



Important snaps
by Team PIS
Class- XIth



SUBJECT: PHYSICAL EDUCATION
TEACHER: KUNAL ANAND

Chapter 1- Changing Trends and Career

1. What is the aim of physical education?

Ans. The aim of physical education is all round development of the personality of the individual.

2. What do you mean by sport journalism?

Ans. Such PETs who have skills in communicating by oral or writing can avail the career option in the field of sports journalism.

3. What is adaptive physical education?

Ans. Through adaptive physical education disable students are encourage to participate in safe, satisfactory and physical activities.

4. When was sports Authority of India established?

Ans. The sports Authority of India was established by the Govt. of India in January 1984.

Q5. What are the main objectives of physical education ?

Ans. i. Physical development: Its main aim is physical development physical activities enhances the size, shape and capability of different organs which is good for healthy body, healthy citizen can only contribute in nation - building.

ii. Mental development: Physical activities makes the mind aware and helps in increasing concentration. While playing, many situations arise player's have to take independent decisions, thus it relates to mental development.

iii. Social Development: Its aim is to develop social qualities in individual which is very important for making adjustment in life. Player get many opportunities to come near to each other which develop many qualities like, unity, friendship, cooperation, respect, sportsmen spirit, brother- hood, assurance etc.

iv. Emotional Development: One of its main aim is emotional development of individual different activities of physical education teach how to have control over impulse. One has to control different feelings in different situations like pleasure, hope, jealousy, sorrow, anger, fear etc.

v. Neuro-muscular Development: Physical activities develop coordination between nervous and muscular systems. A healthy nervous system keeps the unnecessary fatigue away. It reduces reaction time of the player and increases the speed. Thus the main aim of physical education is to develop co-ordination between them.

Q6. Write a note on the teaching career in physical education ?

Ans. Teaching career is appropriate for those people who are really interested in it one can choose one's career in elementary schools, middle schools, high schools and schools and collages according to one's educational qualification. Teachers enjoy lots of respect among their students because the teacher contributes a lot to the society. It also provides inner satisfaction.

Q7. Discuss the programmes of the sports Authority of India ?

Ans. i. To search and nurture sports taken: Through this talented children are researched. they are properly trained and provided other facilities. So that the level of sports may go up in India.

ii. To provide Sports scholarship: Players are given sports scholarships according to their achievements. for this purpose, a merit list of their achievement at national level is prepared.

iii. To organise national sports talent competition time to time sports competition are held at national level to select talented players.

iv. To promote indigenous games and martial art: Competitions are organised to promote indigenous sports and martial arts. Such competitions are organised continuously in north - eastern states of India.

Q8. Which principal are required to be followed to make the adapted physical education effective? Explain.

Ans. i. Medical Examination: It is very important for the success of programmes related to adapted physical education. Otherwise, it will be difficult to find out what kind of disability, the student is suffering from. Therefore, it is imperative to conduct medical examination of the students.

ii. 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.

iii. Equipment should be appropriate: Students should be provided with equipment as per 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.

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

v. Modification of Rules : Rules and regulations of the games 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.

Chapter 2 - Olympic Value Education

Q1. What is Olympic oath?

Ans. At the beginning of the games the host country representative will take oath on the behalf of all participating athletes. That is “We swear that we will take part in the Olympic games in loyal competition representing and abiding by the rules which govern them without the use of doping and drugs in the true spirit of sportsmanship for the glory of sport and the honour of our teams”.

Q2. Describe in brief the eligibility criteria for Dronacharya Award?

Ans. This award is for coaches whose Teams or players have shown outstanding performance in international/national competitions. The following capabilities are necessary for the eligibility of this award:

1. The player who has won gold, silver or bronze medal at Olympic or world cup championship.
2. The player who has broken the world record. This record should have been recognised by the international sports federation.
3. the player who has won the gold medal at Asian or Commonwealth championship.
4. The player who has won gold medal at least three times in Asian or Commonwealth championships.

Q3. Describe the objectives of CBSE sports?

Ans. The central Board of Secondary Education conducts the various tournaments at various level to promote games & sports in India. There are following objectives of CBSE sports.

1. To raise the general standard of sports.
 2. To organise orientation, refresher and training programmes for physical education teachers.
 3. To organise inter- school tournaments and competitions.
 4. To encourage sportsmanship and promote friendly relations among schools.
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Q4. 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 1948 Sir Ludwig Guzman organised games for disabled soldiers in various hospital in London. In 1960 Rome Olympic sir Ludwig collected 400 disabled athletes and organised games, and it was named Para- Olympics. Shooting was the first game to be introduced in Para Olympic Games. The International Para Olympic committee (IPC) is responsible for organizing summer and winter Olympic games. The headquarter of 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.

Q5. Write a short note on the Olympic Flag?

Ans. Olympic Flag was created in 1913 at the suggestion of Baron Pierre de Coubertin. It was first hosted in 1920 Olympic games at Antwerp (Belgium). It is made of white silk and contains five inter-locking rings in five colours yellow, green, red, blue and black representing the five continents of the world. The inter-locking rings symbolises cooperation and friendship.

Q6. Write down in details about International Olympic Committee ?

Ans.The International Olympic Committee is the governing body of the modern Olympic games. It is committed to support and promote participation in sports throughout the world. The International Olympic Committee has its headquarter in Lausanne, Switzerland. It was created by Pierre; Baron de Coubertin on 23rd June 1894. Greek Dimitis Vikelas was its first president. It's memberships consists of 105 active members and 32 honours members. The International Olympic Committee (IOC) organises the summer and winter Olympic games every four years. The first summer Olympic games by the International Olympic Committee were held in Athens, Greece in 1896. whereas the first winter games were held in Chamonix, France, in 1924. From 2010 the IOC has started to organise to the summer and winter youth Olympic games. The first summer youth Olympics were held in Singapore in 2010, whereas the first winter Youth Olympics were held in Innsbruck in 2012.

IOC Governing Body: International Olympic Committee consists of members from the various countries:

President: The President of IOC is elected by its members for a term of eight years. The current IOC president is Jacques Rogge.

Vice- President: In the IOC four vice- presidents are elected. They are elected for four years.

Executive Board: The IOC Executive Board consists of president, vice-president and ten other members.

Main Functions of IOC: The IOC performs a numbers of functions which areas under:

1. The IOC decides the venue and date of Olympic games
2. It also ensure the regular celebration of the Olympic Games.
3. For conducting the competition and general for the Olympics, fundamentals rules set by this committee.
4. It also acts against any form of discrimination Affecting the Olympic Movement.
5. It leads the fight against doping in sports.

Q7. 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 is affiliated to 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:

President.

Vice-President: nine vice presidents Joint Secretaries: six joint secretaries

Secretary General: one

Executive Members: One honorary Treasurer, seven representative of state Olympic associations and twelve representatives of national sports federations.

Objectives of Indian Olympic Association:

The main objectives of Indian Olympic Associations are:

1. Enforcement of all rules and regulations of International Olympic Committee and Indian Olympic Association.
2. Development and Promotion of the Olympic Movement.
3. To take disciplinary action against any federation for misbehaviour or any other undesirable activity bringing discredit to the nation.
4. To co- operate with national sports federations/associations, organise and control selection, training, coaching of the team that will represent India.
5. Admitting the members of state Olympic Associations/National sports federations which submit their annual reports and audited statements of accounts necessary.

Chapter 3 - Physical Fitness, Wellness , Lifestyle

Q1. Define Physical fitness?

Ans. According to Encyclopaedia. "It is the ability of a person to do daily routine work without fatigue, moreover to participate in playful activities and skill reserves enough capacity to meet any emergency.

Q2. What do you mean by wellness?

Ans. wellness is the maximum capacity of individual to lead a well balanced life related to good health, active physical life, positive mental abilities, well adjusted social life, psychological balance, balanced emotional life, good spiritual life release to stress etc.

Q3. What is meant by Lifestyle?

Ans. Lifestyle is the typical way of life of an individual, group and culture. Lifestyle is a way, a person leads his/her life. It includes the patterns of social relation, consumption, entertainment and dress. It also reflects persons self image or self concept, the way they see themselves and believe that they are seen by other persons.

Q5. List down the component of positive Lifestyle

Ans. Physical fitness, Personal Hygiene and healthy habits, Medical checkup, Good Posture, Medical care and Recreate yourself.

Q6. Explain the meaning of Health.

Ans. Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity "Health means wealth"

Q7. Explain the importance of physical activity on enhancing the life ?

Ans. Physical activity is a vital component of positive Lifestyle.

(1) Reducing Anxiety: Exercise reduces the symptoms of anxiety such as worry.

(2) Reduce stress, depression and improves mood.

Regular physical activity reduces the body's overall response to all forms of stressors and help people to deal more effectively with the stress, they experience.

(3) Reduces the risk of chronic diseases: Physical training is a process of producing long term improvement in body's functioning though exercises. Exercise reduce the risk of developing or dying from heart diseases, diabetes, high blood pressure colon cancer, obesity, depression and reduced spending for health care.

(4) Reduced risk of becoming obese: Too much body fat is linked to a variety of health problems. Excess calories are stored in the body as fat. Regular exercise increases daily calorie expenditure so that a health diet is less likely to lead to weight gain.

(5) Improves psychological emotional well beings

Performing physical activities provides an opportunity to skill mastery and self control. Fit people can maintain their physical and mental well being throughout their lives.

Q8. Why is a Healthy Lifestyle important.

Ans. A healthy Lifestyle is a valuable resource for reducing the incidence and impact of health problems, enabling you better to cope with life stressors, as well as improving your quality of life.

Many health problems can be prevented or at least their occurrence postponed by having a healthy Lifestyle.

Many health problems are addressed or cured by exercise, nutrition, stress management and other healthy

Lifestyle Practices.

Q9. Describe the components of wellness ?

Ans. Components of wellness:

Wellness is the ability to lead a well balanced. Life style relating to physical health, mental health, social health and emotionally balanced life. There are many components to bring wellness all these also develop optimum health.

(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, moreover 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, moreover 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 satisfaction.

(6)Managing stress: Wellness needs the proper management of stresses and tensions of life. It keeps us calm and controls our anxiety.

Q10. What do you mean by the term physical fitness? Explain the component of physical fitness in detail.

Ans. Physical fitness is the total functional capacity of an individual to perform a given task. It means that it is the body's ability to function efficiently, to enjoy leisure time, to be healthy, to resist hypo kinetic diseases and to meet unforeseen situation. It consists of health related fitness and skill related physical fitness. Physical fitness and exercises habits developed in early years provide a foundation for life time. Since activity is the basis of life and human body cannot remain in normal condition without activity therefore optimal physical fitness is not possible without regular exercise.

Components of physical fitness

There are five physical fitness components. These are

Speed

Strength

Endurance

Flexibility

Coordination

Speed: It is the ability to perform movement at 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.

Strength: It is an ability of muscles to overcome or to act against resistance e.g. exercise with medicine ball, Isometric exercises, pushups etc.

Endurance: It is the ability to sustain or continue activity or it the ability to resist fatigue. It is one of the important components for middle and long distance races ad it is required for almost all major games like football, hockey and basketball.

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.

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 unbalanced.

Chapter 5 - YOGA

Q1. Define yoga.

Ans. Unification of atma with parmatma is called yoga.

Q2. What is Dhayana?

Ans. Complete concentration of chitta (Mana) is called Dhayana.

Q3. How is BMI measured?

Weight in Kg. (Height in Mtr)²

Ans. -----

(Height in Mtr)²

Q4. Outline any two importance of yoga

Ans. (1). It controls the body diseases and increase physical as well as mental purity.

(2). It increases the immunity power of the body which help in preventing diabetes, hypertension, heart disease etc.

Q5. “Yoga is our cultural Heritage.” Explain this statement.

Ans. Yoga was born out of the Thought process of thousands of years. Indians believe in cycle of birth and death and in principle of re-birth. They were motivated to practice Yoga in order to attain Moksha. The History of yoga is as follows:

- 1. Pre-vedic Period:** Many statues in yoga mudra were found in the excavation of Harappa. It reveals that yoga was practiced during Indus Valley Civilisation which is 3000 years old.
- 2. Vedic-period:** In Rigveda, the use of word ‘yunjate’ suggests an idea of yoga for control over senses.
- 3. Upanishad Period:** The mention of yoga is found in Puranas and upanishads also.
- 4. Epic-period:** Ramayana and Mahabharata are important sources of information about the yogic practices of that era. Bhagwat Gita emphasised on Bhakti yoga and karma yoga. Lord Sri Krishna narrated yoga to Arjuna in Mahabharata, “Skill in actions or efficiency alone is Yoga.”
- 5. Sutra Period:** Patanjali wrote four yoga sutras around 147 B.C. in which he mentioned about 8 parts of yoga.
- 6. Smriti Period:** The Literature of Smriti period shows significant presence of pranayama along with changes in beliefs, worship, ideas, rituals and customs.
- 7. Medieval Period:** In this period two cults were very famous-Natha Cult and Bhakti Cult. Hatha Yoga was also developed during this period.
- 8. Modern Period:** Swami Yogananda, Shri Aurobindo, Raman Maharshi etc. spread yoga outside India. Swami Vivekananda and Baba Ramdev have contributed by spreading yoga all over the world.

Q6. Describe different elements of yoga:

Ans. Yama is the first element of yoga. It keeps people away from world by troubles. According to Patanjali, there are five code of conduct of Yama. These are:

1.(i) Satya: One must speak the truth. One should never cheat others.

(ii). Ahinsa: One must refrain from causing harm, violence, jealousy, hatred, anger, oppression etc.

(iii).Asatya: One must not steal others money or idea. To Steal from human is to steal from God himself.

(iv).Brahmacharya: One must avoid reading sexual Literature, one must keep ones mind at peace, avoid eating spicy food.

(v). Aparigraha: One should not collect wealth and other items more than required.

2. Niyama: This is related with body and sense. It helps in cleansing of body. There are five Niyamas:

(i). Saucha: Everyday body should be cleaned externally as well as internally.

(ii). Santosh: One should remain content is controlling diseases.

(iii).Tapa: It trains a person to difficulties so that one can move towards the ultimate goal.

(iv). Swadhyana: One must read religions scriptures and vedas with devotion.

(v). Iswara Pranidhana: It means devoting everything to the God Almighty. We should thank God for the intelligence power, body etc.

3. Asana: It has third position. To keep the body in correct posture is called asana. It enhances agility and flexibility. it makes the bones and muscles strong. It protects us from various diseases. It increases life expectancy. One can work more by consuming less energy.

4. Pranayama: It makes the heart and lungs strong. It reduces the rate of breathing. It keeps away the respiratory diseases.

5. Pratyahara: This is the process of control over inner self. It helps the person to detach from external things and teaches to control over senses.

6. Dharana: One has to concentrate on the mind during dharna. One must concentrate on the central point of forehead, naval or peaceful light at some distance. It leads to samadhi.

7. Dhayana: A sense of radical self-awareness is called dhyana. It is attached to life each and every moment one must concentrate on God without a wavering mind.

8. Samadhi: Union of Jivatma with Paramatma is called Samadhi.

Samadhi state is attained with disappearance. of self-awareness. To control the impulses of mind is Samadhi. In this state, one experiences the divine happiness.

Chapter 6 - Physical Activity and Leadership Training

Q1. Define sports Environment.

Ans. Sports Environment is the conditions and circumstances in which sports persons perform or indulge in sports activities. Sports persons including the related persons to sports such as coaches, teachers of physical education and other officials must know and pay proper attention to sports environment. It means that all the factors or conditions that encourage and promote sports constitutes sports environment.

Q2. What do you mean by proper or positive sports environment?

Ans. For the promotion and encouragement of sports and games appropriate sports environment is always required. Sports and games cannot be ameliorated and flourished in the absence of appropriate sports environment. If it is appropriate it will grow like anything on the other hand if environment is not positive its growth and development will be hindered and sports persons can

Q3. What activities are recommended for early childhood?

Ans. The activities recommended for early childhood should be with low energy level, but involving light running, catching, throwing, jumping, coordinative exercises, flexibility exercises. Enjoyable and recreative methods should be adopted to make the activities more child based learning. The environment needed at this stage should be clean and safe and moreover proper check by parents and teachers are very much required.

Q4. Discuss the essential elements of positive sports Environment.

Ans. Basic essential elements of positive sports environment are of utmost importance, which are as follows:

(a) Infra structural setup:

The architectural design of infrastructure should consider the following factors such as purpose and need of setting up must be made clear, how much area required for those activities, natural or other sources available, industrial pollution, facilities to be provided for players or spectators, Spectators Sitting Capacity, finances or funds available.

(b) Facilities and its maintenance:

In sports environment the playing equipments should be of very good standard. The playing area should be well maintained, marked properly, regularly cleaned up and safe for performing activity. There should be safe provision of drinking water, washrooms, changing rooms etc. There should be provision of emergency exit point along with proper first aid facility.

(c) Players, Expert Staff and organisation:

Sports environment is meant for players. Players should also be guided and given proper training. The staff must be well qualified with good experience in related fields. There should be proper administration and organisation among staff members. Players should be inculcated towards good habits, moral values, sports ethics, sportsman qualities etc. In sports environment we should also encourage people who provide help or promote and help to improve sports environment.

Q5. Explain the infrastructural setup for positive sports environment?

Ans. The infrastructural setup for sports environment must be properly planned. The architectural design of infrastructure should focus on the following factors like purpose and need of setting up must be made clear, for what activities to be played, site or location of infrastructure, natural or other sources available, away from busy traffic, facilities to be provided for players or spectators. The infrastructure should be constructed as per the norms of construction. The infrastructure should be well covered by proper boundary wall. The surface of play field be constructed as per rules of the activity.

Q6. What activities are recommended for later childhood stage?

Ans. In this stage, flexibility and coordinated patterns of growth occur and the activities should involve light activities with coordinative and flexibility exercises. They should develop bone joints and muscular co-ordination. The activities recommended by experts at this stage are the yogic asanas, gymnastic exercises, ball games, running activities, calisthenic exercises, rhythmic exercises, anaerobic activities, balancing exercises etc. During this stage of growth good quality apparatus and safety measures should be considered. Teachers should check their mistakes and correct them instead of making it a very big deal. Wrong habits should be checked and guided properly for creativity and proper understanding.

Q7. Explain the principles of physical activity environment.

Ans. The principles of physical activity environment should be constructed as per laws. They must follow the laws and guidelines:

(a) Safety policy: The management should develop clear and accessible child safety policy.

(b) Construction as per laws: The physical activity environment must follow the laws and guidelines of the government.

(c) Proper maintenance: The organisation should check and maintain the infrastructure and organisation of physical activity environment.

(d) Code of conduct for users: The organisation that specifies and standards of conduct and care given to its users.

(e) Identify and Analyse the Risk of Harm: The management should identify and analyse the possible risk factors and protect them from children

(f) Suitable staff and volunteers: The organisation should check and maintain the infrastructure and organisation of physical activity environment.

Chapter 7 - Anatomy, Physiology and Kinesiology

Q1. Define anatomy.

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

Q2. 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.

Q3. 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.

Q4. 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.

Q5. 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).

Q6. What is a muscle?

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

Q7. Enlist types of muscles.

- Ans.** i. Voluntary/skeletal/striated muscle
ii. Involuntary or smooth or spindle muscle
iii. Cardiac muscle

Q8. Which is the hardest working muscle in our body?

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

Q9. Which is the strongest muscle in our body?

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

Q10. How many bones are there in a Child and an Adult?

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

Q11. What is tidal volume?

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

Q12. 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.

Q13. 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.

Q14. 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.

Q15. What is cardiac output?

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

Q16. 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
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Q17. 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 complexed shaped as compared to other types. The bones of spinal column and skull are examples of these bones
6. **Sutural bones:** They are situated in sutural joints in the skull.

Q18. 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 sport 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 sport 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.

Q19. 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 that comes out as a human 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. Store house:** 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.

Q20. 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 cords to produce sound.
- iii.** To regulate blood Ph.
- iv.** To protect against some microorganism. Respiratory system blocks the entry of microorganism in the body at various levels, thus it provides protection against harmful microorganisms like virus, bacteria, etc.

Chapter 9 - Psychology and Sports

Q1. Give definition of Psychology?

Ans. Psychology is the science of human behaviour.

Q2. 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.

Q3. 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.

Q4. 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.

Q5. What is positive transfer of learning?

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

Q6. 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 may 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 as to what course of life he has to follow.

Q7. Mention the importance of sports psychology ?

Ans. 1. Improve performances - The Knowledge of sports psychology helps to improve performance and personality of players by scientific ways of modifying behaviour

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.

Q8. 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 sulky, short tempered, moody and irritable. They also become very self-conscious and extra sensitive.

Q9. 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 follows-

(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.

Q10. 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 thing 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 in 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.

Chapter 10 - Training and Doping in Sports

Q1. Mention the doping substances.

Ans. The various doping substances are stimulants such as Heroin, Cocaine, Steroids such as Anabolic Steroids, Testosterone, Growth Hormone such as Somatotropin, peptide hormone.

Q2. Define doping and its types.

Ans. Doping can be defined as the use of banned performance enhancing drugs in sports particularly by the organisation that regulate sports competitions. There are two types of Doping

- (a)** Performance enhancing substances
- (b)** Physical methods.

Q3. Explain out of competition doping test.

Ans. Out of competition doping test is any such testing of an athlete not in competition or in a way associated with athlete's immediate participation in an event.

Q4. What do you mean by WADA.

Ans. WADA stands for world anti-doping agency.

Q5. Define Blood doping?

Ans. Blood doping is a method of improving athletic performance by artificially boosting the blood's ability to bring oxygen to the muscles. Blood doping increases the amount of haemoglobin in the blood stream.

Q6. Define sports training?

Ans. Sports training is the basic form of preparation of sportsperson

Q7. Define Warm-Up ?

Ans. Warm-up is process of heating the whole body by running and performing exercise prior to the competition.

Q8. What is Limbering or cooling down?

Ans. It is process to bring the body in normal state after training or competition.

Q9. Define Load?

Ans. It is process of long- term adjustment to a specific stimulus.

Q10. Define Recovery?

Ans. Recovery is to regain what we lost after training or competition. Recovery is an essential part after exercise or training load.

Q11. What is skill?

Ans. A Skill is the ability to perform a whole movement.

Q12. What is Technique?

Ans. Technique is defined as the motor procedure for taking a motor task. Motor procedure should be understood as a system of movement of body parts in a definite sequence.

Q.13 Describe the ill effects of stimulants, steroids, Narcotics and Diuretics.

Ans. The ill effects of the banned drugs are as follows:

(i) Stimulants: These are chemicals which have direct effect over Central nervous and Cardiovascular Systems. The toxic effects of stimulants are aggression, violent behaviour, blurred vision, dizziness, irregular heartbeat etc. It has addictive effect, moreover its dependence can lead to high dosage.

(ii) Steroids: They adversely affect the body leading to heart attack, cause cancer, infertility (In females), hypertension, aggressive behaviour, uncontrolled emotions etc.

(iii) Narcotics: It may cause loss of balance and co-ordination. They cause loss of concentration. There may be drowsiness, nausea, vomiting, constipation, fainting and coma etc. They create illusion of athletic powers beyond actual capacity. They are good pain killers. Examples of these are morphin (Ganja), Opium, heroin, Cocaine etc. they are found in cough syrups.

(iv) Diuretics: These drugs reduces fluid from the body. The person reduces body weight in very short period. These are generally used by wrestlers, judo and boxing players. These drugs increases urine secretion. It reduces the natural appetite, may lead to malnutrition, body fainting, dehydration etc. The amount of potassium and sodium decreases in the body, which may lead to mineral imbalance in the body.

Q14. Discuss the effects of blood doping.

Ans. Blood doping is the process of increasing the Red Blood cells by administration of blood transfusion. Increased amount of RBCs helps in strength and endurance activities. This can be done by injecting extra RBCs production. Blood doping increases the amount of haemoglobin in the blood stream. Haemoglobin is an oxygen carrying protein in the blood. So increase in haemoglobin allows higher amount of oxygen to reach and fuel an athlete's muscles, which increases stamina and performance particularly in long distance events such as running and cycling.

Q15. How does an individual, health get affected by the ill effects of Doping?

Ans. The use of performance enhancing substances leads to serious health problems and even death.

(a) Addictive effects: Most of these substances have addictive effects and hence it creates physical and psychological effects.

(b) Cardiac Problems: Doping has adverse effect over heart and causes many types of cardiac problems like varied heart beat, hypertension, cardiac arrest etc.

(c) Affects Kidney and liver: Doping substances contains strong chemicals and hence it affects liver and kidney adversely. It leads to non-functioning and partial damage of important organs.

(d) Unbalanced Psychological Behaviour: These substances usually leads to un-balanced psychological behaviour like aggression, loss of concentration, headache, loss of neuromuscular responses, insomnia, depression etc.

(e) Impotence: Doping causes impotence in males i.e. shrinking of testicles, reduction of sperm production. In females it causes infertility.

(f) Dehydration: Doping causes great loss of water from body, thus leads to dehydration. Dehydration results in cramps, heat stroke, high temperature etc.

(g) Digestive problems: Most of these banned drugs cause digestive or gastro problems like loss of appetite, hormonal variation, constipation, stomach ache etc.

Q16. Describe the doping test procedure.

Ans. Doping test is a technical analysis of specimens of urine, blood, sweat, saliva or oral fluid to determine the presence of specified drugs or their metabolism. An athlete can be called for drug test at any time, usually drug test is done on winning team or top three competitors.

Testing procedure: During the drug test, samples of urine, blood, saliva is take. These collected samples are split into two parts (sample A and sample B) and sealed by athlete. The first sample (Sample A) is sent is registered laboratory for drug test. If the first sample (Sample A) found positive or sports enhancing drugs are found in this sample, then the athlete is notified. After words second sample (Sample B) is tested in the presence of athlete or coach.

If both the samples (sample A and sample B) are positive then relevant sports federation is notified. It is the responsibility of concerned federation to decide the penalties or ban to be imposed over that athlete. Through this dope test, it educates athletes regarding harmful effects of drugs. It also checks the quality of athletics related to doping or drug use in sports.

Q17. Explain the Types of warm-up?

Ans. There are two types of warm-up

1. General warm-up
2. Specific warm-up

1. General warm-up:- It is usually performed in all types of activities such like Jogging, running, jumping, stretching, calisthenics, striding, wind sprints and other General exercise. It increases coordinative abilities and flexibility of muscles and joints.

2. Specific Warm-up: In this type of warm-up specific types of exercises are performed after the activities of general warm-up. Specific type of warming-up differs from activity to activity.

Q18. Write down the importance of Limbering Down?

Ans. Limbering down is the important part of any training or competition as it is essential to bring the body back to its normal position.

There are certain advantage or importance of Limbering down:

- 1 Body temperature become normal
- 2 Proper removal of waste product
- 3 Decrease in tension
- 4 Reduces the chances of dizziness or fainting
- 5 Decrease in the level of adrenaline in the blood
- 6 Heart rate returns to initial stage
- 7 Muscles do not remain stiff.
- 8 Supply of Oxygen normalises

Q19. 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 way:

- 1 Simple to complex
- 2 Exercise for all the parts of body
- 3 Stretching and Loosing Exercise should be included
- 4 Intensive enough to Increase Body Temperature
- 5 Warming-up should be according to the activity or sports
- 6 Concerned Movement of Games should be included.
- 7 Warming-up should be done at Exact time
- 8 Warming-up should be according to Age and Sex.

Q20. What do you mean by the Sports Training and Explain principals of sports training?

Ans. Sports Training is the process of all the scientific and systematic channel of preparation of sportsperson for the highest level of sports performance. Sports training also consists all those learning influences and process that are aimed at enhancing sports performance:

Principles of Sports Training:

Principle of Over Load

Principle of Progressive Development

Principle of Continuity

Principle of Variety

Principle of Individuality

Principle of Specificity

Principle of Active Participation

Principle of Periodisation

Principle of General and Specific Preparation

Principle of Rest and Recovery

1. Principle of Overload: The principle of overload states that there should be greater than normal load on the body as required for training adaption to take place. For example, to increase endurance, muscle must work for longer period of time than they used to.

2. Principle of Progressive Development- According to this principle, the load should be increased step- by - step, so that players can handle easily. The principle of progressive development also makes us realize the need of proper rest and recovery.

3. Principle of continuity: According to this principle, the training should be a continuous process. There should not be any break. The interval between two training session should be maximum but not too long.

4. Principle of Variety: For a successful coach the training plan should be in variation so as to maintain the interest and motivation of the athlete. For example, changing the nature of exercise, timing and environment.

5. Principle of Individual Differences: According to this principle. every sportsperson is different due to individual differences. For example, compared to male athlete an women athlete require more recovery time for the same event.

6. Principle of Specificity: This principle states that exercising a certain part or components of the body primarily develops that part.

7. Principle of Active involvement: the principle of active involvement means that for an effective training programme the athlete must participate actively and willingly.

8. Principle of Periodisation:- The sports training programmes are developed through various training cycles such as macro cycles, meso and micro cycles.

1. Macro Cycles: duration 3 to 12 months.

2. Meso Cycles: duration 3 to 6 weeks.

3. Micro cycles: duration 3 to 10 days.

9. Principle of General and specific Preparation: For the improvement of the performance, both the general and specific preparation are equally important. General preparation serves as the base for specific preparation.

10. Principle of Rest and Recovery: According to this principle, the training programme should be made in such away there should be proper rest and interval between training activities.