful movement or performance. In other words it can be said that

skill is the ability to do something well. Skill that are unnatural and complex can be learned more easily if the different elements in the movements can be separated and learned by parts.

(ii) Technique

It means the way of doing a particular task scientifically. This way of doing a thing should be based on scientific principles and be effective in achieving an aim. It is a basic movement of any sports or event. We can say that a technique is the way of performing skill.

(iii) Style

It is the manner of doing something that is characteristics of a particular person or pattern. It may or may not be based on sound principles. A style of doing a movement, if perfect, looks graceful and appealing. It is an individual's expression of technique in motor action, therefore each sports person due to his specific physical and biological capacities realize the technique in different way. symptoms of over load and how to overcome it

11.6 What is over load?

Over load is not something that only needs to be applied on a daily basis, it must be applied over a life time of training. The final principle deals with the importance of applying overload logically overtime.

During training, 'which is beyond the capacity' is known as over-load.

Causes of over- load

There can be various causes of over-load. It could be because of various factors.

How to Overcome Over Load

- a) Through observation
- b) Plan the training
- c) Proper Nutrition
- d) Psychological strategies
- e) Social Interaction
- f) Medical-aids

11.7 Free - Play

- “Play is fun” This is how children usually respond when asked about play. But play is more than just fun. Play is engaging voluntary and spontaneous. Free play is a way for children to learn more about. ‘Who they are’? and “What they can do”.
- All children have a right to play. It is a process by which children learn. Good quality play opportunity have a significant impact on child development.
- Play allows children to use their creativity while developing their imagination, dexterity, physical, cognitive and emotional strength. Play is important to healthy brain development.
- It is through play that children a very largely age engage and interact in the world around then.

Very Short Questions [1 Mark] 30 Words.

Q.1 What should be kept in mind while selecting a method of training.

Ans. Selection of a method of training has to take into account the specific objectives of training :-

- 1) Strength
- 2) Endurance
- 3) Speed
- 4) Agility
- 5) Flexibility

Q.2 What do you mean by warming-up?

Ans. Warming-up is primarily a preparatory activity in which through physiological preparation, an athlete adjusts himself for the fulfillment of the main activity.

Q.3 What do you mean by Technique.

Ans. Technique is a scientific and economic method adopted to attain superior performance. It is a motor procedure for taking a motor task. It is the most effective form to perform exercise.

Q.4 What do you mean by Adaptation.

Ans. It is the way, the body programs muscle to remember particular activities, movements or skills. By repeating that skill or activity, the body adapts to the stress and the skill becomes easier to perform.

Q.5 What do you understand by specific warming-up?

Ans. This type of warming up includes some special set of exercise which have a direct relation with the activity to be carried out. These special exercise are done along with the activities of general warming up.

Short Questions [3 Marks] [60 words]

Q.1 What is meant by limbering down ? Explain the beneficial effects of limbering down.

Ans. Limbering down means lowering down the intensity of the work by performing the stretching exercise followed by deep breathing, relaxation exercise is called cooling down.

Beneficial effects of limbering down.

When we do exercise there is a lot of blood flow in our muscle if we stop suddenly there may be pooling of blood in the extremities and cause giddiness and some time collapse. Limbering down exercise prevent the post exercise soreness and stiffness.

Q.2 What are the Physiological reasons in support of warming up?

Ans. Warming up does produce physiological changes in the looking of a muscle and that warming up serves as basis or foundation for the efficient warming of muscle.

Warming up possibly helps in the following ways to increase muscular efficiency:

1. There is a local rise in temperature and accumulation of metabolic products. It helps in the efficiency of contraction and relaxation of muscles.
2. Warming up brings the muscles in a state of readiness to responds to stimuli efficiently.

3. The development of the neuron muscular co-ordination between the group of muscles required to be involved in an activity also demands some initial warming up.

Q.3 Write down the guiding principles of warming up in brief.

Ans. In the warming up there are certain guiding principles of warming-up as in the following ways :-

- a) Simple to complex
- b) Exercise for all parts of the body.
- c) Stretching and lousing exercise should be included.
- d) Intensive enough to increase body temperature.
- e) Warming-up should be according to the activity or sports
- f) Concerned Movement of games should be included.
- g) Warming-up should be done at exact time.
- h) Warming-up should be according to Age and sex.

Q.4 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.

Q.5 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 classified 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) **Individual skills**: Individual skills are those skills which are performed in isolation, e.g. high jump and long jump.

Long Question [150 words] 5 Marks

Q.1 Write down the method of warming up in detail

Ans. The following are the methods of warming-up which are generally used :-

1. General Method

- a) **Jogging** :- Every athlete should perform jogging or slow running for 5 to 10 minutes to increase the body temperature.
- b) **Simple exercise** :- This is also a way of warming up. The exercise should be performed from simple to complex.
- c) **striding** :- It means running the distance with long strides. The distance of running should not be more than 50 meters.

- d) **Stretching exercise** :- Stretching is one of the most critical part which is stronger and healthier.
2. **Warm -up with water** : Warm-up with luke warm water gives relaxation to the muscles, which is usually followed in developed countries. Before a competition, a hot bath helps to raise the body temperature and thus activate muscles by increasing blood circulation in muscles.
3. **Warm -up Through Massage** :- The massage of muscles helps the muscles to tone up and is, therefore considered as a means of warming up.
4. **Through Sun Bath** :- The body can be warmed up through sun bath up to some extent, but in most of the sports this method of warming-up is not usually applied.
5. **Through steam both** :- The body can be warmed up through steam bath. Energy can be saved through steam bath but this method of warming-up is also not used frequently.

Q.2 Explain the different ways of recovery in sports? Why recovery is important?

Ans. In order to get fitter or improve in sports, the body needs to be exposed to stress, the body then needs time to adapt to the stresses and for this there must be period of recovery.

New to Exercise

If you're just starting out in exercise, it's important that you build into slowly to allow your body to adapt to the demands of sport. If you just keep going without any rest, your body will soon start to fatigue and you'll find it difficult to complete any exercise sessions.

Recover Strategies :-

It's all very well being encouraged to exercise, you're started a new sports or even increased the amount of training you're doing then you need to consider some recover strategies to help your body to adjust.

Rest: It is one of the most important forms of rest and provides time for the body to adapt to the physical and mental demands of training.

Make sure of getting enough sleep ensure your sleep is good quality, quite and peace ful.

Passive resting such as reading and listening to music are greater ways for the body to relax both physically and mentally.

Nutrition and hydration

Ensuring that the body is fully nourished and hydrate is very much necessary for good recovery. It is most important to replace fluids after exercise and to replenish energy stores by eating the right food at the right time.

Cool down and stretch

The cool down is a group of exercise performed immediately after training to provide an adjustment between exercise and rest. It's purpose is to increase muscular soreness and bring the cardio vascular system backrest.

Q.3 Explain the process of stimulus, Recovery and Adaptation ?

Ans. Our body is made up of millions of very small living cells each type of cell or group of cells performs a different job. All the cells have the ability to adapt to what is happening to the body. There is also an adaptation to the training for games and sports because it helps to increase the sports performance for improving the sports performance the training load has to be increased. Stagnation training load means stagnation in performance. The response by the body is an adaptation to the stimules of the training load. The process of recovery and adaptation returns to the sports persons not just to his previous fitness level but to an improved level.

Q.4 What do you mean by technique and skill. Describe?

Ans. Technique is defined as the motor procedure for tackling a motor task. Motor procedure should be under stood as a system of movement of body parts in a definite sequence thus we can say that technique are the basic movements is always goal oriented. Therefore different techniques are required in different sports, e.g. in shot put the motor task is to put the shot as for as possible. There fore in sports, the sportsman has to learn a number of technique with possible variation.

Skill :- A motor skill is acquired through a long process of motor learning. Technical skills in sports therefore, represent automatization of motor movement. A sports

man tries to learn a technique and though continues and systematic process - liable to acquire the skill. In other words we can say that skill is the capacity of the sportsman to realize technique in actual motor action.

Value Based Question

Monu is a 19 year old boy who has fascination for playing cricket right from child hood. When ever he watches Sachin Tendulkar in the television or reads about him . He gets so much motivated by his ideal and in spite of all odds in Monu's life he does regularly training. Now he is one of the best players of Ranji team from his state.

a) From where has Monu been motivated for playing cricket?

Ans. Monu has been strongly motivated by Sachin Tendulkar for playing cricket.

b) What values has been inculcated in Monu?

Ans. Monu has inculcated in him strong will power, high aspiration and a dedicated person.

c) What lesson can you gather after reading about him?

Ans. The lesson which we gather after reading about Monu is that to achieve any goal in life. You have to be dedicated, set your target in life, self confidence and strong perseverance.

Q.5 What is the role of free play in the development of motor components?

- Ans.**
1. Free play helps the child to explore the surroundings.
 2. Various activities of the child like running, jogging, climbing jumping and fine motor movement helps the child to develop his speed, strength, stamina flexibility and coordinative abilities.
 3. Free play allows the child to use his creativity while developing his imagination, dexterity, physical, cognitive and emotional strength.
 4. Play is important for healthy brain development.
 5. All children have the right to play. Play is a process by which the children have a significant impact on child development.



Free-play

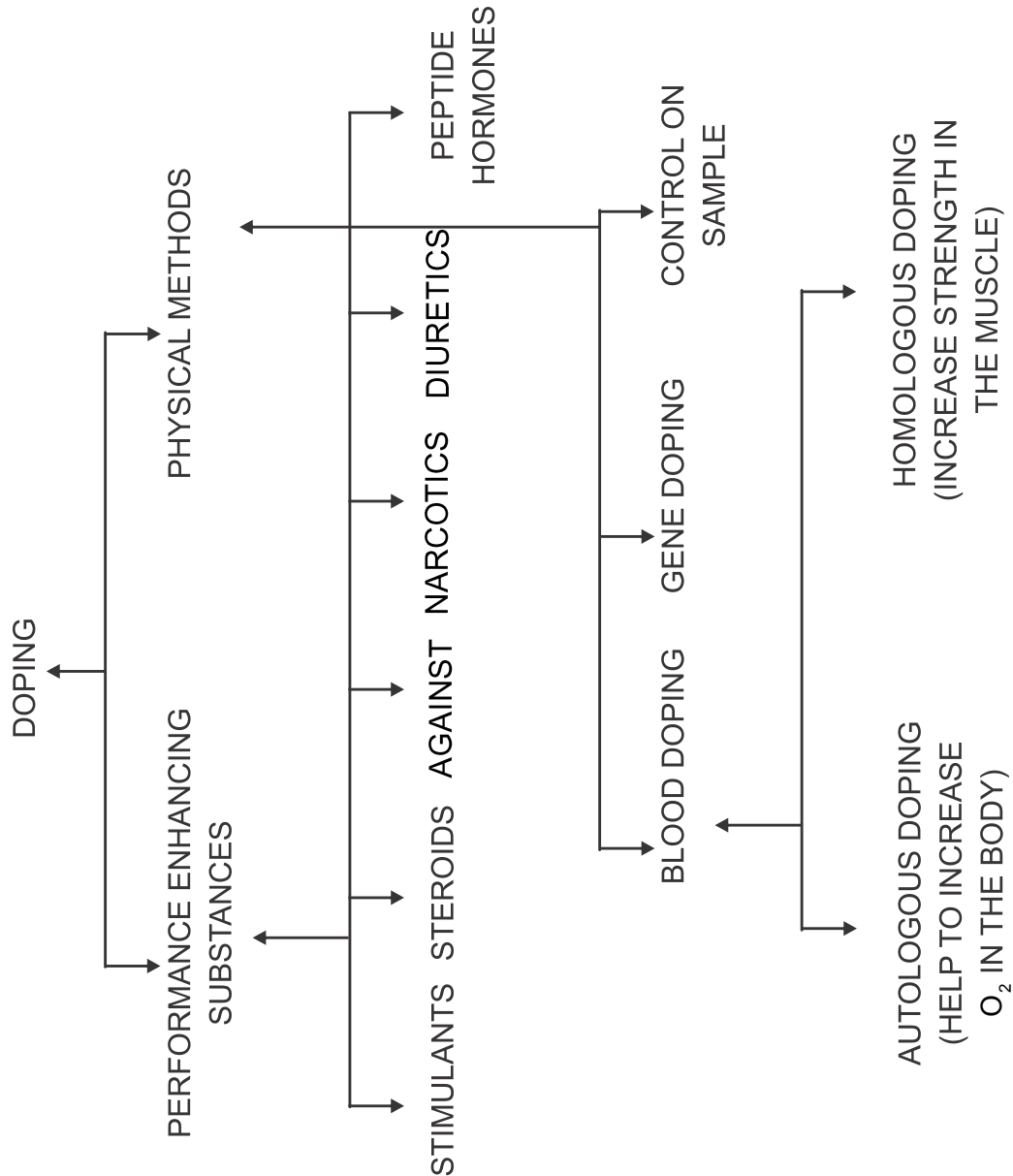
Unit - 12

Doping

- ✍ 12.1 Concept and classification of doping
- ✍ 12.2 Prohibited substances and methods
- ✍ 12.3 Athletes responsibilities
- ✍ 12.4 Side effects of prohibited substances
- ✍ 12.5 Ergogenic aids and doping in sports
- ✍ 12.6 Doping control procedure.

Meaning of Doping :- When an athlete uses banned substances or methods to improve performance in sports it is called as doping.

Example:- Drugs and steroid used.



Prohibited Substances Methods

PROHIBITED SUBSTANCE	METHODS
→ Stimulants	→ Blood Doping
→ Anabolic steroids	
→ Steroid	
→ Beta-2	→ Gene Doping
→ Diuretics	
→ Drugs — { Caffeine Alcohol	→ Control on Sample

Doping Controlling Agencies-

WADA-World anti doping agency

NADA-National anti doping agency.

12.3 Responsibilities of athletes

1. To follow the law and order made by Wada
2. Comply with sample procedure
3. To maintain control of your sample until it is sealed
4. Give proper address of residence and office.
5. Give your Identity proof
6. To be available for a sample collection at all times
7. To co-operate with athlete testing programme.

Prohibited Substances and Methods

S. No.	Substances	Side effects
1.	Stimulants	Cause Insomnia, anxiety and aggression. It directly effects the central Nervous system and cardio vascular system.
2.	Narcotics	Loss of balance and co-ordination, cause drowsiness, vomitting, Constipation. It may cause fainting.
3.	Anabolic Steroids	Can cause blood pressure, Sudden heart Attack, Mood swing, aggression depression. It may also cause baldness and impotency in males,
4.	Beta Blockers	Reduces endurance, headache and beak digestion
5.	Cannabinoids	Reduces concentration and co-ordination, reduces lung capacity.
6.	Diuretics	Causes dehydration, drowsiness and mineral imbalance.
7.	Beta-2 Agonists	Cold hands, insomnia, depression etc.

12.5 Ergogenic aids and doping in sports

Ergogenic aids are external inducers that can be determined to enhance performance in sports. That includes :-

1. Mechanical aids
2. Pharmacological aids
3. Physiological aids
4. Nutritional aids
5. Psychological aids

12.6 Doping Control Procedure:

Doping control is done on athletes by WADA (World Anti-Doping Agency). This agency checks and controls doping in sports. In India, the co-ordinating body under the WADA is named as national anti-doping agency. (NADA).

Short Answer Questions (1 Mark each)

Q.1 What do you mean by doping?

Ans. Doping means the use of banned substances like drugs and steroids by a sports person to improve his performance.

Q.2 How many types of doping are there?

Ans. There are three types of doping:-

- (i) use of drugs
- (ii) Blood doping
- (iii) Gene doping

Q.3 What is out-of-competition testing?

Ans. This is the testing when the athlete is not taking part in a competition.

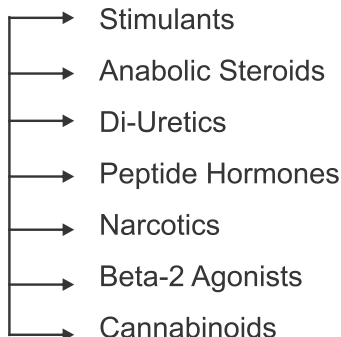
Q.4 What do you mean by narcotics?

Ans. Narcotics are drugs like morphine, heroin which are used by athletes to reduce pain and anxiety to improve sports performance.

Short Answer Question (3 Marks)

Q.1 Make a list of performance enhancing substances and describe any two?

Ans.



1. **Stimulants** :- The athlete uses cocaine, amphetamines, Modafinil etc. as a tablet, injection or spray to improve his level and performance on sports. It reduces the reaction time and the rate of fatigue of the athlete.
2. **Anabolic steroids** :- The athlete uses these substances to improve the strength and growing of the muscles. These are taken orally or by injection to enhance their performance in sports.

Q.2 Explain the blood doping

Ans. It is the process of increasing the red blood cells by blood transfusion. Blood doping increases hemoglobin level due to which higher amount of oxygen (O_2) is supplied to the athletes muscles, which further leads to strengthening and growing of muscles blood doping improves stamina and performance, especially it is done by long distance running. Cyclist and boxers etc.

Q.3 How does Beta-Blockers affect the sports performance.

Ans. Affects of Beta- Blockers in sports performance are as follows.

1. Reduction in Blood pressure and heart rate
2. Reduce shaking of hands.
3. It reduce level of anxiety
4. It improves concentration

Use of Beta- Blockers are prohibited in sports like archery, shooting and golf etc.

Q.5 What is the main objective of international body WADA?

Ans. The main objective of WADA is to eliminate doping from all kinds of sports competitions.

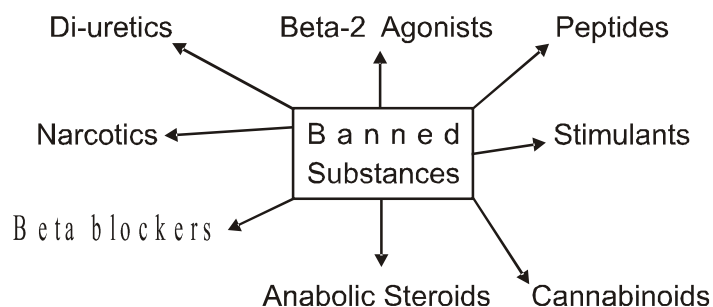
Q.5 Give any two responsibility of an athlete to control doping?

- Ans.**
1. To be knowledgeable of and comply with all applicable anti-doping policies and rules
 2. To be available for sample collection at all times.
 3. To remain in direct observation of doping control officer until the sample is sealed
 4. To co-operate with athlete during doping test programme.
 5. Athlete must show proof of identification when ever needed.

Long Answer Questions (5 Marks)

Q.1 Explain in detail the side effects of the use of banned or prohibited substance is sports.

Ans. The athletes uses different types of banned substances to



Stimulants -

1. Cause insomnia, anxiety and aggressiveness
 2. Poor Judgement
 3. Increases hypertension and body temperature
2. 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

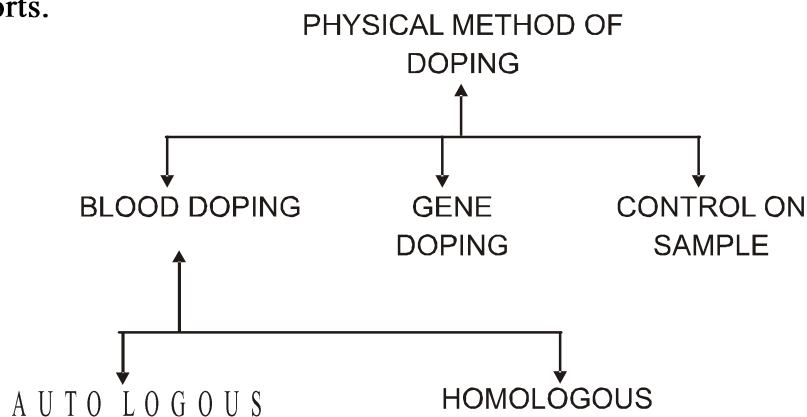
5. Can cause facial hair growth and deep voice in females
3. **Cannabis :-**
 1. Reduce concentration and co-ordination
 2. Reduce lung capacity
 3. May cause heart disease and lung cancer
 4. Loss of memory
4. **Beta Blockers :-**
 1. Reduces endurance
 2. Headache and weak digestion.
 3. Risk of heart attack due to slow heart rate.
5. **Narcotics :-**
 1. Loss of balance and coordination
 2. May cause drowsiness, vomiting, constipation
 3. May cause fainting and coma
6. **Diuretics :-**
 1. Can cause dehydration
 2. May lead to kidney damage
 3. Mineral imbalance and low blood pressure and drowsiness
7. **Beta-2 Agonists**
 1. Cold hands, drowsiness
 2. Headache, vomiting etc.
 3. May cause insomnia and depression.

Q.2 What are the side effects of prohibited substances?

1. Increased heart rate and Blood pressure
2. Sexual dysfunction
3. Features like male in females
4. Physical and mental weakness
5. Complications like stroke, cardiac problems and even death
6. Breast enlargement in males
7. Premature baldness

8. Enlargement of the prostate gland
9. Irregularity in menstruation
10. Problem of depression & aggression

Q.3 What are the physical methods of doping? Define methods prohibited in sports.



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.

SAMPLE PAPER -1
SUBJECT : Physical Education
CLASS : XI

Max Marks : 70

Duration : 3 Hrs

- Q.1 What are the aims of physical education.
- Q.2 What do you mean by learning.
- Q.3 What is meant by life style?
- Q.4 How does regular exercise help a person to protect from ill health?
- Q.5 Throw light on Chacha Nehru sports award.
- Q.6 What is the Motto of Olympic Games?
- Q.7 What is Meditation.?
- Q.8 Name the various types of Doping?
- Q.9 What is meant by positive play?
- Q.10 What is meant by waist - Hip Ratio.
- Q.11 Enlist the functions of Muscles.
- Q.12 Describe the different types of bones.
- Q.13 What is centripetal force?
- Q.14 Enumerate any two problems faced by an adolescent child.
- Q.15 What is skill ? What are its types?
- Q.16 What are Narcotics? Why are they taken?
- Q.17 What is pranayam? What are the stages of pranayam?
- Q.18 What Precautions need to be taken before undergoing adventure sports?
- Q.19 What are the functions of muscles?
- Q.20 Briefly discuss about the effects of prohibited substances in games and sports.
- Q.21 What is the importance of Bio- mechanics in sports?
- Q.22 Discuss about the effect of exercise on skeletal system?
- Q.23 Write the meaning and aim of training.
- Q.24 Define learning what are the principles of Learning.
- Q.25 What do you mean by Equilibrium. Describe the types of equilibrium in detail.
- Q.26 What is second wind ? What is the significance of second wind.?

SAMPLE PAPER -2

SUBJECT : Physical Education

CLASS : XI

<i>Max Marks : 70</i>		<i>Duration : 3 Hrs</i>
Q.1	Explain the meaning of physical fitness	1
Q.2	What is the aim of physical education?	1
Q.3	State the type of " Warming Up" discuss.	1
Q.4	Define sports psychology?	1
Q.5	What do you mean by adolescence?	1
Q.6	Write a short note on biomechanics?	1
Q.7	What does the organizers intend by saying the "only such students shall participate on the intra murals football competition championship in the past 2 year	1
Q.8	Define Anatomy?	1
Q.9	What do you understand by measurement?	1
Q.10	When and how did the modern Olympics games begin?	1
Q.11	Explain the meaning of river rafting?	1
Q.12	Highlight the components of positive life style.	3
Q.13	"Physical education is an integral part of general education" Justify this statement.	
Q.14	What are the function of "IOA"?	
Q.15	Elaborate the importance of Yoga in modern times.	3
Q.16	What do you mean by doping? List down the types of doping.	3
Q.17	What are the safety measures taken during mountaineering.	3
Q.18	Explain the importance of test and measurement in the field of sports.	3
Q.19	Classify the types of muscles in our body and how do they work, Name any skeletal muscles?	3

- Q.20 Explain the importance of biomechanics in physical education and sports. 5
- Q.21 What do you mean by growth and development? Write the difference between them. 5
- Q.22 Define sports training? Enumerate the principles of sports training.
- Q. 23 State the difference between the following terminologies:
- (a) Skill and techniques
 - (b) Load and adaptation
- Q.24 Define Skeleton system? Explain about the freely movable joints in detail
- Q.25 Enlist the sports awards and explain about any one in detail? 5
- Q.26 What are the side effects of prohibited substances explain in detail. 5

SAMPLE PAPER -3
SUBJECT : Physical Education
CLASS : XI

Max Marks : 70

Duration : 3 Hrs

Q.1 What are Muscles? 1

Ans. Muscles are the tissues and fibres, which are attached to the bones, cartilages and alignments and help in the movemnts of body parts.

Q.2 What are stimulants? 1

Ans. This group fo drugs includes Psychomotor stimulants, sympathominactic amines and miscellaneous CNS stimulants. They may produce alertness, wake fulness and an increase in the ability to concentrate.

Q.3 What is Asana? 1

Ans. Asana means the position or posture of body. It also means to sit in an easy posture. Asanas are performed to keep the body flexible, agile and young.

Q.4 What are the Olympic ideals? 1

Ans. The main ideals of olympic games have been to develop physical strength, beauty, discipline, values and virtues by harmonious co-existence. The ancient Greeks were idealists to an ehance the philosophy of idealism. The olympic games draw altention of the world towards the importance of physical training.

Q.5 What are the components of wellness? 1

Ans. These idicators include the following :

- (a) Social wellness (b) intellectual wellness
- (c) Physical wellness (d) Occupational wellness
- (e) Spiritual

Q.6 What is the aim of physical education? 1

Ans. Different educationsist have enpressed their views about the aims of physical education. According to J.F. Williams, physical education should aim to provide skilled leadership, adequate facilities and ample time for the individuals and the group to participate that are physically whole soem, mentally stimulating and socially sound.

Q.7 Define adapted physical education.

1

Ans. Adapted physical education can be defined as a diversified programme of activities, especially designed for an individual who meets verification criteria for physical, mental or emotional disability and is not able to participate safely and successfully, without modification.

Q.8 Define development?

Ans. Development can be defined as a progressive series of changes in an orderly coherent pattern. Development is a physical property. Development cannot be measured in the same way as growth.

Q.9 What is dynamic equilibrium?

Ans. A body unstable is in equilibrium when moving, it does not return to its previous position on moving, when its centre of gravity is lowered.

Q.10 What is training?

Ans. Sports training is a planned and controlled process for achieving goals, which change in the motor performance and behaviours through measures that prepare a sports person for higher level of achievements.

Q.11 Define adaptation.

Ans. Adaptation refers to the development of teaching, training and coaching skills needed for a well balanced approach in a therapeutic, educational and sports environment.

Q.12 Mention a few safety measures for adventure sports.

Ans. (a) Never approach wild animals.
(b) Always be alert and beware of your surroundings.
(c) Do not keep food in your tent.
(d) Look out for snakes, spiders and other creatures.
(e) Never hike alone, always go with a friend. Tell someone else of your plans.
(To explain each and every point in details)

Q.13 Who do you mean by pranayama? What are the stages of pranayama?

Ans. It is the combination of two words 'Prana' and 'Yama' or to make the body strong and able for spiritual activities through pranayama.

- (a) Purak to fill pranayama is lungs.
- (b) Kumbhaka to stop pranayama in lungs.
- (c) Rechaka Breathe out pranayama fastly.

The appropriate control over inhalation and exhalation is pranayama.

Q.14 Name the prohibited substances. Describe any one of them.

- Ans.** (a) Beta Agonists (b) Peptide hormones
 (c) Hormones and metabolic Modulator
 (d) Diuretic (e) Anabolic steroids
 (f) Stimulants (g) Narcotics
 (h) Blood doping

Beta 2 Agonists commonly prescribed for the treatment of asthma are prohibited insports. Endwarnc athletes who dope themselves with beta-2-agonists to so in an attempt to enhance their respiratory efficieency.

Q.15 Enlist the components of physical fitness. Explain any two.

Ans. The components of physical fitness:

1. Strength
 2. Speed
 3. Endurance
 4. Flexibility
 5. Co-ordinative abilities
1. **Speed** : It is the ability to 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, repitition method acceleration runs etc.
 2. **Endurance** : It is the ability to sustain or continue activity or it is the ability to resist 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 Basketball.

Q.16 What is anthropometric measurement? What is the procedure to measure body weight?

Ans. it is the scientife study of human size, shape proportion, composition, maturation and gross function in order to understand human growth. Anthropomenty is a science that deals with the measurements of size, weight and proportions of the human body.

Body weight: It measures the total body weight of the subject, instrument is weighing machine.

Procedure: Body weight is the weight of the body. The subject is asked to stand erect on the weighing machine with bare feet and in minimum clothes. Results are recorded from the reading scale of the weighing machine in kilogram results will be accurate if the weight of the clothes are also measured separately and subtracted from the recorded weight of the subject, or researcher provides a standard garment to the subject.

Q.17 Write the functions of skeletal system.

Ans. The functions of skeletal system are as follows:

- (a) Provides support: The skeletal system provides a frame for body and gives a particular structure, shape to the body.
- (b) Provides protection: The skeletal system provides protection to the vital organs such as the brain, eyes and ears.
- (c) Movement and locomotion : Skeletal system participates in movements and locomotion due to contraction of the muscles.

Q.18 What are the laws of learning? Describe any one Law:

- (a) Law of readiness
- (b) Law of exercise
- (c) Law of effort

Law of readiness: This is that law of learning which keeps an eye over that person who is selected for learning whether he is mentally ready for the learning of activities. If he takes interest in learning, whether he is mentally ready for the learning of activities. If he takes interest in learning whether he is mentally ready for learning when one person is not ready to learn any activity or thing.

Q.19 Write causes of load.

Ans. Load: It is a process of tackling the training and competition demand, which causes temporary disturbance of the physical and physiological state of homeostasis.

The causes of load are as under:

- (a) **Rapid spurt in training load:** Rapid spurt in training load is hazardous. The load is increased for some time. It is increased only after adaptation of load.

- (b) **Participation in too many competitions:** An athlete has to exhibit his best technique during the competition so if he participates in too many competitions, it can cause a lot of fatigue.
- (c) **Insufficient Recovery:** After a day long training programme, an athlete must get sufficient sleep and rest. The stresses of families work, should also be taken into consideration.

Q.20 What is limbering down. What are its benefits?

Ans. Limbering down is a necessary activity after workout of any activity. It has the following benefits.

- (a) **Decrease in tension:** During training or competition, muscles remain under tension. Proper cooling down decreases muscular tension. Along with this mental tension is also reduced to some extent after performing an appropriate limbering down.
- (b) **Supply of oxygen:** During strenuous training there is a lack in the amount of oxygen in comparison to resting position.
- (c) **Body temperature becomes normal:** During high intensity and strenuous training or competition, the body temperature increases more than 160° Fahrenheit. appropriate cooling down helps in reducing body temperature.

Q.21 What is the importance of Psychology in physical education and sports?

- Ans.**
- (a) **Helps in preparing:** Athletes psychologically for competition: Sports Psychology mentally prepares the athlete psychologically for competition.
 - (b) **Helps in understanding the Behaviour:** Sports Psychology helps in understanding the behaviour of athletes taking part in competition.
 - (c) **Helps in increasing Physiological capacities:** Sports Psychology plays a significant role in increasing physiological capacities like strength, speed and flexibility.
 - (d) **Helps in learning Motor skills:** Sports Psychology plays a significant role in the learning of motor skills, learning of motor skill depends upon the individual's level of readiness.

Q.22 What is lever? What are its types? Describe their application in sports?

Ans. Lever is a rigid bar which can rotate round its axis on a point called fulcrum. In lever system, the distance travelled by a point is proportional to the distance

from the other axis. The more the distance from the fulcrum, the greater will be the distance of doing work. Type of lever: Lever can be of the following three kinds according to the situation of fulcrum. (F), Power (P) and Resistance (R).

1. First order lever: In this fulcrum is in the middle and power (P) and resistance (R) are at the ends.

Example : (a) Tricep extension of the elbow.

2. Second order lever: In this lever of this kind resistance (R) is between the fulcrum (F) and power (P)

eg. This classification depends upon this fact whether the foot is resting the load or not.

3. Third order lever: In this lever, the power (P) is in the middle and the resistance (R) and fulcrum (F) are on the ends. The levers of this kind also occur in the human body. Brachaiates is joined to the ulan axis below the elbow joint. The weight of the fore-arm is the resistance.

Q.23 Describe the types of bones? 5

Ans. (a) Long bone: Long bones consist of a tabular shaft and two irregular ends.

(b) Short bone: Short bones distributed all over the skeleton as in vertebral column tarsal and carpal bones.

(c) Flatbones: Flat bones are flat in shape with a thin and broad surface area. Scapula, sternum, ribs and skull bones are made of cancellous bone tissues and covered with compact tissue.

(d) Irregular bones: These bone have variable shapes, hence they can be grouped under the above categories.

(e) Sesamoid bones: These bones are embeded with a tendon. These bones are found in places where a tendon passes over a joint as in hands, knees and foot.

Q.24 What is the importance of test and measurement? 5

Ans. 1. Measuring progress: In order to judge the fulfilment of the objectives of physical education we should check the progress or improvements of the students.

2. **Motivation:** The test and measurement act as a means of motivation for the pupils to improve and maintain their physical fitness or skills in sports.
3. **Grouping of students:** Grouping of students can be done with the help of measurement. The classification of group can be lead to better group performance on same status.
4. **Proper coaching:** Knowing the limitations and weakness of students through test and measuremnts.
5. **Evaluation:** Measurements are necessary for knowing the effectiveness of a programme and to carry out changes as required.

Q.25 What is life style? Waht are the components of positive life style? Describe any three. 5

Ans. Life style is a way of living of an individual. It is realted with physical, psychological, social and economic environmetn.

The components of positive life style are :

- (a) **Phsyical activity:** Physical activity or exercise is a vital component of a positive life style. Regular physical exercise is needed to maintanin a healthy weight and to enhance strength and flexibility of the body.
- (b) **Healthy diet:** The healthy and balanced nutrition is important to live a healthy life style. The body requires a well balanced diet every day in ordedr to consume an adequate amount of vitamins, nutrients and minerals.
- (c) **Stress manangement:** Streess management is also a significant component of positive life style. Every individual is well aware that emotional stress play a major role in enhancing abdominal weight gain and heart diseases.

Q.26 What is camping? What are the objectives of camping? 5

Ans. Camping is an outdoor recreational activity. The campers leave urban area, their home/region and enjoy nature whiel spending tiem outdoors.

Today there is great diversity in the way youth comps are operated throughout our society. Some are skill oriented, other's are directed towards social or religion goods, some are dedicated to the entertainemtn for children. Essentially, a comping:

- (a) Lets students live in the camp with a social environment of miniature scale.
 - (b) Helps teacher's to observe and understand their's students development in terms of personal as pirations.
 - (c) Allows students to appreciate their environment and natural surroundings.
 - (d) Develops team spirit and harness leadeashipskills.
 - (e) Provides opportunites for students to be independent and exercise self discipline.
-

**Physical Education
Sample Paper - I
Annual Examination**

Time : 3 Hrs.

M.M.-70

1. What is occupational Therapy? (01)
Occupational therapy aims to help a person achieve success in their life occupations. It focuses on the main occupations of school (reading, writing fine motor skills etc.), self care (bathing, dressing eating toileting etc.) In play and work.
2. State the objectives of Physical Education (01)
 1. Physical development
 2. Mental development
 3. Social development
 4. Emotional development
 5. Development of health
 6. Neuro-muscular coordination (any four)
3. Explain 'Sukhasana'. (01)
Sukhasana is a easy sitting pose. Sukhasana comes from the sanskrit word 'Sukham' which can mean comfort, easy joyful, pleasure etc. Sukhasana can be done by people of all age groups.
4. What are the main characteristics of Olympic flag? (01)
Olympic flag was created in 1913 at the suggestion of baron de Coubertin. Flag is made of white silk and contains five inter locking rings in five colours representing five continents of the world, America, Europe, Australia, Asia and Africa. The five rings have different colours, yellow, green, red, blue and black. They symbolises cooperation and friendship.
5. Define Wellness. (01)
 - (1) Wellness is defined as the optimal functioning of body and creative adapting to environment that involves the whole person.
 - (2) Wellness is considered the optimal state of health.
6. Write any two functions of Indian Olympic Association. (01)
 1. Development and promotion of the Olympic Movement.
 2. Enforcement of all the rules and regulations of the IOA and IOC.

7. Write the names of any four adventure sports. (01)
- (1) Rock Climbing
 - (2) Trekking
 - (3) River Rafting
 - (4) Mountaineering
8. What is 'Evaluation' in sports? (01)
- Evaluation is the process of education that involves collection of data from the products that can be used for comparison with preconceived criteria to make judgement.
9. What do you mean by Oxygen debt? (01)
- Oxygen debt means when the demand for oxygen is greater than the supply. It means when your body works hard you breathe a lot of oxygen, but you can not absorb enough oxygen to cope with the level of activity. It is the stage of oxygen debt.
10. State the benefit of warming up. (01)
- (1) It increases the body temperature.
 - (2) Decrease the viscosity of the muscles.
 - (3) Increases the speed of nerve impulse.
 - (4) Increases the metabolic rate.
11. If a person have 32 BMI (body mass index) then in which category he will fall? (01)
- 30.0 to 34.9 is class I obesity.
12. What are the responsibilities of athletes with regard to the anti doping policies and rules by WADA? (03)
- (1) To be knowledgeable of and comply with all applicable anti-doping policies and rules adopted pursuant to the code.
 - (2) To be available for the sample collection all the times.
 - (3) To take the responsibility in the context of anti-doping, for what they ingest and use.
 - (4) Report immediately to the doping control station for testing when expected.
13. Calculate the waist Hip Ratio of a man whose waist circumference is 46 inches and hip circumference in 55 inches. He falls in which category? (03)

$$\text{Waist hip Ratio} = \frac{\text{Waist circumference}}{\text{Hip circumference}}$$

$$= \frac{46}{55} = 0.83$$

: above -85 Ration is a health risk.

0.83 is a healthy ratio.

14. Explain centripetal force and centrifugal force with examples from sports. (03)

Centripetal force—It is defined as the force which keeps a body moving with a uniform speed along a circular path and is directed along the radius towards the centre.

Centrifugal Force—According to Newtons third Law of Motion, another force equal to the centripetal force but opposite in direction also act upon it. This force called the centrifugal force.

Example—When a runner taking a sharp bend leans inward to get advantage of the necessary centripetal force. In cricket, tennis and golf a bat or club is used, Swinging a bat more quickly increases centrifugal force, causing the bat to fly out of hand. Here centripetal force is needed to maintain the grip.

15. Give a brief description of safe ergogenic aids. (03)

- (1) Proper Nutrition
 - (2) Carbohydrate loading
 - (3) Stress Management
- (Explain these)

16. To whom is the Arjuna Award given? State the rules that are followed to give Arguna Award. (03)

Arjuna Award is the Supreme Honour, which is awarded to sports persons by the Government of India.

- (1) Generally this award is given to one player of a game but this can be given to a female player of the same game.
- (2) The final decision regarding Arjuna Award lies with the Govt. of India.

17. Explain about the primary 'Law's of Learning. (03)

Primary Laws of Learning.

- (1) Law of readiness

- (2) Law of effect
- (3) Law of exercise

(Explain these)

18. What is the importance of biomechanics in Physical Education and Sports? (03)

- (1) Biomechanics helps to improve technique
- (2) Helps in improving equipments
- (3) Helps to prevent injuries
- (4) It promotes safety

(Explain any three points)

19. Satish is an adolescent boy who used to be studious student and balanced his studies well with his extra curricular activities like football and dance. Ever since he entered 11th grade in his new school he made new friends. To impress his new friends he started smoking. Some time he missed his classes to smoke. His parents got worried and talked to Satish but he refused to listen to them. Then they approached the school counsellor. (3)

- (i) What is Adolescence ?

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

- (ii) Which problem of adolescence does Satish seem to be going through ?

- (1) Feeling of importance
- (2) Lack of stability and adjustment

- (iii) State some steps to manage adolescence problems ?

- (1) Parent and teachers should provide the knowledge of psychology.
- (2) Provide moral education.
- (3) Provide suitable environment.

20. What is sports training ? State the principles of sports training. (03)

Sports training—Sports training is a planned and controlled process in which for achieving a goal changes in complex sports motor performance, ability to act and behaviour are made through measures of content, methods and organisation.

Sports training is the basic form of preparation of sports person.

Principles of sports training :-

- (1) The principles of continuity
 - (2) The principles of overload
 - (3) The principle of individual difference
 - (4) The principle of general and specific preparation
 - (5) The principle of progression
- (any four points to be explained)

21. How can we prevent the health threats through changes in life style ?
(5)

- (1) Indulging in Regular Physical Exercise
- (2) Adopting healthy eating habits
- (3) Maintaining a healthy weight.
- (4) Sufficient sleep
- (5) Limit the use of TV and mobile.
- (6) Stay away from smoking and alcohol.

(Explain any five)

22. Explain Skeleton System. Briefly explain freely movable joints. (5)

Skeleton System—This is the bony frame work of body consisting of number of bones. It supports the body and gives it a shape.

Freely Movable Joints—These joints provide different movements. There are five main types of movable joints.

- (1) hinge joint
- (2) Pivot joint
- (3) Ball and socket joint
- (4) Saddle joint
- (5) Gliding joint
- (6) Condyloid joint

(Explain any four)

23. Give your suggestions to implement inclusive education. (3)

- (1) Give the child a preferential seating.
- (2) peer to peer learning is a fundamental strategy for implementing successful plan for special need children.

- (3) With the knowledge of inclusive practices and strategies, teachers can manage classrooms that encourage learning and discovery among all students.
 - (4) The teacher should have the knowledge of the problem of the child and should keep the medical record with himself in case of dealing with emergency situation regarding the special child.
 - (5) School Principal must cooperate and share the message that all the staff members, are expected to be involved in education of children with disabilities.
24. Regular physical activities are necessary to lead a happy and healthy life. Explain various steps of behaviour change technique for physical activities. (5)
- Techniques of behaviour change –
- (1) Self monitoring
 - (2) Goal setting
 - (3) Corrective feed back
 - (4) Boosting performance
- (Explain all)
25. What is Yog nidra ? Explain its benefits. (5)
- Yognidra is a effortless relaxation. It is an essential and to any Yoga pose sequence. Yoga posture warms up the body, Yognidra cools it down.
- Benefits of Yognidra
- (1) Cools down the body after Yog asana.
 - (2) Restoring normal temperature
 - (3) Activates the nervous system to absorb the effects of Yog asana.
 - (4) It helps in receiving muscular, emotional and mental tension.
 - (5) It improves creativity.
26. Name the career available in the field of Physical Education. Explain in detail about career in teaching. 5
- Career option in Physical Education.
- (1) Teaching career
 - (2) Coaching career
 - (3) Performance related

(4) Communication and media

(50 health related career

Career in teaching :

(1) Middle School Level

(2) High School and Senior Secondary School

(3) College and University

(Explain career in teaching).

Physical Education
Solved Sample Paper - II
Annual Examination

Time : 3 Hrs.

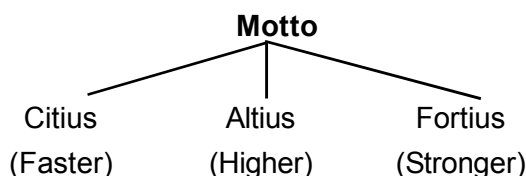
M.M.-70

1. What is the objective of physical education ?

Ans. Physical education facilities and ample time for the individual and the groups to participate in activities that are physically wholesome, mentally stimulating and socially sound.

2. What is the motto of the modern Olympic Games ? 1

Ans. **Olympic Motto**—Olympic motto is made from three Latin words.



3. What is Intellectual Wellness ? 1

Ans. Intellectual Wellness improves our behaviour, intelligence, alertness, futuristic and insight thinking.

4. Write the names of my two meditative Asana. 1

Ans. Sukhasana, Padmasana

5. What is Surfing ? 1

Ans. The term 'surfing' refers to the act of riding a wave, regardless of whether the wave is ridden with a board or without a board, and regardless of the stance used.

6. What is BM1 ? Write its formula also. 1

Ans. It is the value derived from the mass (weight) and height of an individual.
Formura for calculating BMI

$$\text{BMI} : \frac{\text{Weight in kg.}}{(\text{Height in mt.})^2}$$

7. Define stroke volume. 1

Ans. **It is the** volume of blood pumped out by heart in one beat contraction.

8. What is buoyancy ? 1
- Ans. The buoyancy refers to a force that arise from the pressure exerted on an object by a fluid.
- Q.9. Define emotions. 1
- Ans. Emotions are intense feelings that are directed at someone or something.
10. Write the examples of any two free play. 1
- Ans. Running and Jumping, or Hopping.
11. What is homologues blood doping ? 1
- Ans. The injection of fresh blood taken from a second person, straight into the athlete is called homologous blood doping.
12. Briefly explain the careers available in Physical Education. 3
- Ans. Career options in Physical Education.
1. Teaching Career–
 - (i) Elementary school level
 - (ii) Middle school level
 - (iii) High school and senior Sec. S. Level
 - (iv) College and university level
 2. Coaching Career –
 - (i) Administration related career
 - (ii) Physical education department
 - (iii) Sports department
 - (iv) Industrial recreation
 - (v) Sports facilities
 3. Healthy related career –
 - (i) Healthy club
 - (ii) Athletic training
 4. Performance related career ?
 - (i) As professional players
 - (ii) As official
 5. Career in Communication and media –
 - (i) Sports journalism

- (ii) Book publication
- (iii) Sports photography

(iv) Sports board casting

13. "Health is our real asset" comment. 3

Ans. (i) It is said that 'a sound mind lives in a sound body.' The low health status is a boarder.

(ii) Unhealthy people has to depend upon others, moreover, a lot of money is spent on medicines to improve or maintain the health status.

Q.14. How can we implement inclusive education in Physical Education ? 3

Ans. Peer To Peer– Everyone's A Player, Everyone's A Leader

Special Olympics believes in the power of sport and in the power of young people to build a more inclusive world. In a high quality Inclusive Physical Education classroom students recognize their abilities to create inclusive communities as they learn to value difference and appreciate each individual's unique gifts and talents.

Peer to peer teaching is a fundamental strategy for implementing successful Inclusive Physical education programs, but it is important that it be implemented in a truly inclusive manner and grounded in equality.

An inclusive peer to peer teaching model provides opportunities for students of all abilities to participate as leaders in some way reinforcing and confirming the potential of every student to lead and contribute meaningfully.

15. Explain behaviour change technique for Physical Activity. 3

Ans. Five stage of behaviour change for physical activities are as follows :

1. Stage I

Pre-Contemplation

In this stage there is no intention of changing behaviour on the part of performer.

2. Stage II. Contemplation

In this stage, a person is aware of a problem i.e. he knows that he needs to reduce weight but do not intend to make commitment to action.

3. Stage III. Preparation

In this stage, the person is ready to take action in order to meet desired aim/goal.

4. Stage IV. Action

This stage requires active modification of person's behaviour.

5. Stage V. Maintenance

In this stage new behaviour replaces the old one.

There is one more stage which can exist at any time during these five stages.

Relapse—In this stage one may experience fall back into old pattern of behaviour.

16. Write in detail about classification of bones. 3

Ans. Classification of Bones—

- (1) Long Bones—They are long & wide. They act as lever. They are found in legs and arms e.g.. Humerous, femur 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 friction. Example palms of hands, sole of feet and knee caps.
- (5) Irregular Bones—These bones have complete shaped as compared to other types. The bones of spinal column and skull are examples of these bones.

17. A group of students from Class-XI reports to the Physical Education Teacher for participating in various sports activities. Where the Teacher/ Coach has to classify the students according to their physical appearance and observe the group property. He find out that few students are having round shape body structure, few are fit and healthy and few of them are fall and this. 3

1. How will be the classification of the students be done by the teacher ?

Ans. The students will be classified according to :

1. Round Shaped Body - Endomorph
2. Fit and Healthy - Mesomorph
3. Tall and thin - Ectomorph

2. What kind of games can be suggested for Round shaped body structured students ?

Ans. Weight lifting and Power lifting etc. which need extra strength and Power for these Games.

3. What kind of Games can be suggested for Mesomorphic students ?

Ans. Athletics especially running events.

4. What type of Games can be suggested for tall and their students ?

Ans. Long Distance Running, Volleyball, Basketball etc.

18. Write the names of forces used in sports and what are their application in sports ? 3

Types of Forces

1. Centripetal force
2. Centrifugal force
3. Gravitational
4. Fractional force
5. Static force

Importance And Application of Force in Sports

1. Help to move :
2. Stop the moving objective
3. Helps to accelerate
4. Helps in throwing object
5. Helps to lift the object
6. Helps to pull the object

19. Explain the methods of warming up (Any three) 3

Ans. The following are the methods of warming up which are generally used—

- (1) General method (a) Jogging
 (b) Simple exercise
 (c) Striding
 (d) Stretching exercise

- (2) Warm-up Through Massage—The massage of muscles helps the muscles to tone up and therefore considered as a means of warming up.

(3) Through Steam Bath–The body can be warmed up through steam bath.

20. Enlist the various sports awards and explain any one award to detail. 5

Ans. Recognition of any outstanding achievements is highly motivating and more so when it comes from the top functionary of prevailing system. The Govt. of India sports has instituted following national awards for outstanding sports persons and coaches.

1. Arjuna Award
2. Rajiv Gandhi Khel Ratna Award
3. Dronacharya Award Arjuna Award

Arjuna award is the supreme honour, which is awarded to sports person by the govt. of India. This award is given to such sports person who has given extraordinary performance in their field for last three years. This award was started in 1961 in the name of Arjuna in Mahabharata. This award includes a statue of Arjuna, and five lakh rupees cash, the president of India presents this award on 29th August (The birthday of Legendary, hockey wizard Late Dhyan Chand, Olympian every year)

Rules for Arjuna Award –

1. It's main aim is to improve the standards of sports in the country.
2. The Govt. of India demands a list of sports persons from national Sports federations which is recognised.
3. The total number of Arjuna awards are restricted to 15, one award in each discipline, however it can be increased in extraordinary performance by a sports person.
4. Sports Federation sends a list of three players, in which one will be selected but in case of female two awards will be given one male and one female.

21. Explain Yoga nidra in detail. 5

Ans. Yog nidra is a effortless relaxation. It is an essential end to any yoga pose sequence. Yoga posture warm up the body; Yog nidra cools it down.



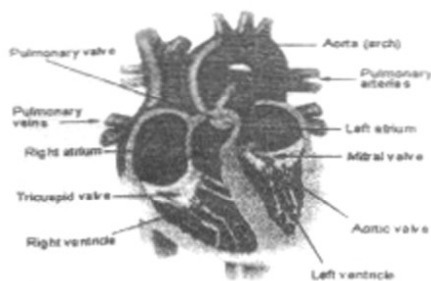
Yoga Nidra Benefits Are

1. It helps in relieving muscular, emotional, and mental tension.
2. Yog nidra relaxes the mind by relieving stress and anxiety.
3. It treats insomnia, psychological disorders, and psychosomatic diseases.
4. It trains the mind and helps in enhancing memory and increasing learning capacity.
5. Yogic sleep also results in increased energy levels.
6. It heals endocranial imbalances and ensure.
7. Yoga nidra not only detoxifies the body, but also clears up the subconscious.
8. It improves creativity.
9. It also leads to improved senses and more cultivated body awareness.

22. Explain the structure of heart with the help of a diagram. 5

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 mid... selfrepair.

Internal View of the Heart



Chambers of the Heart

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

- Right atrium
- Right ventricle
- Left atrium
- Left ventricle

The two atria 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 right atrium receives deoxygenated blood from systemic veins; the left atrium 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.

23. Explain in detail the principle of stability and its uses in sports. 5

(i) Broad base of support—for greater stability increase the area of the base and lower the centre of gravity as much is consistent with the activity involved. Examples :

(a) A basketball player stops, spreads his feet wide as shoulder line and lowers his CG to dodge the opponent.



(b) Defense position of the player in volleyball.

(c) Wide stance of a golfer.

(d) Tackling position of a player in football.

(ii) Stability is directly proportional to the weight of the body the object or a person with heavy weight will have greater stability as compared to person with less weight. Example: it is difficult to move a heavier

person as compared to less heavier person. On the basis of this principle, wrestling, boxing, judo, etc. are organized according to different age groups.



- (iii) Direction of in acting force—To start quickly in one direction, keep the CG as high as possible and as near as possible to the edge of the base nearest to the direction of intended motion. e.g.. The crouched position in starting a race.
- (iv) When the body is free in the air, if the head and feet move down, the hip move up and vice versa. e.g.. This is used in Pole Value, hurdles, dire in swimming.

24. What is Plateau ? Mention its causes. 5

Ans. The general trends of rapid beginning continues for some time after it slows down and reaches a level where no further improvement occurs. The learning curve travels in almost a horizontal plane. These horizontal stretches indicative of no apparent progress are called plateau.

Causes of Plateau

- (1) **Boredom**—Some routine work often brings boredom, it is one of the cause of boredom.
- (2) **Lack of Practice**—Lack of practice often causes plateau and stagnated performance.
- (3) **Dirty environment**—Poor, dirty and unsafe environment may plateau.
- (4) **Lack of Motivation**—Lack of Motivation and less feedback often causes long learning plateau.

25. Explain in detail the classification of skills.

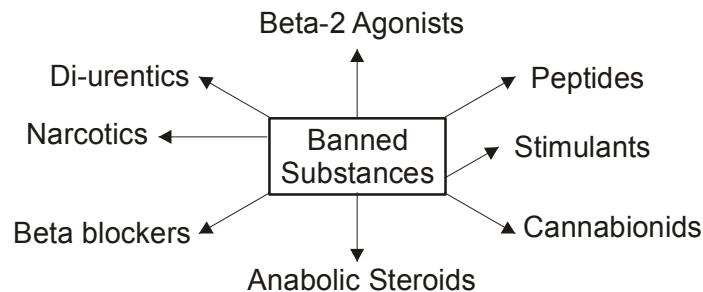
1. These are a number of sports activities and each activity requires a

set of skills. Owing to many characteristics of skill, it is different clarify them generally there are the following skills:

- (a) **Open Skill**—The skill which are not under control and are unpredictable are classified 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 coordination, timings and decision. These skills are straightforward, easy to learn and not difficult to performed, 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**—There 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) **Individual Skills**—Individual skills are these skills which are performed in isolation, e.g. high jump and long jump.

26. Explain in detail the side effects of the use of banned substance in sports.

Ans. The athletes uses different types of banned substances.



1. Stimulants –

- 1. Cause insomnia, anxiety and aggressiveness
- 2. Poor Judgement
- 3. Increases hypertension and body temperature

2. Anabolic steroid

1. Can cause sudden heart attack
2. High blood pressure
3. Mood swings, aggression/depression
4. Can cause impotency and baldness in males
- 3. Cannabinoids –**
 1. Reduce concentration and co-ordination
 2. Reduce lung capacity
 3. May cause heart disease and lung cancer
 4. Loss of memory
- 4. Beta Blockers –**
 1. Reduces endurance
 2. Headache and weak digestion
 3. Risk of heart attack due to slow heart rate.
- 5. Narcotics –**
 1. Loss of balance and coordination
 2. May cause drowsiness, vomiting, constipation
 3. May cause fainting and coma
- 6. Diuretics –**
 1. Can cause dehydration
 2. May lead to kidney damage
 3. Mineral imbalance and low blood pressure and drowsiness.

Physical Education
Solved Sample Paper - III
Annual Examination

1. Define Physical Education ?

Ans. "Physical Education is the sum of changes in the individual caused by experience which can bring in motor activity."

2. What do you mean by Olympic ideals ?

Ans. It means that every individual must strive for personal excellence. This ideal is not applicable only to sports and athletes but to every individual for every task performed.

3. What do you mean by Wellness ?

Ans. Wellness has also been defined as a conscious, self-directed and evolving process of achieving full potential.

4. Who is Special Educator ?

Ans. Special Educator is a teacher who is specially trained to work with children with special needs.

5. What is Pratyahara?

Ans. In this fifth element or part of yoga, a yogi tries to bring the senses under his control. By doing so, he can be successful in destroying the destructive qualities and acquiring good or divine qualities.

6. Name two safety equipment required for Rock Climbing ? 1

Ans. Helmet and Rubber Climbing Shoes.

7. What is Oxygen debt ?

Ans. Oxygen debt means—Demand of more oxygen. In other words, the excess amount of oxygen that is essential to bring the body to its pre-exercise state, after strenuous exercise is called oxygen debt.

8. What is centre of gravity ?

Ans. Centre of gravity is a point at which the effective weight of a body is centred. This point plays a key role in all cases of equilibrium.

9. Define Emotions ?

Ans. Emotion is a complex affective experience that involves diffuse physiological changes and can be expressed overtly in characteristic behaviour patterns.

10. What is free play ?
Ans. Free-play refer to the spontaneous and in structured activities, that engage the motor components of the body. The development of motor skills involves the control and coordination & arms, legs, fingers and toes.
11. What is doping ?
Ans. Doping is the use of any methods or substance that might harm the athlete in a quest to gain an unfair advantage over his fellow competitors.
12. Discuss the objectives of Physical education ? 3
Ans. (1) Physical Development
(2) Mental Development
(3) Social Development
(4) Emotional Development
(5) Health Development
13. Briefly mention the importance of Yoga ?
Ans. (1) Physical Purity
(2) Care and prevention from diseases
(3) Reduces mental Tension
(4) Keeps the correct posture of body
(6) Increases flexibility
(7) Reduces obesity
(8) Improve health
14. Mention a few safety measures for adventure sports ?
Ans. Page No. 92
14. Describe the functions of muscles ? 3
Ans. (1) large muscles protect bones.
(2) Cardiac muscles perform pumping action of the heart.
(3) Muscles contractions carry out one of the two things either they maintain a posture or they cause movement.
(4) Involuntary muscles are related to the movement of internal organs there.
(5) Muscles in Union with bones make work more easy.
15. Write down the problems of adolescence ? 3
Ans. (1) Physical Problem

- (2) Mental Problem
 - (3) Problem of Aggressive Behaviour
 - (4) Emotional Problem
 - (5) Social Problem
16. Explain dynamic & static equilibrium ? 3
- Ans. Page 134
17. What is meant by limbering down ? Explain the beneficial effects of limbering down.
- Ans. Limbering down means lowering down in density of the work performing the stretching exercise followed by deep breathing, relaxation exercise is called cooling down.
- Beneficial Effects of Limbering Down—When we exercise there is a lot of blood flow in our muscle if we stop suddenly there may be pooling of blood in the extremists and cause giddiness and some time collapse. Limbering down exercise prevent the post exercise soreness and stiffness.
18. How does Beta-Blockers effect the sports performance ? 3
- Ans. (1) Reduction in blood pressure and heart rate
- (2) Reduce shaking of hands
 - (3) It reduces level of anxiety
 - (4) It improve concentration
19. Briefly explain about Chacha Nehru Sports Awards ? How it is beneficial to the sports person 3
- Ans. Page No. 25
20. What are the physical methods of doping ? Define methods prohibited in sports ? 5
- Ans. Page No. 180
21. Explain in detail the classification of skills ? 5
- Ans. Page 167
22. Discuss the factors affecting transfer of learning ?
- Ans. Page 156

Q.23. Explain in detail the principle of stability and its uses in sports ?

Ans. Page 141

24. Elucidate the importance of anatomy and physiology in field of sports ?

Ans. Page. 129

25. Explain the procedure of skinfold measurement in details ?

Ans. Page 112

26. How can healthy threat be prevented through life style change ? Discuss in details ?

Ans. Page 38

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