

PHYSICAL EDUCATION AND SPORTS

CLASS-XII



Punjab School Education Board
Sahibzada Ajit Singh Nagar

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Edition : 2019 : Copies

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Price : Rs.

Published by : **Secretary** Punjab School Education Board, Vidya Bhavan
Phase-8 Sahibzada Ajit Singh Nagar-160062 & Printed by

Foreword

It has always been the endeavour of Punjab School Education Board since its constitution in 1969, to improve the syllabuses of different subjects on the modern lines and prepare the textbooks in a scientific manner as per the revised syllabuses.

Keeping in view importance of sports on National and International Level. Punjab is the pioneer state to introduced the subject of Health and Physical Education, as a compulsory subject in the curriculum from class I to VIII to XII Class. Besides, This subject has been implemented as a optional subject for classes IX to XII.

The syllabus of the subject has been given a new shape as per the recommendation of PCF-2013. This book has been got prepared by able, experienced and the concerned field experts of this subject. The language of the book is very simple, interesting and of the mental level of the students of the concerned classes. Proper illustration have been provided to deal with the difficult ideas and sub topics. It has been our endeavour to make the study-material teacher friendly. It is hoped that this book will prove beneficial for both the students and the teachers as well. Suggestions from the field teachers and experts will be gratefully acknowledged by the Board.

Chairman

Punjab School Education Board

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Chapter-1

Physical Fitness

During the past few decades, people all around the world have become more and more fascinated towards sports. If we look into the history of sports, we learn that earlier sports were confined to the field of competition only, but today they have become a part and parcel of each area or section in the society such as entertainment, rehabilitation, physical ability, exciting sports etc. However, competitive sports are the most liked ones.

Competitive sports are not only limited to victory or, defeat instead, these sports also develop many social and moral virtues amongst the players. Besides developing the overall personality of a player, sports also develop a sense of patriotism in him or her. The player works hard for years and brings laurels to his or her state and nation. For performing well in a sport, a player is supported in various ways thus enabling him or her to become physically and mentally fit. Physical fitness is very important for performing well and achieving success in the field of sports.

Meaning of Physical Fitness:

Physical fitness means the ability to perform day to day tasks without getting exhausted and the strength to face an emergency even after the day's exertion. A player cannot succeed in sports without physical fitness. In order to prepare a player for any sport, first of all his or her physical fitness is increased with the help of various exercises. It is the level of the physical fitness of a player that becomes the basis of his or her victory or defeat in a competition.

Definition of Physical Fitness:

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

According to Kroles, “Physical Fitness is successful adaptation to the stress of one’s lifestyle.”

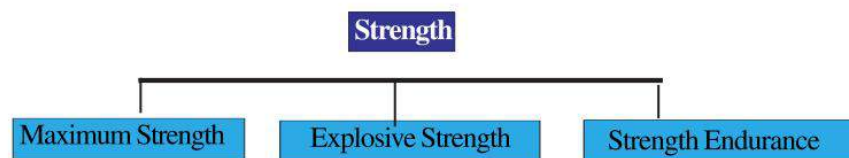
Different scholars have different opinions regarding physical fitness. According to some scholars, the ability to perform routine tasks well is physical fitness whereas some others relate physical fitness to the physique of a person. A doctor considers a person with a good physique to be physically fit while according to a sportsperson, it is the ability to perform well in a sports competition. In fact, physical fitness is completing one’s tasks without exhaustion or fatigue.

Components of Physical Fitness :

In order to increase physical fitness, it is important to know about the components of physical fitness and to improve upon these components. Besides sports, the components of physical fitness also play a vital role in other fields of life. Primarily there are five components of physical fitness. These are:

(1) Strength:

Strength is the vigour applied against some force. Strength is developed by muscles of the body. In other words, strength is the ability of muscles to combat. The body needs strength to perform any heavy or light work. It may be a simple task or a sport. All other components of physical fitness depend on strength. Chiefly, strength is divided into three categories:



(a) Maximum Strength: It is the ability of the muscles to act with maximum resistance against some force. With this ability to resist we can know how much strength our body has. Some games that require the exhibition of this strength in a very limited time are weight lifting, gymnastics, power lifting, wrestling and throwing discus etc.

(b) Explosive Strength: Explosive strength is the combination of power and speed. Resisting a force with high speed is known as Explosive Strength. In this strength, a player works against a light force with great speed. Examples: jumping, cricket shot, smashing a volleyball etc.

(c) Strength Endurance: It is the combination of strength and endurance ability. It is defined as ability to overcome resistance under exhaustion. It is required in activities that last long. Examples: in swimming, cycling, long distance races etc. a player in spite of exhaustion continues to complete the activity with continuous force.

(2) Speed:

Speed is an indispensable part of physical fitness. Speed is the ability to perform an action in minimum time. In sports, we cannot relate speed with a covered distance. In fact, in sports speed means the ability to perform an act fast. Speed is related to the central nervous system of body, which is a complex system to understand. Speed is generally considered to be dependent on the heredity, and cannot be improved much through proper training. There is a famous saying in sports, "Sprinters are born, not made." Speed depends on five types of abilities:

(a) Reaction Time: First of all, the speed of a person or player depends on the amount of time he takes in responding to a stimulus. The faster the reaction against an action, the better it would be. Example: response of a runner on hearing the gun shot at the beginning of a race.

(b) Movement Speed : Movement Speed is the fastness or quickness of completing an action or movement or overcoming an obstacle in minimum time. Example: leaving the block by a runner as soon as the starter shoots the gun at the beginning of a race

(c) Acceleration Ability: Acceleration Ability of a person is his ability to achieve the highest speed of movement from a stationary position or a slow moving position. It depends on the player's explosive strength, technique and movement frequency. The quicker a player achieves his highest speed, the brighter would be the possibility of his leaving behind his fellow contestants.

(d) Locomotive Ability: Locomotive Ability is the ability of a player to maintain maximum speed of movement for maximum time or duration. It plays an important role in short distance race such as 100 metre races or 200 metre race.

(e) Speed Endurance : It is with speed endurance that a player can win during the last phase of his game. Speed endurance is the ability to perform an action or movement with high speed under condition of extreme fatigue. It is the combination of speed and endurance ability. The greater the speed endurance of a team, the brighter would be its chances to win the game.

(3) Endurance:

Endurance is the ability to continue an act or task even under the condition of extreme fatigue or exertion. It is the third and an important component of physical fitness. Endurance is directly proportionate to time. On the basis of time, endurance can be categorised into three kinds.

(a) Short Term Endurance: All the activities which need to be completed within two minutes require short term endurance. It requires both speed endurance and strength endurance to complete an action. Examples: 100 metre, 200 metre and 400 metre races

(b) Medium Term Endurance: Medium Term Endurance is required in 1500 metre race and 3000 metre race. The activities that need to be completed in about more than 2 minutes and less than 11 minutes can be completed with the help of medium term endurance.

(c) Long Term Endurance: Long term endurance is required in all those activities that are completed in more than 11 minutes. Long distance races and long term games such as football, hockey etc. require long term endurance. The player has to continue the game for a longer period even under the condition of fatigue.

(4) Flexibility:

Flexibility is the ability of a person to fold his joints to move in maximum range. Flexibility is very important for players as it increases the efficiency of a player and protects him from injuries. Although all the sports require flexibility, yet sports like gymnastics, yoga and kho-kho require it more than any other sports. There are two types of flexibility.

(a) Active Flexibility: It is the ability of a person or player to fold his joints to move in maximum range without any external support.

(b) Passive Flexibility: It is the ability of a person or a player to fold his joints to move in maximum range with the help of an external support. In order to increase the passive flexibility, a person requires exerting more pressure on his joints with the help of a companion. Passive flexibility is always more than active flexibility.

(5) Coordinative Ability

Coordinative ability means the coordination between muscles and mind. It is required to accomplish a sports activity successfully. In other words, coordinative ability is the combination of other components of physical fitness such as speed, strength, endurance and flexibility. With the help of coordinative ability, a player can convert an activity into another. The better the coordinative ability of a player, the better would be his physical fitness.

Importance of Physical Fitness :

Besides sports, physical fitness is equally important in routine life. With the help of physical fitness one can perform any activity in a better way and maintain one's health. The importance of physical fitness is as follows:

(1) Increase in Efficiency : Regular exercise improves the work efficiency of a person or a player. He becomes able to accomplish difficult activities easily.

(2) Strengthening of Bones and Muscles: If the bones and muscles of a person are healthy, he will have a strong physical structure even in old age. Exercise strengthens the bones and muscles of a person. It also increases his ability to work.

(3) Increase in Efficiency of Physiological Systems : Development of physical fitness also increases efficiency of various physiological systems of a person such as blood circulation system, digestive system, respiratory system, muscles and bones etc. It also increases a person's efficiency to work and improves his health.

(4) Proper Growth and Development: Physical fitness greatly affects a person's growth and development. Exercise makes a person physically healthy which accelerates the growth of his mental development.

(5) Psychological Importance: Physical fitness increases a person's confidence. Consequently he becomes mentally stronger than other people.

(6) Improvement in Coordination: Coordination means the relationship between brain and muscles. Physical fitness increases coordination between brain and muscles. Thus, the

muscles receive the messages sent by the brain well and respond quickly to execute the task. Coordination reduces the chances of mistake in muscles.

Factors Affecting Physical Fitness

Sometimes even after working hard, a player does not get the desired results, and his physical fitness does not develop properly. There may be many reasons behind improper development of physical fitness. These reasons or factors must be taken care of so as to ensure development. If a player neglects these factors, his efficiency cannot be improved even after hard work. The factors that affect physical fitness are as follow:

(i) Heredity: The inherent qualities that a child gets from his parents at the time of birth are called heredity. A player's physical fitness depends on his heredity. It is generally observed that the children whose parents are players succeed more in sports due to heredity whereas the children whose parents are not sportspersons have to work harder in sports.

(ii) Training Method : The training that a player receives also affects his physical fitness. If the training programme is well planned and executed, it will certainly increase the physical fitness of the player.

(iii) Regular Exercise: Exercises play a vital role in increasing the physical fitness. If a player exercises regularly, he benefits a lot from exercise and his physical fitness increases a lot.

(iv) Climate : It is very important to keep climate in mind while preparing for a sport or exercising for it. A player should keep altering his training programme according to the climate. Excessive exercise in summers becomes the reason of his tiredness, which decreases his efficiency instead of increasing it. In winters, a player needs to work harder.

(v) Diet : Diet plays an important role in increasing the physical fitness of a player and success in the field of sports. A player needs a balanced diet in order to work hard. The balanced diet provides him energy for work and helps in reducing the fatigue quickly. If a player does not get diet according to his exercise, his physical fitness gets affected certainly.

(vi) Age and Sex : The physical training programmes must be prepared and executed keeping in mind the age and sex of a player. It is wrong to train a young player like a senior player. This not only affects his physical fitness but also affects his growth and development adversely. Similarly, there should be a difference between the training programmes prepared for girls and boys as there is a difference between the physical structure of girls and boys.

(vii) Individual Differences: The training imparted to the players should be based on individual differences. This difference amongst the players can be based on age, sex, physical structure etc. These factors of individual differences must be considered while planning the training programme. It is important to keep a difference between the training of a boy and a girl of a new player and an experienced one.

(viii) Scientific Training : The training imparted to a player must be based on scientific principles. The training imparted through scientific techniques leads him to the path of success quickly. The principle of overload and the principle of rest must be applied well at the time of training.

(ix) Use of Safety Equipments : It is very important to use safety equipments at the time of training in order to keep the player safe from being injured. If the safety equipments are neglected at the spot of training, the player will always remain afraid of being injured and he will not be able to perform well.

Exercise

One Mark Questions:

Question 1: How many types of strength are there? Name them.

Question 2: How many components of Physical Fitness are there? Name them.

Question 3 : Name short term races.

Question 4 : Which type of flexibility is more-Active flexibility or Passive flexibility ?

Two Marks Questions:

Question 5 : What is medium Term Endurance?

Question 6: What do you know about Long Term Endurance?

Question 7: What do you know about Passive Flexibility?

Three Marks Questions:

Question 8: What are the different types of Endurance? Explain each of them in detail.

Question 9: Write a note on each of the following.

(a) Speed (b) Flexibility (c) Coordinative Ability

Five Marks Questions :

Question 10: What do you know about the importance of physical fitness? Explain in detail.

Question 11: Write the meaning and definition of physical fitness.

Question 12: Explain the factors affecting physical fitness in detail.

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Chapter-2

Sports Training

The existence of human beings on this planet and their journey from primitives to the modern civilisation is an ocular proof that human beings have adopted various ways to make themselves better. In ancient times, the soldiers and players in countries like Greece, Rome, China, India and other ancient civilisations were prepared through special trainings. In olden times the chief principles of preparation such as the principle of continuity and the principle of excessive weight were used predominantly, however this preparation was limited to physical preparation only.

Modern sports are different from old sports in various aspect nowadays, besides being physically fit, a sports person also has to be both mentally and emotionally balanced. Now, a sportsperson is trained with specific and scientific methods instead of simple methods. A lot of changes have been introduced in the field of sports training for last three or four decades. New experiments are being conducted in order to train the sportspersons; consequently new training methods are coming into existence. These training methods are completely based on scientific principles. A sportsperson can improve his performance by using these training methods.

Meaning of Training

The word Training is commonly used in sports. Here, training means teaching and preparing a sportsperson by providing him training of high standards. This process can last for a few days, months or years. Common people consider sports training to be physical exercises only. The performance of a sportsperson cannot be improved just by physical exercises. Rather, a lot of other aspects have to be considered in order to improve the work efficiency of a sportsperson. These aspects are: sports equipments, instructions regarding sports, progress report of a sportsperson, balanced diet, psychological training etc. A sportsperson's growth or progress is almost impossible if any of these aspects is neglected during the training.

Definition of Sports Training

According to Martin, "Sports Training is a planned and controlled process of achieving goals in which the change of motor performance and behaviour are made through measures of content, methods and organisation."

Aims of Sports Training:

The purpose of sports training is to improve the work efficiency of sportspersons. The progress of a sportsperson depends on five factors mainly. These factors form the very basis of sports training. Sports training aims at improving these five factors to enable a sportsperson to perform in the best possible manner. The following are the aims of sports training.

1) Physical Structure: A sportsperson's success in any sports depends on his physical structure, but physical structure cannot be changed much by sports training. A sportsperson's physical structure depends on his heredity. However, his efficiency can be increased by correcting a few areas of physical structure. The sportspersons who have a naturally well-built physical structure can benefit more from the sports training.

2) Physical Fitness: Physical fitness is a combination of five elements: speed, strength, tolerance, flexibility and coordination. The chief purpose of sports training is improvement in these five elements. Different sports require different elements of physical fitness. For example: A sportsperson requires tolerance for long distance races whereas he requires strength, speed and coordination for wrestling. Various training programmes are designed according to requirements of these elements in different sports.

3) Technical Skills: Every sport involves various motor actions. The performance of a sportsperson depends on how well he performs these various motor actions. These days, a lot of importance is given to the technical skills of a sportsperson so that he

may master all the skills required for a sport. Training in technical skills enables a person to perform better even in sports involving difficult skills.

4) Tactical Efficiency: Tactical efficiency is inevitable for a sportsperson to succeed in the field of sports.

Using the right techniques swiftly at the right time, a sportsperson can defeat his opponent players and benefit his team. Such a sportsperson is considered good. A sportsperson can use these techniques appropriately only if he is aware of all the rules of a sport. Tactical efficiency or strategy plays an important role in sports which involve teams. While providing training to sportsperson for a particular sport, the coach focuses on appropriate and swift use of techniques keeping in mind the rules of the sport.

5) Development of Personality: Generally, a sportsperson who is swift, technically skilled and aware of all the rules of a sport is considered to be a good sportsperson. However development of total personality of a player is necessary for him to achieve heights in the field of sports. Besides, many other factors also effect his success in sports, for example: motive, attitude, honesty, hardwork, regularity, control on emotions etc.

Principles of Sports Training

While imparting sports training, the efficiency of the sportspersons is increased by regular exercise so that they can perform well in sports competitions. For achieving this purpose, it is essential for both the coach and the sportspersons to keep certain principles in mind. If the principles of training are not followed properly, the progress of a sportsperson may be affected negatively.

Following are the various principles of sports training :

1) Principle of Continuity: According to this principle, a sportsperson must exercise regularly during sports training. If the exercise is discontinued or there are long intervals between two sessions of the exercise, the performance level of the sportsperson falls down. Therefore, it is important to exercise regularly during training in order to increase efficiency.

2) Principle of Excessive Weight/Over Load: The progress of a sportsperson is impossible without the principle of excessive weight. If the principle of excessive weight is not followed appropriately, the efficiency and performance of the sportsperson may become worse instead of becoming better. During sports training, appropriate weight should be given to the sportsperson in order to improve his efficiency. It must be ensured that a sportsperson is not given more weight unless he becomes accustomed to the previous over load or weight. If the sportsperson is given more load or weight than his capacity, he may get fatigued or injured.

3) Principle of Uniformity and Differentiation: In order to get positive results of sports training, uniformity must be maintained during the training. The aim of training must be uniform for all the players. All the players must be given equal opportunities of learning, however individual differences must also be given due importance. It is common for a coach to have trainees with differences in terms of gender, age or efficiency. Therefore, the training methods must be tailored according to the individual differences so that a less efficient player may be saved from over stress.

4) Principle of Scientific and Systematic Training : The training imparted to the players must be based on scientific principles. The training which is based on scientific principles brings in positive changes in the players and produces desired results. Since different sports require different skills, the training methods should also be according to particular sports. Special training programme must be designed according to the sport a player chooses to participate in.

5) Principle of Rest: The player must be provided sufficient time to rest both during and after the training. During the training, especially while giving the over load, the rest session must be taken care of so that the player may be saved from over stress or injuries.

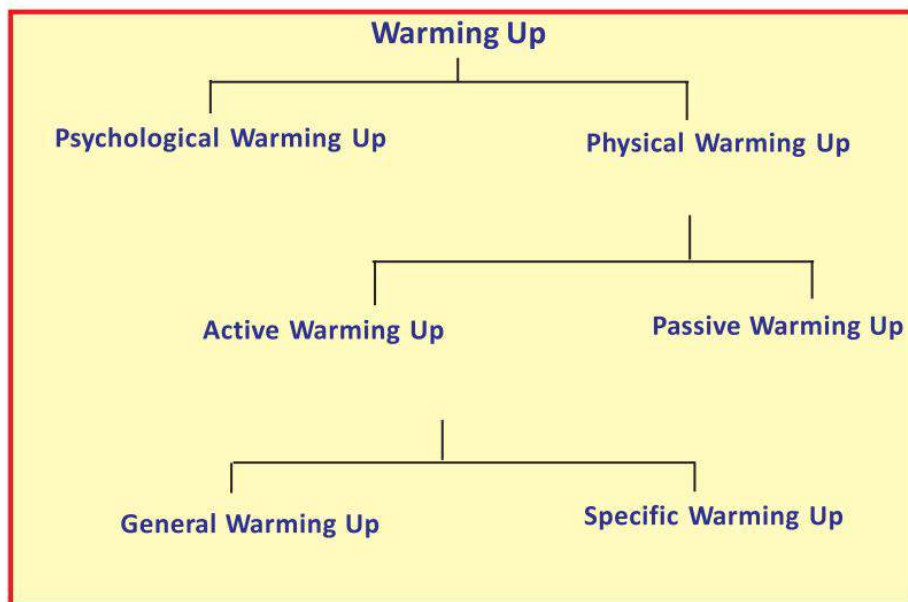
Warming Up

Warming up is an important process in the field of sports. The body of the sportsperson is warmed up through light exercises before starting particular sports exercises. Warming up prepares the muscles and mind of the player to get ready for the competition.

Types of Warming Up:

Chiefly, there are two types of Warming up :-

- (i) Psychological Warming Up
- (ii) Physical Warming Up



1) Psychological Warming Up : Psychological Warming Up means preparing the player psychologically for the competition. This process starts many days before the sports competition and continues till participation in the competition. In this process, the coach uses various methods and techniques to motivate and inspire the players to perform well in the competition. There are various techniques used for psychological warming up.

- (i) By motivating the players
- (ii) By reminding the players of their calibre
- (iii) By informing about the weak areas of the opponent team
- (iv) By producing the records of previous achievements
- (v) By encouraging the players

2) Physical Warming Up: After psychological warming up, the body of the player is warmed up by various physical exercises. The temperature of the body is increased with the help of light exercises. Physical warming up increases blood circulation in the body, and the amount of oxygen supplied to the muscles increases. This process makes the player ready to participate in the competition. There are two ways of physical warming up.

(i) Active Warming Up: In active warming up, the player prepares his physiological systems and muscles through exercises. This process may last for 10 to 30 minutes depending on the intensity of the competition. As the name suggests, in active warming up, the player warms up his body by various activities. Active warming up is further divided into two categories:-

(a) General Warming Up: General warming up includes light exercises such as jumping, exercises for arms, exercises for legs, exercises for waist etc. In general warming up, the whole body is warmed up equally and uniformly. General warming up is the same in all sports.

(b) Specific Warming Up: General warming up is followed by specific warming up. In specific warming up, the body is warmed up through particular exercises related to the chosen sport. In this process, only those body parts are warmed up which play a prominent role in a particular sport.

(ii) Passive Warming Up: Passive Warming up means warming up the body without any exercise. This process of warming up is used in those sports in which more physical strength is required. For example: weight-lifting, wrestling, judo, kabaddi etc. The players who choose these sports believe that warming up the body through physical exercises reduces physical strength and affects the performance negatively in a competition. The players follow various techniques for passive warming up. For example: taking tea or coffee, basking in the sun, body massage, steam bath etc. Sports experts are of the opinion that passive warming up does not prepare the muscles completely for the competition, therefore the sportsperson may be at the risk of injury during the game.

Principles of Warming Up

Warming up increases the confidence of the player, and improves his performance in the game. There are a few principles which must be followed during warming up so that the player can benefit the most from it.

(i) Warming up at Proper Time: In order to get the maximum benefit of warming up, the player should warm up his body at the right time. The player should start warming up 20 to 40 minutes before the competition starts so that the body is warmed appropriately. If the player starts warming up late, his body will not get properly warmed up and he will not be able to perform well.

(ii) Principle of Simple to Complex: Warming up should be started with light and easy exercises. As the temperature of the body rises up, the player should increase the intensity of the exercises. If a player starts difficult or heavy exercises in the beginning of warming up, his muscles are at the risk of getting strained.

(iii) Exercises Pertaining to All Parts of Body: The player should do the exercises which are related to all parts of body. In certain sports, particular parts of body are used more than other parts. Before warming up these parts of body, the player should warm up the whole body.

(iv) Warming up According to Climate: Warming up is deeply affected by weather. In summers, the body gets warmed up quickly whereas in winters, more exercise is required to warm up the body. The player should adjust his exercise routine according to the weather conditions of the place where the competition is to be held.

(v) Warming up According to Intensity of Competition: Different sports have different levels of intensity of competition. The player has to use his strength according to the time duration and intensity of his chosen sport. Therefore, warming up is different for each sport. The body cannot be warmed up in the same way for a 100 metre race or a 10,000 metre race as the time duration and level of tolerance required for either of these two will be different.

(vi) Warming up According to Health, Age and Sex: Two players playing for the same team will have different levels of efficiency or calibre. There should be difference between the warming up techniques for a well-built strong player and a not so strong player. A new player should not exercise the way an experienced player does. Naturally, boys can do heavier exercises as compared to girls. Therefore, the warming up techniques for girls and boys should be different.

Cooling Down

Cooling down is also as important as Warming up. Warming up is required before the game starts, whereas cooling down is required after the game. While playing the body temperature of a player increases a lot. Consequently, his Physiological systems such as blood circulation system, respiratory system and muscles start working very fast. Cooling down helps in bringing the working of these systems to their normal speed and intensity. The player must immediately wear his track suit as soon as the game is over so that the heated up body may not get affected by lower temperature. After that, the player must run slowly around the sports ground and stretch his muscles using very light exercises. This helps in reducing the temperature of the player's body, and his physiological systems get back to their normal functioning.

Cooling down takes 5 to 15 minutes. This process reduces fatigue of the player and he feels relaxed.

Effects of Cooling Down on Body

(i) Normalisation of Body Temperature: Cooling down the body using light and easy exercises, decreases the body temperature of the player gradually. If the body is not cooled down slowly or gradually, the body temperature falls down sharply and the player may fall ill.

(ii) Normalisation of Body Systems: While playing, the physiological systems of a player's body work much faster than their normal speed and intensity of functioning. The average heart beat of 72 beats per minute increases upto 160-170 beats per minute. Similarly, the respiratory system and nervous system work much faster. Cooling down the body after the game helps in normalising the functioning of these systems slowly. This makes the player feel relaxed.

(iii) Removal of Fatigue: When the player is playing at a very high speed, his energy is consumed very quickly and a lot of toxic by products are produced in the body. One of these by products is lactic acid produced in the muscles. By doing light exercises after the game is over, the player can prevent lactic acid from being accumulated at a particular place in the body. If the player does not cool down his body, lactic acid accumulates in the bigger muscles of the body and causes severe pain there. This pain of muscles may last for many days which can make it difficult for the player to continue his sport.

(iv) Relief from Physical and Mental Stress : Cooling down removes the fatigue of the player and he feels relaxed. When the physiological systems of the body get back to their normal functioning, the brain and all other parts of body start getting sufficient amount of oxygen. This reduces his mental stress. Cooling down prepares the players for the exercises of the next day both physically and mentally.

Interval Training Method

Tolerance plays a very important role in the field of sports. Interval Training Method is the best method of increasing tolerance. Interval means the time gap between two sessions of work. Thus, Interval Training Method is based on the principle of interval followed in sports training. This method increases the efficiency of the heart so that the player can continue the game for a longer duration effectively. This method is beneficial for the players who participate in long races and sports that last for a longer duration.

Bikla, a coach from Finland and a long distance runner Jetpack used this method and proved that tolerance of a player can be better increased if he divides his exercises into small slots and keeps repeating them after short intervals instead of doing all the exercises for hours at a stretch. Interval Training

Method is based on the theory that tolerance and efficiency of a player can be better improved if a player takes 25 rounds of 400 metre with intervals in between the rounds instead of running 10 kilometres at a stretch.

Interval Training Method is based on the Principle of 'effort' and 'recovery' and develops the speed and tolerance of the player. This training method also involves rest with running, but this rest remains incomplete. It is called Active Rest. Mostly this training is considered useful on the track. The runner takes a round of the sports ground with full speed so that his heart beat increases up to 160-180 beats per minute. After that the athlete is asked to do jogging slowly. When the heart beat comes down to 120-130 beats per minute, he is asked to take another round of the ground. This process is repeated for a number of rounds already fixed by the coach. In this training method, the athlete does not rest by stopping the race. In fact he rests while jogging. The athlete does not get complete rest throughout the training. He has to continue his workout even in a state of fatigue. When the athlete continues exercise even in the state of fatigue, the heart and lungs have to work under pressure which, in turn, increases the cardio-vascular efficiency of the player. Throughout the training, the athlete has to work out in a situation of oxygen debt. This improves his aerobic capacity. The distance and intensity of a round can be increased or decreased keeping in mind the age, gender and level of the athlete. There are two types of Interval Training Method.

(i) Fast or Intensive Interval Method: In this type of Interval Training Method, the distance of a race is kept less, but the speed is kept higher. In this training method, the player runs using 80% to 100% of his capacity. The heart beat goes up to 170-200 beats per minute.

(ii) Slow or Extensive Interval Method: In this method, the athlete runs using 60%-80% of his capacity. The distance in this method is kept more whereas the speed is kept average. During this type of training, the heart beat remains 140-180 beats per minute.

Advantages of Interval Training Method

1. This training helps in increasing the tolerance in less time.
2. Using this training method, the athlete can relax quickly after the game.
3. This training method improves the working efficiency of the heart.
4. The athlete enjoys his performance fully.
5. The coach can observe the whole progress of the athlete.
6. The work-load of the athlete can be increased or decreased.

Circuit Training Method

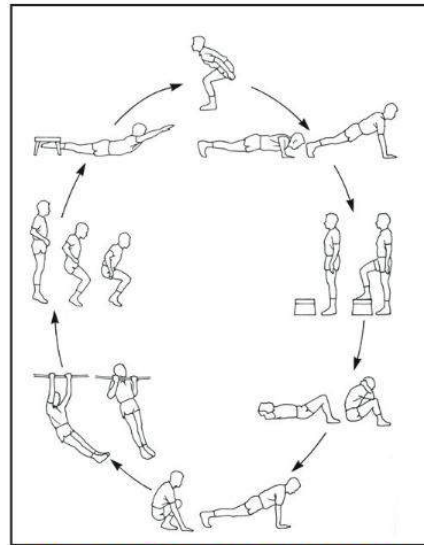
This training method was initiated by R. E. Morgan and G. T. Adamson of University of Leeds. Circuit Training Method is a very important method of training in which a number of scientifically designed exercises are arranged in a cycle in a well organised sequence. There may be 6 to 10 exercises in a cycle depending on the capacity of the player. This cycle of exercises is repeated many times. Generally, a cycle is repeated three to four times, but the player is allowed to rest after each cycle. Circuit Training Method plays a vital role in improving the technical skills of a player. Circuit Training Method is also considered the best method for improving the physical fitness of a player, but some sportspersons and coaches believe that this method is more helpful in improving the strength and tolerance of a player than improving the fitness of particular parts of body.

Each cycle is comprised of 6 to 10 exercises. Each exercise in a cycle is different from the others. These exercises are selected and arranged in such a way that each type of muscles can be worked upon. Circuit Training Method can be applied using three methods: (i) Continuous Method (ii) Interval Method (iii) Repetition Method,

however Continuous Method is more used than other methods.

In Continuous Method, the exercises chosen by the coach are completed without any rest. In this method the player is allowed to rest only after the exercise is complete. In Interval Method, the speed of exercises is more and the exercises are completely at a very high speed. After each cycle, the player is allowed to have Active Rest or Incomplete Rest and the player is asked to repeat the cycle of the exercises.

Exercises in the circuit must be selected very carefully. These exercises can be altered if required. The exercises must be designed keeping in mind the purpose of the sport and the training. Exercises in the circuit should be in accordance with the capacity and level of the player. As the capacity of the player improves, the load or stress of the exercises can be increased and the time of rest can be reduced. An expert coach takes special care of the fact that the player getting trained under him should work hard but remain safe from getting over-loaded or over-stressed. Sometimes it is observed that the capacity of the player reduces instead of increasing. This happens when the principle of over load is not followed properly during training.



Circuit Training Method

Benefits of Circuit Training Method

1. Circuit Training Method can be used in a limited space.
2. This training can be done inside or outside in any weather.
3. Many players can exercise together at the same time.
4. The coach can train each player under his supervision and can correct the mistakes done by the players on the spot.

5. This training can be done with or without sports equipment.
6. The load of the exercise can be increased or decreased according to the capacity of the player.

Exercise

One Mark Questions

Question 1: How many types of warming up are there? Name them.

Question 2: Write any one benefit of Interval Training Method.

Question 3 : How is the word 'Training' used in sports?

Two Marks Questions

Question 4: Write the meaning of Sports Training.

Question 5 : Write one aim of Sports Training.

Question 6: What do you know about physical structure?

Three Marks Questions

Question 7: Write a note on the following:-

- (i) Physical Fitness (ii) Technical Expertise
- (iii) Technical Skills (iv) Development of overall personality

Question 8: What is warming up? What is the difference between Psychological and Physical warming up?

Question 9 : Write about the Principle of Uniformity and Differentiation.

Five Marks Questions

Question 10: What is Circuit Training Method? Write its benefits.

Question 11: What is the meaning of Cooling Down?

Question 12: What do you know about Interval Method?

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Chapter-3

Careers in Physical Education and Sports Awards

Origin of Physical Education in India

After 1920, Physical Education was also made a part of the school curriculum like all other subjects. At that time, the responsibility of imparting physical training was assigned to a retired soldier or an expert gymnast who would inspire the students to remain disciplined and exercise regularly. At that time, there were no teachers to teach the subject of Physical Education

When the British came to India in a great number, they opened English schools to impart education to their children. In 1920, Physical Education was started at central Y.M.C. A. Esplanade, Madras (now Chennai). Thus in India, Harry Crow Buck (H.C. Buck) started Physical Education as a subject in schools. This is the reason why H.C. Buck is known as the Father of Physical Education in India. This step by Harry Crow Buck introduced Physical Education to the Indians. In 1924 Y.M.C.A. School was converted into Royapeeth, Chennai. Later in 1932 this school was permanently established in a large campus spread across 64 acres at Saidapet in some other district. The government of Madras provided funds and converted it into Physical Education College. After the success of this college, many other Physical Education colleges were opened in India. Today there are hundreds of Physical Education colleges which are offering different courses in Physical Education.



H. C. Buck

At that time, these institutions offered only the certificate courses and postgraduate diplomas of Physical Education. At that time the highest education in the field of Physical Education was one-year diploma which was not sufficient to develop the subject.

The first Physical Education college in India was started at Montessori Park at Lahore (Pakistan). After independence, there was no centre for training Physical Education teacher in northern India, so a six-month course was started at Tara Devi, Shimla. In October 1952 the government of Punjab started Physical Education College at Ropar which continued from 1952 to 1958. Later, this college was permanently established as Government Physical Education College, Patiala. In this college, a one-year course C. P. Ed. was started. Now this college has been renamed as Prof. Gursewak Singh Government Physical Education College.



In 1957, on the recommendations of Physical Education and Entertainment Central Advisory Board, the first degree college of Physical Education was established at Gwalior under the guidance of Ministry of Education, New Delhi. This college was named Laxmibai Physical Education College, Gwalior. In this college, B. P. Ed. (Bachelor of Physical Education), a three-year course was started. Dr. P. M. Joseph was the first principal of this college. Today a number of universities and colleges are offering career oriented courses with Physical Education.

Now a number of colleges for Physical Education have been opened throughout the country. These colleges are offering a number of courses related to Physical Education. After pursuing these courses, a student can work as a Physical Education teacher or coach or work on various similar designations. The courses which are offered by various Physical Education colleges or universities are explained below.

1. Eligibility Courses for School/College Teacher

(i) D. P. Ed.: Earlier this course was offered as a Certificate Course in Physical Education. It was offered after matriculation and the duration of the course was one year. Now this course is offered as Diploma in Physical Education, after senior secondary examination. Now the duration of the course is two years. After pursuing this course, a person becomes eligible to work as a P.T.I. teacher for teaching Physical Education to the students of elementary schools up to Middle standard.

Eligibility for Admission

1. The student must have passed Class 12 examination in the concerned subject (stream) from a recognised board.
2. The student desirous of taking admission should be physically fit and it is also necessary for him to pass the physical eligibility test conducted by the concerned organisation.

(ii). B.P.Ed.(integrated course). Today colleges and universities concerned with physical education across India are conducting 4 year course of bachelor of physical education. Earlier, this course was of 3 year duration, but later on, after recognition of 3 year B.P.Ed. course was cancelled by the NCTE (National Council of Teacher Education), its duration was extended to 4 years. In this course, knowledge and information regarding teaching of Physical Education and basic skills of sports is provided to the students.

After completing this course, a student is considered eligible to work against the post of Physical Education teacher (D.P.E) in a high or senior secondary school.

Eligibility for Admission:- Conditions for admission in B.P.Ed. course are the same as those in D.P.Ed. degree course.

(iii) B.P.Ed. Diploma:- This diploma course of physical Education which is done after graduation, is of 2 year .

This course is being conducted by many Govt. and recognised universities of India. After the completion of this course, a student becomes eligible to work against the post of Physical Education teacher (D.P.E) in a high or senior secondary school.

Eligibility for Admission:-

- (1) To get admission in the 2 year diploma course of B.P.Ed. a student must have passed the graduation degree in any stream from a recognised university.
- (2) It is necessary for the student to pass the Physical Eligibility test and he should be physically fit.
- (3) By some universities or organisations, admission in this course is given only to those students, who have participated in some recognised sports at state or higher level, but in some organisations, the above stated condition is not mandatory.

Eligibility for Admission:

For admission in D.P. Ed., the conditions are the same as those for a bachelor's degree course.

(ii) B. P. Ed. Diploma: This 2-year diploma course of Physical Education is offered after graduation. Many government and recognised universities of India are offering this course. After completing this course, a student is eligible to work at the post of Physical Education teacher (D.P.E.) in any high or senior secondary school.

Eligibility for Admission:

1. A student aspiring to get admission in four-year B.P.Ed course should have acquired a graduation degree in any stream from any recognised university.
2. A student should qualify for physical education test, and he should be physically fit.
3. Some universities or institutions offer this course only to those students who have participated in some recognised sports competition at state or upper state level, however some institutions do not apply this condition.

(iii) M. P. Ed.

Just like master's degree in any subject, a person can pursue a master's degree in Physical Education as well, which is known as Master of Physical Education (M.P.Ed.). A student who has acquired 2-year master's degree in Physical Education from a physical education college or university, is eligible to work as a lectures in Physical Education in any senior secondary school. If a student qualifies for National Eligibility Test (NET) in Physical Education approved by University Grant Commission (UGC), he becomes eligible for teaching Physical Education in a college.

Eligibility for Admission

1. For getting admission in M.P.Ed. course, a student should have acquired a two-year B.P.Ed. degree or a four-year Bachelor of Physical Education (B.P.E.) degree.
2. A student should qualify for physical education test, and he should be physically fit.
3. A student can get admission in the course only when he stands in the merit list prepared according to the marks obtained by the students in B.P.E. or B.P.Ed.

Besides fulfilling all the above conditions, if a student has also participated in some recognised sports competition, he is given additional credit in the merit list.

(iv) M. Phil. Many recognised universities in India are offering Master of Philosophy course in Physical Education. In this Master's degree course, various researches in the field of Physical Education are conducted.

- A student aspiring to get admission in Master's course of Philosophy in Physical Education should have completed Master's degree in Physical Education with 55% marks.
- For getting admission in this degree course, a student should also qualify for the entrance test conducted by the university.

(v) Ph. D.

This is a higher education degree in Physical Education. Many government colleges and recognised universities in India are offering this degree. This degree is offered as a regular course. After completing this degree course, a student is awarded with the title of Doctorate. In this degree course, the students conduct various new researches in the field of Physical Education. Using the results of these researches, various new experiments in the field of Physical Education are conducted, which may be very useful for the players.

Courses in Physical Education

Sr. No.	Name of Course	Eligibility	Time	Careers
1.	D.P.Ed.	XII	2 years	P.T.I. (Middle School)
2.	B.P.E. (Integrated Course)	XII	4 years	D.P.E. (High or Senior Secondary School)
3.	B.P.Ed. (Diploma)	B.A. or Equivalent	2 years	D.P.E. (High or Senior Secondary School)
4.	M.P.Ed.	B.P.E. (Integrated Course) or B.P.Ed. (Diploma)	2 years	Lecturer (Senior Secondary School or College)
5.	M.Phil.	M.P.Ed.	1 years	Lecturer (College or University)
6.	Ph.D.	M.P.Ed. or M.Phil.	3-5 years	Lecturer (College or University)
7.	D.Lit.	Ph.D.	2 years	Lecturer (College or University)

Table No: 1

2. Yoga Expert:

(i) Bachelor of Yoga: Yoga is thousands of years old way of exercise in Indian culture. Today Yoga is being taught and practised in all parts of the world. Yoga cannot be separated from physical education. Considering the national and international importance of yoga, today a lot of government and recognised universities are offering Bachelor's Degree in Yoga. Any student who has passed class XII from any recognised board or acquired an equivalent degree, is eligible to seek admission in Bachelor's (course) of Yoga. After acquiring this degree, a student is eligible to work as a yoga expert or yoga instructor.

(ii) Certificate Course in Yoga : Many colleges and universities in India offer this six week course. Any student who has passed class XII from any recognised board or acquired an equivalent degree, is eligible to seek admission in this certificate course.

(iii) Diploma in Yoga : This is a two-year diploma course. A student aspiring to get admission in this diploma course should have acquired a Bachelor's Degree in any stream or an equivalent degree from a recognised university.

(iv) M. Sc. in Yoga Science: A student aspiring to get admission in this course should have acquired a Bachelor's Degree in Yoga. This is a two-year degree course. This course is available only in a few universities.

Courses in the Field of Yoga				
Sr. No.	Name of Course	Eligibility	Time	Careers
1.	Certificate Course in Yoga	XII or equivalent	40 days (Basic Course)	Yoga Instructor in Yoga
2.	Bachelor of Yoga	XII or equivalent	3 years	School teacher
3.	Diploma in Yoga	B.A. or equivalent	2 years	School Teacher
4.	M. Sc. in Yoga	Bachelor of Yoga College/University	2 years	Lecturer

Table No: 2

3. Sports Coaching

For Sports Coaching, various diploma, degree or certificate courses and Master's degree courses are offered in India. These courses are mainly offered at Netaji Subhash Chander National Institute of Sports (NSNIS), Patiala and Bangluru, Karnataka.

(i) Certificate Course in Sports Coaching : Various six-week certificate courses in different sports are offered at Netaji Subhas Chander National Institute of Sports (NSNIS), Patiala and Bangluru, Karnataka. Having completed this course, a student can train the players in basic skills and contribute in raising the standards of sports. It is a type of refresher course. In this course, a student is informed about various techniques of a sport and (improved) variations improved in that sport.

(ii) Advance Certificate Course in Sports Coaching : This six-month course is offered at Laxmibai National College of Physical Education Gwalior. A student aspiring to seek admission in this course should have passed class XII from a recognised board and he should have played at National level in some recognised sports competition. This course is offered only for athletics, football, handball, volleyball, basketball and badminton.

(iii) Diploma in Sports Coaching : Sports Authority of India (SAI) offers diploma courses in almost all sports at NSNIS, Patiala, Bangluru and Kolkata. A student aspiring to seek admission in this course should hold a Bachelor's Degree and must have played twice in Inter University Sports Competition or Senior National Competitions. The eligibility for a student who is a medal holder in Olympics, World Cup, Asian Games or Common Wealth Games is class XII. However, a student must qualify for the entrance test for seeking admission in this course.

After completing the diploma course, a student is considered to be perfect in the related field.

He is eligible to work as a certified coach in his field to train the players or teams for the national level sport competitions. Various sports departments in different states of India prefer to appoint sports coaches who have done diploma courses at the time of recruitment.

(iv) Master's Degree in Sports Coaching: - This two-year course is offered only by Netaji Subhas Chander National Institute of Sports (NSNIS), Patiala. Only the players of athletics, basketball, football, gymnastics, hockey, swimming, volleyball, weight lifting or wrestling can acquire this degree. This degree is recognised by Punjabi University, Patiala. After acquiring this degree, a player is eligible to work as a sports expert with international teams besides working as a sports coach. For seeking admission in this course, a student must hold a Bachelor's Degree or equivalent and a diploma course in sports coaching from the Sports Authority of India.

(Course In the field of Sports Training)				
Sr. No.	Name of the Course	Eligibility	Time	Careers
1.	Certificate Course in Sports	XII	6 weeks	Part-Time Coaching
2.	Advance Certificate Course in Sports Coaching	XII	6 months	Part-Time Coaching
3.	Diploma in Sports Coaching	B.P.Ed., B.A.	1 year	Block to National level Coach
4.	Master Degree in sports coaching	Graduation with Diploma in Sports Coaching	2 years	Coaching/ Sports Expert in the related field

4. Physiotherapist

While participating in sports or doing exercise, players often face a lot of injuries. For treating the sports injuries and enabling the players to resume the sports as soon as possible, physiotherapy is very important. Today, one or two physiotherapists are appointed for each international sports team. These physiotherapists keep the physical fitness of the players under care and observation. In the field of sports, sports physiotherapists are considered to be Indispensable. Having acquired a Bachelor's Degree or Master's Degree in Physiotherapy, many physiotherapists interested in sports are working with players and getting name and fame by treating their sports injuries.

5. Sports Person

Physical Education provides a student with an opportunity to become a perfect player and earn name, fame and wealth in society. A good sportsperson also improves his role in the society besides earning money. Thus, he brings laurels to his parents and teachers by becoming a very good player. Today almost each and every department keeps some posts particularly reserved for sports persons at the time of recruitment, which enables a player to be financially independent by getting a respectable job. Many players who have gained popularity in sports competitions at international levels are working at high designations in various departments.

6. Sports Official

In order to organise a sports event or competition in a well organised way, sports officials are required because it is only a sports official who conducts the sports events without any prejudice or bias. This raises the standard of sports. Thus, a player can opt to become a sports official and earn name and fame at international levels, besides earning wealth.

7. Sports Reporter and Sports Writer

A player can make his career as a sports writer or a sports reporter. This field is appropriate for those players who are well

versed in the techniques involved in various sports and have a sound knowledge of sports subjects. A person or player interested in sports can pursue a course in sports journalism and work as a sports correspondent. It is only through a sports writer that variations introduced in various sports activities reach the general public.

8. Sports Commentator

The field of sports is very vast. Today a number of sports channels entertain their viewers by telecasting live matches of various sports championships at different places in the world and provide information about sports. During the live telecast of these matches, sports commentators analyse them. Thus, a player can make his career as a sports commentator. Viewers or sports lovers can watch sports programmes at different T.V. channels such as ESPN, Star Sports, Ten Sports, etc.

9. Book Publishing

In the field of physical education, a person can opt to become a book publisher and publish books on rules of sports, history of sports and information about various sports. He may also publish autobiographies of sports persons or related sports literature and earn a good amount of money.

10. Sports Business

Sports Business is very important in the field of Physical Education. Each sport requires certain equipment or sport material. These sports equipments or materials are supplied by sports producers by producing the same at a very large scale. It is impossible to play any sports without required sports materials and equipments. Sports kits, track suits, rackets, bats, balls, nets, wickets, shoes, helmets, sports pads, etc. are very important. In Punjab, Jalandhar is reputed as the greatest producer and exporter of sports equipments and materials.

Table No: 3

Sports Awards

The Ministry of Sports in India honours the players who perform excellently in sports competitions at national and international level. It is very important to honour such players as it encourages them to keep performing well in future and also motivates and inspires other players to perform well. These sports awards are given away on 29th August, the birthday of the great sportsperson Dhyan Chand, which is celebrated as National Sports Day. These awards are given away by the President of India at the Rashtrapati Bhawan, New Delhi.

Prominent Sports Awards

1. Rajeev Gandhi Khel Ratan Award:

The players who perform excellently well in the field of sports are awarded with the highest ranked sports award of India namely 'Rajeev Gandhi Khel Ratan'. This award was introduced in 1991-92. For selecting players for this award, the performance of the players from 1st April to 31st March is considered. The players who receive this award are given a certificate of honour and a cash prize of 7 lakh rupees.



Rajeev Gandhi Khel Ratan Award

(a) Eligibility: This award is given to the players who perform excellently well in Olympic Games, Asian Games or Commonwealth Games.

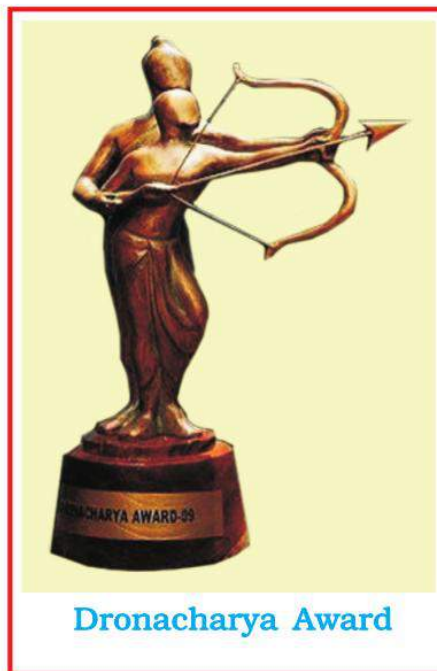
(b) Nomination of the Player : Every year, the Ministry of Youth Affairs and Sports invites applications for the nominations of players by 31st May. These nominations are recommended by Indian Sports Officials.

(c) Procedure for Selection: For selecting the deserving players for this award, the government of India appoints a selection committee. This committee comprises famous players and sports organisers. This committee brainstorms and finalises the names of the sportspersons who deserve to receive this award. A player receives this award only once in lifetime. This award can also be given posthumously.

2. Dronacharya Award

In order to honour the best coaches in various sports, the government of India introduced the highest ranked National Award, Dronacharya Award in 1985. This award is given to those sports coaches whose players or teams perform excellently well in individual sports championships at international level and bring laurels to the country. This award is named after the revered Guru Dronacharya who was the teacher and mentor of Arjuna in the epic Mahabharata.

This award is given every year by the Ministry of Youth Welfare and Human Resources Development. In this award the winner coach is given a bronze statue of Guru Dronacharya, a certificate of appreciation, and a cash prize of 5 lakh rupees. The award is given away by the President on National Sports Day. This award is named after the great archer Arjuna in the epic Mahabharata. The recipient of this award is given a bronze statue of Arjuna, a shawl, a blazer, a tie and a cash prize of 5 lakh rupees.



Dronacharya Award

(a) Eligibility: This award is given to those coaches whose winning players or teams have been trained by them for a period of at least two years before the competition which they win. Their achievements of last three years from the year of award are also considered while selecting them for the award.

(b) Individual Performance :

1. A coach whose player has won gold, silver or bronze medal in Olympic Games or World Championship is considered eligible for this award.
2. A coach whose player sets a new world record which is approved by International Sports Federation is considered eligible for this award.
3. A coach whose player wins at least two gold medals in Asian Games or Commonwealth Games is considered eligible for this award.

(c) Team Performance :

1. A coach whose team has won a medal in Olympic Games, World Cup or World Championship is eligible for this award. The performance of this team should be better than or equivalent to their own previous performance.
2. A coach whose team has won at least two gold medals in Asian Games or Commonwealth Games is considered eligible for this award.

(d) Procedure for Selection : In order to give away this award, a selection committee is appointed by the government of India. For giving away this award, applications are invited by 31st January every year. The names of the coaches who are considered eligible for this award are recommended by committees related to Indian Olympic Association, Indian Sports Federation, Sports Authority of India, and National Institute of Sports. The committee appointed for selecting the coaches for this award selects the deserving coach.

3. Arjuna Award

The Government of India gives away Arjuna Award to those players who perform excellently well in the field of sports. This second greatest award in the field of sports was introduced in 1961.

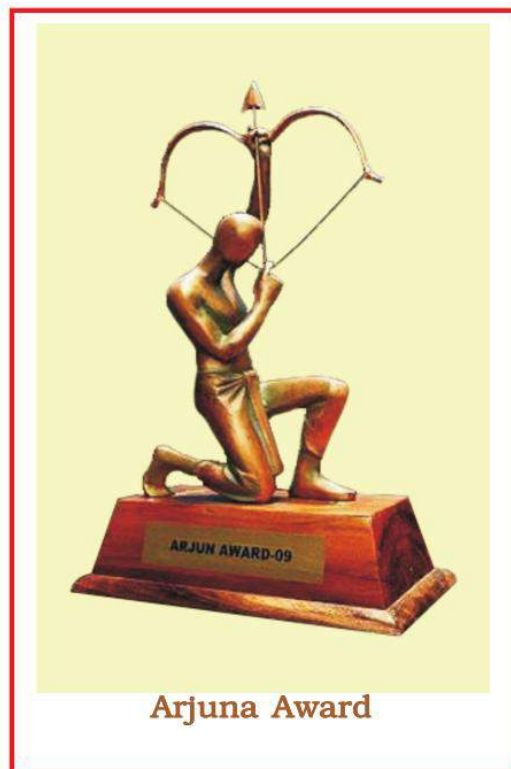
(a) Eligibility : This award is given to those players who perform excellently well in any of the categories mentioned below.

(I) Olympic Games, Asian Games, Cricket World Cup, Commonwealth Games, World Cup

(II) The players who perform excellently well in international sports competitions for physically challenged players

(b) Nominations of the Players :

For giving away this award, the ministry of Youth Affairs and Sports invites applications from Indian Olympics Association and National Sports Associations approved by State and UT governments in the month of January every year. The Sports Associations can send the nomination forms of players by 31st May. For one particular sport, one to three players can be nominated.



Arjuna Award

(c) Procedure for Selection : The government of India appoints a selection committee for giving away this award. This committee is appointed every year. The committee selects players from the nominated players. This award is received only by 15 players a year. This award cannot be given twice to any player. This award can also be given posthumously.

4. Maulana Abul Kalam Azad Trophy (MAKA)

In India Maulana Abul Kalam Azad Trophy (MAKA) is given every year to a university which performs excellently well in the field of sports. This trophy was introduced in 1956-57. This trophy is given away in the fond memory of Maulana Abul Kalam Azad, the former Education Minister of India. This trophy is given away by the President to the university which stands at the first position by winning the maximum number of medals in Inter University Sports Competitions. The winner university receives a cash prize of 20 lakh rupees. The first runner up and second runner up universities receive a cash prize of ₹15 lakh and 10 lakh respectively. The universities that stand at the fourth, fifth and sixth rank are given a cash prize of five, three and two lakh rupees respectively. The universities utilise this amount in improving and developing their sports activities.



Maulana Abul Kalam Azad Trophy

(a) Eligibility : Only government universities or the universities approved by UGC are eligible for this trophy. No unrecognised university is considered eligible for this trophy.

(b) Nominations for this Trophy : For giving away this trophy, Association of Indian Universities (A.I.U) invites applications or nominations from all universities in India. The claimant universities for this trophy send their nominations to Association of Indian Universities before the stipulated time.

(c) Procedure for Selection : A committee is appointed for giving away this trophy.

The committee can select a university for this trophy on the basis of sports recognised by the Ministry of Youth Affairs and Sports.

5. Maharaja Ranjeet Singh Award:

With view of developing sports activities in the state, the government of Punjab introduced Maharaja Ranjeet Singh Award in 1978. This is the highest ranked sports award in Punjab. This award is given away to those players who perform excellently well in sports competitions at national and International levels and bring laurels to the state. This award is also called the State Award. Punjab Sports Council recommends the names of players who perform excellently well in different sports activities for this award to the government of Punjab. The first Maharaja Ranjeet Singh Award was given to the Olympian Pragat Singh for hockey.



Maharaja Ranjeet Singh Award

Apart from all these main awards, there are a lot of awards which are given away by the state governments and government of India to the players for performing very well in sports competitions.

Exercise

One Mark Questions

- Question 1: What kind of schools did the British open when they came to India in a large number?
- Question 2: What is the duration of B. P. Ed. Course?
- Question 3: When was Physical Education originated in India?

Two Marks Questions

- Question 4 : What is the full form of NSNIS?
- Question 5: What is the eligibility for receiving the Arjuna Award?
- Question 6 : Write about certificate course in Yoga.
- Question 7 : Write about Diploma in Yoga.
- Question 8: Who is given the Dronacharya Award?

Three Marks Questions

- Question 9: What is the importance of a physiotherapist for players?
- Question 10: Write about Rajeev Gandhi Khel Rattan Award.
- Question 11: Write about Maheraja Ranjit Singh Award.

Five Marks Questions

- Question 12: What is sports training? Explain it briefly.
- Question 13: What is the importance of careers and sports awards in the field of physical education?
Write a note on the importance of physical education in India.
- Question 14: What is the eligibility for the following courses?
Also mention their duration.

- | | |
|----------------------------------|----------------|
| (i) B. P. Ed. | (ii) D. P. Ed. |
| (iii) Certificate Course in Yoga | (iv) Ph. D. |

Chapter-4

Sports Injuries

Today, the whole world is deeply interested in sports activities. Besides players or sports persons, a common man also participates in sports for increasing his physical fitness and his entertainment. There are a lot of sports materials or equipments used in various sports competitions. While participating in various sports competitions, players often remain at a risk of getting injured. The injuries suffered by a player during a sport are known as sports injuries. These injuries may be caused due to some accident, use of wrong technique, bad equipments or many other reasons. Generally, the injuries caused in the sports grounds are not of a very serious kind, however sometimes these injuries are so dangerous that they can completely disable a player and prevent him from playing a sport for the rest of his life.

In order to prevent sports injuries, the players and the coaches must be very careful while practising for a sport or participating in a sport competition. In case a player gets injured, both the coach and the player should be aware of the symptoms of injury and also the type of injury. They should also have an in-depth knowledge about the first aid required for the injury so that the pains and miseries afflicted by the injury may be minimized.

Classification of Sports Injuries

It is essential for a coach to be aware of the type of injury in order to minimize the effects of injury and save the player from the harmful effects of injury. In order to get complete information about sports injuries, they are classified in two categories according to causes of injury and the harm caused to the tissues by these injuries.

1. Causes of Injury

In this category, it is tried to know about the injury by investigating the causes of injury. Keeping in view the cause of injury, these injuries are classified into three categories.

(a) Direct Injuries: These injuries are caused due to some external force or pressure. In case of such injuries, the cause of the injury is clearly visible. For example: collision with some other player, getting hit by sports equipments such as a cricket ball or a hockey stick. These injuries may be light or very dangerous such as a fracture or dislocation of a bone.

(b) Indirect Injuries : If a player suffers from an internal injury while playing, it is known as indirect injury. This injury is caused by loss of balance while running, twisting of feet while playing, inappropriate landing during the long jump or the pressure caused by the player's body. These injuries are also caused due to undue pressure caused on the joints such as sprain of ankle, sprain of wrist, or dislocation of shoulder.

(c) Injuries due to Over Load : Such injuries are caused due to over pressure or over load on bones or tissues of the body. Over load on bones and tissues while practising or playing the game is the main cause of these injuries. At the initial stage, there is no or very less pain in the joints and the player continues his game without any difficulty. Later, when variations in the training are introduced, the affected joints start aching severely rendering it difficult for the player to play. An incorrectly designed training programme may often cause such injuries.

2. Classification of Injuries on the basis of Tissues

(a) Soft- Tissue Injuries: Most of the injuries, caused on the sports ground, belong to this category of injuries. Besides injuries of the external skin such as abrasion or wound, other injuries such as muscle sprain, joint sprain, moderate twists or sprains etc. are included in this category of injury.

(b) Hard-Tissue Injuries : Some dangerous injuries that a player gets while playing are included in this category. Injuries such as fracture or dislocation of bone are known as hard-tissue injuries. Due to some external pressure, the bone gets injured and the internal bleeding affects the bone and the surrounding tissues. Such an injury can cause a lot of problem to the player and he may have to undergo treatment for a long period.

Causes of Sports Injuries

It is very common for a player to get injured while playing in the sports ground. While playing, a player always gets one or the other kind of injury in his lifetime. It is natural for a player to get injured either due to falling or due to collision with some other player. Beside this, a lot of unpredictable reasons can cause an injury to a player. Some of these reasons are discussed below.

1. Improper Overload

Each person/ player has a limit to his capacity of physical work. Sometimes, in order to improve the performance of a player, the coach overburdens him or trains him beyond his physical capacity. Keeping a player under improper overload for a long time increases his fatigue rendering the player extremely tired. In a state of extreme tiredness, the player becomes unable to concentrate on his game, which increases the chances of his getting injured.

2. Wrong Technique

Techniques used in playing a sport play a vital role in making a player expert in it, however sometimes a player uses a wrong technique in his sport. Instead of improving the performance of a player, the use of wrong techniques increases his chances of getting injured. The use of wrong techniques affects the joints and muscles of a player adversely. Continuous undue pressure on joints or muscles causes extreme pain to the player. The affected parts or areas of his body get swollen. Such an injury affects a player's performance for a long time.

3. Improper Warming Up

Warming up the body before participating in the sport is an important process for a player. Warming up increases the temperature of the muscles, the joints become flexible and the body gets ready to tolerate the pressure of the game. If the body is not warmed up properly before the game starts, the chances of muscles getting strained and joints getting sprained increase and the player may get injured.

4. Due to Impact

Most of the sports injuries are caused due to collision or impact of players with one another. In team sports such as football, hockey, basket ball etc, the players compete with the players of the opponent team with a lot of speed and force. While playing, a player tries his best to obstruct his opponent player. While doing so, it is natural for the players to collide with one another. However, sometimes as the players are over speeded, the impact of the collision is great in magnitude which results in players getting injured. While hitting the ball with a hockey stick, a player may accidentally hit a player of the opponent team. Besides this, the players of sports such as boxing, kabaddi, wrestling etc. take an aggressive stand against the players of the opponent team which increases their chances of getting injured.

5. Improper Sports Ground and Sports Equipments

A well prepared sports ground not only motivates the players to perform well in their chosen sport but also saves them from the risk of getting injured. If the sports ground is not correctly shaped or properly levelled, if it is scattered with gravels, stones or other things, there are bright chances of players getting injured. Similarly, if the sports equipments such as hockey, hammer or javelin etc. are not of good quality, they may break and injure some other player.

6. Lack of Physical Fitness

By physical fitness we mean a player's ability to be completely ready for the sports competition. While training a player before a sports competition, efforts are made to increase his physical fitness and prepare him for performing well in the

competition. If a player lacks physical fitness, he will get tired very soon during the sports competition. This will result in increased pressure on the player's body. Due to physical pressure or fatigue, the player will be unable to play well. Continuous mistakes will increase the chances of player getting injured or his injuring the other players.

7. Inadequate Knowledge

In order to complete a task perfectly, a person should be well aware of the task and well versed in the ways or techniques of doing it. It is inevitable for a player to know in detail about the sports ground, rules and regulations of the sports, and sports equipments. If a player is not aware of rules and other intricacies of the game, he may get injured due to lack of knowledge.

Prevention of Sports Injuries

It is well said that 'Prevention is better than cure'. This proverb tells us that a player can save himself from getting injured in the sports ground if he pays a special attention to certain important aspects of the sport. For keeping himself safe from sports injuries, a player should keep in mind the following things.

1. Proper Warm Up

Before exercise or playing a sport, a player should warm up his whole body properly with the help of light exercises. Warming up increases the blood circulation in the muscles and flexibility of the joints. It also prepares the player mentally to play the game. Warming up reduces the chances of a player getting injured.

2. Use of Protective Gears

Each and every sport is full of possibilities of players getting injured. Therefore, different protective gears are used in different sports in order to protect the players from getting sports injuries. Shin pads are used in hockey and football; helmet in cricket; belt in weight lifting and teeth guard in boxing. Thus there are a lot of protective gears used in various sports to protect the players from injuries.

3. Obeying the Rules of the Game

Most of the sports injuries are caused on the sports ground while participating in the sports competitions. While competing with the other players, a player is under extreme pressure of winning the game and he becomes over-excited. Due to over excitement, a player plays using wrong techniques of attack or defence. In other sense, he breaks the rules of the game. This increases the chances of sports injuries. If a player keeps his excitement under check and plays following the rules of the game, he can save himself and other players from getting injured.

4. Proper Sports Ground

The sports ground used for practice and competition of a sport must be well prepared and maintained from all aspects. The sports ground should be properly levelled and should be in correct shape. The grass in the sports ground should be according to the rules of the sport. The sports ground should not be very hard. The sports ground must be well equipped with safety instruments or equipments. There should be a boundary wall around the sports ground so that no animal may enter the sports ground. If all these points related to sports grounds are kept in mind, the players can be saved from getting sports injuries.

5. Proper Physical Fitness

A player participating in any sports competition must be healthy and physically fit. The level of his physical fitness must be appropriate. If a player is not physically fit, he will get tired very soon, which will increase the chances of his muscles getting strained and his getting injured. Apart from it, if a player is already injured before the competition, he should not participate in the sports competition.

6. Proper Rest

A player needs rest to remove fatigue which is caused by sports exercises. A player should spare proper time for his complete rest so that he may be prepared for the next day's exercise. If a player does not rest properly for the required time, he will not be able to remove his fatigue. This long-accumulated fatigue can become the reason of his injury.

7. Balanced Diet:

A balanced diet is very important for a player who does physical exercise regularly. A simple diet cannot provide all the nutrients required for the body of a player. In order to regain high energy and excess of strength, a player needs excess of carbohydrates and proteins which are not present in sufficient amount in a simple diet. A balanced diet helps a player remove his fatigue and produces energy in him, which enables a player to perform well in the sports ground and protects him from injuries.

Meaning and Principles of First Aid

First aid is the first help or treatment given to a person after getting injured in an accident and before getting a doctor's treatment. An injured person's life can be saved with the help of first aid. The condition of an ailing or injured person can be prevented from deteriorating with the help of first aid. In today's fast-paced and hectic life, the number of accidents is increasing rapidly. In absence of required treatment at the right time, many people lose their lives. Therefore, it is important that every educated person should have knowledge about first aid so that he may help an ailing or injured person when required.

Principles of First Aid:

There is no fixed time or place of injuries. People may get injured while working at home, office, sports grounds or any other place. In case of a serious injury, a person must be given first aid immediately so that his life may be saved. The following principles of first aid must be kept in mind while providing first aid.

1. Immediate Help : The person who provides first aid should start his work without any delay. Even a slightest delay in providing first aid to the injured person may become the reason of his/her death.

2. Artificial Respiration : The person who is supposed to provide first aid should first of all ensure whether the afflicted person is breathing or not. If the afflicted person is not breathing but his pulse is live, it is essential to restart the afflicted person's breathing process as soon as possible with the help of artificial respiration. If the breathing discontinues for a longer duration, the afflicted person may die.

3. Control of Bleeding : It is natural for the injured person to bleed. The condition of an injured person can deteriorate due to blood loss caused by excessive bleeding and it may make it difficult for the doctors to treat him. The person who provides first aid should observe the injuries carefully and try to stop the bleeding.

4. Reassurance : Sometimes the injured person gets panicked after an injury, and his condition may deteriorate. It is important for the person who provides first aid to reassure the injured person about his recovery and motivate him to be mentally strong so that he may feel better.

5. Control on Crowd : It is generally observed that people start gathering at a place where some accident has taken place. On being surrounded by such a crowd, the injured person gets panicked and he does not get the required amount of oxygen leading to suffocation. It is important for the person who provides first aid not to let the crowd gather around the injured person so that he may not feel uncomfortable.

6. Medical Assistance : The person who provides first aid to the injured person must be clear about the fact that he can only provide first aid to him and not treat him. Besides providing the first aid he should also call a doctor immediately or manage to take the injured to the doctor so that the treatment may be started as early as possible.

Common Sports Injuries and First Aid

Generally, the injuries caused in the sports grounds are not of a very serious kind, however sometimes these injuries are very dangerous. In the field of sports, it is very important for a player, a coach or a physical education teacher to have knowledge about

sports injuries and the first aid required for them. A player may be saved from the harmful effects of an injury by identifying the injury and providing first aid at the right time. In order to understand sports injuries in detail, they are classified into two categories.

(i) Soft Tissue Injuries

(ii) Hard Tissue Injuries

1. Soft Tissue Injuries

These injuries are also called skin injuries. These injuries affect muscles and joints. Due to a direct injury on the muscles or over load on the joints, the tissues of that area of body get affected. Following are the soft tissues injuries.

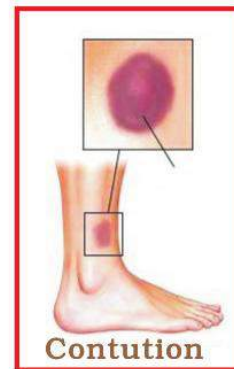
(i) Contusion : This is an injury of muscles. When a heavy object hits a muscle, the cells under the skin get injured. The breaking of cells causes internal injury which turns the affected area blue and aching starts. This is known as internal injury in which the outer layer of the skin does not get injured.

Symptoms:

1. The injured area turns blue.
2. The muscle gets swollen and starts aching severely.
3. The muscle gets stiff and the player finds it difficult to walk.

First Aid:

1. The player should immediately be taken out of the sports ground.
2. Ice must be applied on the place of injury.
3. Ice must be applied every hour and this process must be continued for 48 hours after the injury.
4. The affected area should not be massaged.



5. After 48 hours, the afflicted area must be given warm water therapy.

(ii) Abrasion : In the field of sports, this injury is known as a common injury. In case of this injury, the upper layer of the skin gets abraded. Sometimes due to a deep injury, even the internal layer of the skin gets abraded. Often, this injury is not considered to be serious. However, due to falling of a player, some gravel or some sharp object may abrade the skin of the player and cause him a lot of trouble.



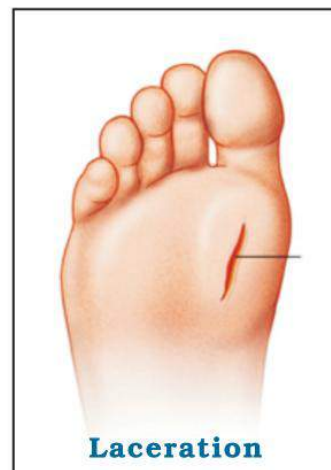
Symptoms :

1. Abrasion of the external layer of the skin and pain in that area
2. Bleeding at the place of injury
3. Burning sensation at the place of injury

First Aid:

1. The wound must be cleaned well.
2. Ointment must be applied on the wound and it should be properly bandaged.
3. The player must get injected with tetanus vaccine to keep safe from tetanus.
4. The wound must be dressed with bandage regularly until the wound gets healed.

(iii) Laceration : In this type of injury, the skin gets torn due to injury caused by a sharp object, and this causes a deep wound. For example, the javelin thrown by a player may hit some other player or person by mistake causing a deep wound. This injury is considered to be a serious injury as sometimes a sharp object may penetrate deep into the skin and cause a wound deep in the muscle, which results in excessive bleeding.



Symptoms:

1. The outermost layer of the skin tears and the deep wound gets visible.
2. The wound bleeds excessively.
3. The player has to bear a lot of pain.

First Aid:

1. The wound must be well cleaned and pressed with a piece of cloth to prevent bleeding.
2. The wound must be cleaned with a good antiseptic.
3. The wound must be bandaged with a clean bandage.
4. If the wound is very deep, it must be got stitched by a surgeon.
5. The area below the injury must be applied on with ice so that there is no swelling.

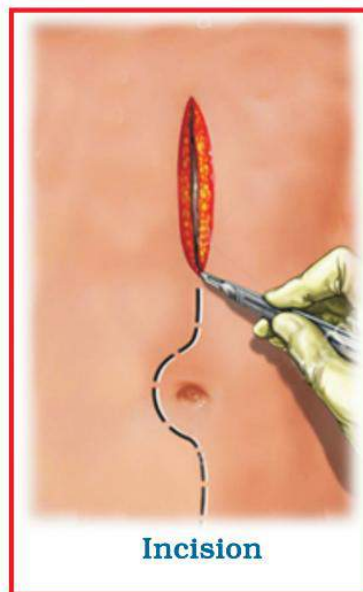
(iv) Incision : While playing in the sports ground, sometimes a player gets a deep cut in the skin due to some sharp object. The tearing of skin can also be caused by the elbow or knee of a player hitting a person. There is excessive bleeding at the place of incision. However, this injury is not considered to be a serious injury.

Symptoms

1. A deep wound is caused on the skin.
2. There is excessive bleeding due to incision.
3. If the incision is very deep, the area around the incision gets swollen.

First Aid:

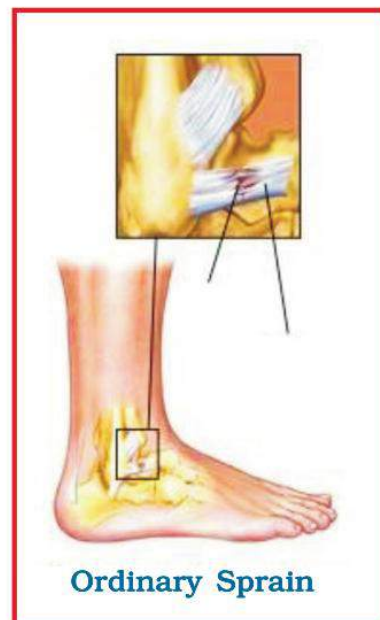
1. The wound must be cleaned well
2. The wound must be pressed with a clean piece of cloth so as to stop bleeding.



3. The wound must be covered with cotton and properly bandaged.
4. The wound must be kept safe from dust.
5. The wound must be dressed with bandage regularly.
6. If the cut is very deep and the bleeding does not stop, the patient must be taken to a doctor.

(v) Sprain : Sprain is an injury related to joints. If a joint gets sprained, its tissues get stretched or broken. This injury is caused when a player loses his balance in the sports ground, falls, collides and gets some joint pressurised under some other player, or falls and gets some joint under the pressure of his own body. This injury is mostly caused on ankle, knee or wrist. On the basis of its seriousness or gravity, this injury is divided into three categories.

(a) Ordinary Sprain: In ordinary sprain, the tissues of the player get strained a little due to twisting of the joint, but it does not cause much harm to the player. The player has to bear a little pain.



(b) Moderate Sprain: Due to over pressure on the tissues, some tissues get strained whereas some others break. The player has to suffer a deep pain and the affected area gets swollen.

(c) Severe Sprain: This injury caused to the players is considered to be of a very serious type. In a severe sprain, most of the tissues of the affected area break and all movements of the joints are hampered. The player is unable to walk or move the affected part of the body. It takes a long time for the injury to be healed.

Symptoms of Sprain:

1. The joint that gets injured aches a lot.
2. The affected joint gets swollen.
3. The affected area turns red.
3. If the affected joint is moved, the player feels a lot of pain.

Treatment:

The principle of P.R.I.C.E. is followed to treat sprains. The term, PRICE stands for :-

P=Protection, R=Rest, I=Ice/Icing, C=Compression, E=Elevation. The sooner a player gets a treatment based on the principle of PRICE, the better it would be for him as it will help in reducing the effect of the injury. Given below is the description of the term PRICE.

(a) Protection: After the injury, the game should be stopped immediately. The injured player should not move at all. By supporting the injured joint, the injured player should be brought out of the sports ground.

(b) Rest: The player should be kept in the position of rest. No pressure should be exerted on the affected joint, nor should the joint be moved. This injury may require a long time to heal; therefore, the player must rest well by the time he gets well.

(c) Ice/Icing: Ice must be applied over the injured area of the player. The ice must not be applied directly. It should be wrapped in a piece of cloth or ice pack. Only ice must be applied over the injured area for 48 hours from the moment of injury. Applying ice over the injury reduces both pain and swelling.

(d) Compression: Crepe bandage must be wound around the injured area for at least 48 hours from the moment of injury. This bandage creates compression on the injured area and the joint gets support. This compression also reduces swelling. It must be ensured that the injured area must not be massaged.

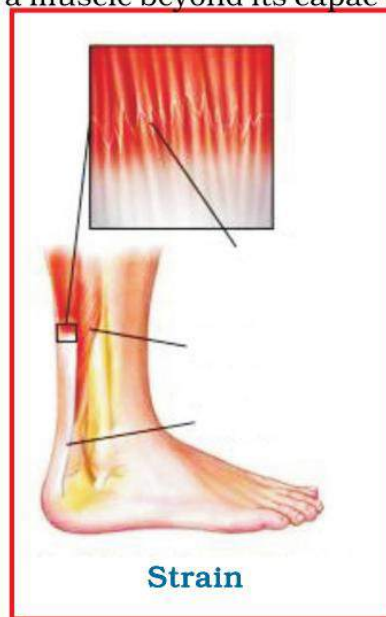
(e) Elevation: While resting, the player should try his best to keep the injured joint above the level of the heart.

The player must use a sling or support to keep the injured joint elevated. Elevation of the injured joint reduces the blood supply to that area which reduces the swelling.

(vi) Strain : The stretching of muscles is called strain. While playing, the muscles which are used excessively or the heavy muscles of the body remain at the risk of getting over stretched. Sprain is caused due to over load on a muscle beyond its capacity. There may be various reasons behind sprain. For example: wrong warming up, over tiredness, undue pressure or load, lack of physical fitness etc.

Symptoms:

1. There is an acute pain in the muscle.
2. The player finds it difficult to move, walk or run.
3. The injured area gets swollen.
4. The colour of the affected area changes.
5. The physical structure of the affected area changes.



Treatment:

1. The player must be brought out of the sports ground immediately.
2. Ice must be applied on the injured area so that the pain is reduced.
3. For 48 hours from the moment of injury, only ice must be applied over the injured area.
4. On the third day of injury, the player must be given warm water therapy followed by ice therapy.
5. The injured area should not be massaged.
6. When the swelling disappears and the pain subsides, the player must do light exercise.

7. The player should not participate in sports until he recovers completely.
8. If the player follows the principle of PRICE, he gets well quickly.

2. Hard Tissue Injuries : This category of injuries includes mainly the injuries related to the bones. Bones are made of hard tissues. When the injury harms the bone, it is known as hard tissue injury. In this category, two types of injuries are considered: Dislocation and Fracture.

(i) Dislocation : The part of body where two or more bones are joined together is known as joint. When a bone gets disjoined from its joint due to an injury, a sudden jerk, undue pressure on the joint or twisting of the joint in the wrong direction, the injury caused is called Dislocation. Generally, people take dislocation to be a fracture, but there is a difference between the two. In dislocation, the injury is caused on to the tissues that join two or more bones together resulting in the dislocation of the bone. While playing, dislocation is often caused at shoulders, elbow, wrist, hips etc.

Symptoms :

1. All movements in the area of injury are hampered.
2. There is acute pain in the joint.
3. The injured joint gets de-shaped.
4. The area where the joint is dislocated, feels hollow.
5. The injured joint gets swollen and changes colour.

Treatment:

1. The injured player should be taken out of the sports ground immediately.
2. The dislocated joint should be supported and the player should lie down in resting position.
3. Ice should be applied over the injured joint so as to reduce swelling and pain.
4. The dislocated joint should not be moved.

5. The player should be taken to the doctor immediately. An X-Ray scan should be conducted so as to access the intensity of the injury.
6. The player must rest properly, and keep the injured joint well supported until it heals completely.

(ii) Fracture : Fracture is considered to be a serious injury. When a bone breaks into two or more parts due to some injury, the damage is called a fracture. While playing in the sports ground, a player seldom suffers a fracture, however in certain conditions, a player remains under the danger of getting a fracture. A player may suffer a fracture due to falling in the sports ground, uneven ground, a direct injury or on being hit by a hockey stick or a ball.

Types of fracture

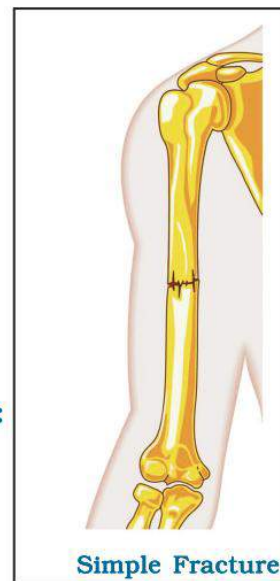
There are many types of fractures. Fracture is classified into the following categories:

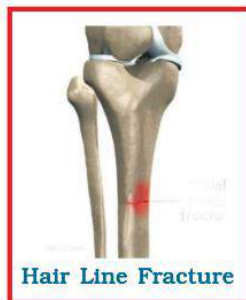
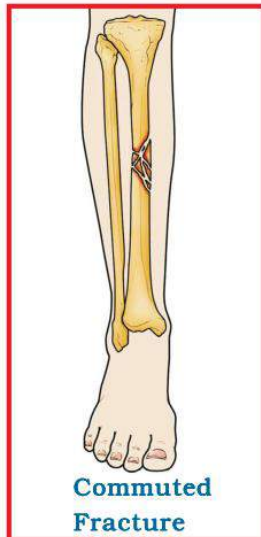
(i) Simple Fracture : In this type of fracture, the bone breaks into two pieces after the injury, however there is no scar visible in the skin.



(ii) Compound Fracture : When after getting broken, the bone tears the muscles and the skin and comes out, the fracture is called a compound fracture.

(iii) Commuted Fracture : When due to a serious injury, the bone breaks at various places and splits into many parts, the fracture is known as commuted fracture.





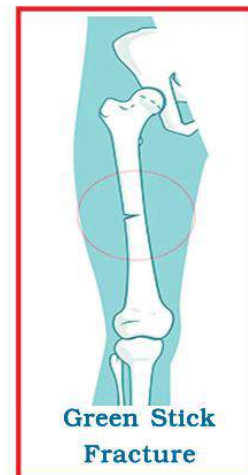
(iv) Complicated Fracture: When after breaking, the bone penetrates into other parts or organs of the body, the fracture is called complicated fracture. For example: the penetrating of ribs into the lungs.

(v) Green Stick Fracture : In this type of fracture, the bone does not break completely. Instead, a part of the bone gets peeled off from one side.



(vi) Hair Line Fracture : In this type of fracture, the bone suffers a crack in it; however, the bone remains in its normal position. If a hair line fracture is not treated well, there are chances of the bone getting fractured completely.

(vii) Depressed Fracture : This type of fracture is mostly caused in the skull or the flat bones of the body. In this fracture, the bone does not break, but gets depressed inside due to pressure.

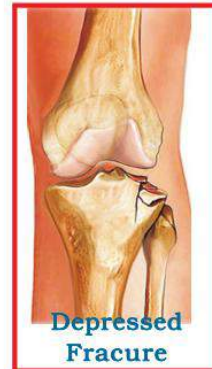


Symptoms:

1. There is an acute pain in the injured area.
2. The injured area gets swollen.
3. The injured area changes colour.
4. The fractured bone gets de-shaped.
5. The fractured part cannot move.
6. Even the slightest movement causes severe pain, and the bone makes creaking sounds.

Treatment:

1. The fractured bone should not be moved at all and should be well-supported.
2. In case of compound fracture, the bleeding must be stopped immediately to prevent blood loss.
3. The fractured bone must be immediately supported with wooden sticks and bandaged.
4. The injured must be taken to the doctor immediately. An X-Ray scan must be conducted so as to assess the intensity of the injury and start the treatment accordingly.
5. If required, the fractured bone must be plastered, and the patient must rest until the wound is healed completely.

**Exercise****One Mark Questions**

- Question 1: What are sports injuries?
- Question 2: Write any two symptoms of sprain.
- Question 3 : Who participates in sports besides players or sports persons?

Two marks Questions

- Question 4: What is a compound Fracture?
- Question 5: What is a Green Stick Fracture?
- Question 6 : What are indirect injuries ?

Three marks Questions

- Question 7: What is strain? What are the symptoms of strain?
- Question 8: Write the treatment of the following.

- (i) Sprain (ii) Abrasion
(iii) Strain (iv) Dislocation

- Question 9: What do you know about impact?

Five marks Questions

- Question 10: Explain the types of fracture in detail.
- Question 11: Describe sports injuries. Also write the reasons of sports injuries.
- Question 12: Write the meaning and principles of First Aid.

Chapter 5

Disability

It is often observed in society that some people are unable to hear, speak or walk due to some physical or mental impairment. These people face a lot of problems during their routine activities due to these disabilities. These physical or mental disabilities are covered under the heading of disabilities.

Meaning of disability

The inability to perform a task is known as disability. A person's inability to work like a healthy human being due to some physical or mental challenge is known as disability.

Definition of Disability:

According to World Health Organisation (WHO), "Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Disability is thus not just a health problem. It is a complex phenomenon, reflecting the interaction between features of a person's body and features of the society in which he or she lives."

According to Indian Persons with Disability Act, "Disability means : blindness, low vision, leprosy-cured, hearing impaired, locomotor disability, mental retardation, mental illness;" A person's disability may be permanent or temporary.

1. Permanent Disability: Permanent disability is the kind of disability that lasts lifelong, and the affected person cannot accomplish any task properly throughout his life.

2. Temporary Disability: Some disabilities are such that can be cured with treatment and the person can return to his normal level of functioning.

Types of Disability

1. Functional Disability
2. Structural Disability

1. Functional Disability: This type of disability is caused due to some impairment in muscles, veins or other parts of body. Sometimes this disability is caused due to some injury. For example: hearing impairment, visual impairment etc.

2. Structural Disability: This type of disability is caused due to some defect in the physical structure of a person. Consequently, he becomes unable to perform his work or faces difficulty in his day to day activities. This disability can be by birth or can occur at a later stage of life. For example: physical defects of the body, hump, depressed sides, bent shoulders, and knock knees

Causes of Disability

1. Unbalanced Diet: Sometimes, a person's diet lacks in required nutrients, which results in malnutrition and micronutrient deficiency. Consequently, the reasons of disability in body increase. For example: weakening of bones due to deficiency of vitamin D, Beriberi due to deficiency of vitamin B₁, weakening of the immune system.

2. Due to Accidents: It is possible that when a person meets a serious accident, he/she may sever a limb. Such accidents can occur anytime and anywhere, at home, at school, in the playground and on the road. These sudden accidents can cause disability like loss of a limb or any other body part.

3. Due to Disease : Sometimes a person falls ill and loses his physical or mental fitness temporarily or permanently. This reduces his ability to work. Thus millions of people get affected by different diseases and become disabled. For example: polio, cancer, paralysis etc.

4. Weakness of Sensory System : Some people become disabled due to their wrong habits or the work-situations of their

occupations. For example: low vision, hearing impairment etc.in persons working in certain kinds of industrial environment.

5. Drug-Addiction : Drugs affect the thinking ability of a person. Drugs also affect a person's ability to work well. A person who is addicted to drugs cannot work skilfully. Thus, he may become a victim of some accident and become disabled. A drug addict always remains at the risk of getting some sort of disability.

6. Lack of Awareness : Sometimes a person becomes disabled due to lack of awareness. Before starting anything, a person should gather sufficient knowledge related to that thing. In the absence of the required knowledge about a particular thing, a person may become a victim of some accident and get disabled.

7. Postural Deformities : A person's body may be de-shaped or deformed by birth or he/she may acquire the deformity later on in his/ her life. Such deformities may be a cause of disability. For example: malnutrition, weak muscles, visual impairment etc.

8. Due to Occupations : A person has to choose some or the other occupation to feed his family. Some particular occupations include a lot of hazards which affect his body negatively and make him disabled. For example: welding, working with big and heavy machines, working with synthetic paints, brick making, long sitting at computers, working in mines etc.

Cause of Disability Arising from Occupations

1. Disability Due to Accidents : Sometimes due to lack of carefulness at factories or production units, people become the victims of some serious accidents and become disabled. For example: amputation of an arm, electric shock, burns etc.

2. Effects of Chemicals : The people who work at the factories where harmful chemicals are produced often become victims of some serious diseases such as skin diseases, asthma cancer etc. The workers who word at acid factories or paint

factories often suffer from such diseases.

3. Effects of Unhealthy Environment : The people who live at unhygienic and unhealthy surroundings often have a low level of physical fitness. Such an environment is very dangerous as it increases the chances of infectious diseases. For example: anthrax, fungal infection etc.

4. Psychological Effects : In today's fast-paced life, each and every person remains under the tremendous mental pressure of excelling others in every field. This has given rise to mental disorders and mental illnesses and diseases such as hypertension, high blood sugar, depression etc.

Diseases due to Common Occupations

1. Anthracosis : This disease is often caused to the people who work at coal mines. When these people breathe regularly in coal mines, minute particles of carbon accumulate in their lungs. This disease is related to lungs and respiratory system in which minute particles accumulated in the lungs cause difficulty in breathing and make a person disabled.

2. Silicosis: This is the disease of lungs. A person gets affected with this disease when minute particles of silica enter a person's body through breathing and accumulate in the lungs. Most often the people who work at brick factories (kilns), foundries and workshops where porcelain utensils are made suffer from this disease.

3. Siderosis : This disease affects the people who are in iron industries. Very minute particles of iron accumulate in their lungs through breathing. These particles also enter their body through their skin and make their blood poisonous.

4. Lead Poisoning : This disease affects the people who are in lead or paint industry. Very minute particles of poisonous lead enter their lungs and other parts of the body through breathing. Consequently, they suffer from anaemia, head-ache, pain in

muscles, paralysis, kidney diseases etc.

5. Cancer and Asthma : The people who work in the industries which involve sprays or dope often suffer from skin cancer, lungs cancer, blood cancer and asthma. Also the people who work at X-Ray laboratories, oil factories or work with tar or thinners get affected with these diseases.

6. Byssinosis : This disease affects the people who work at cotton or cloth factories. Very thin fibres of cloth or cotton get accumulated in the lungs of these people and cause asthma, cough and allergy.

7. Disease in Farming Sector : Most often, the farmers burn the stubble left out after the harvesting of crops. The smog caused by the fire in the fields often causes diseases of respiratory track and asthma to the people who work in the fields. Apart from it, the use of chemicals and pesticides also causes a lot of diseases.

Principles of Prevention of Disability

Although it is true that each and every occupation involves the risks of certain diseases, it is also a fact that many of these diseases can be prevented or reduced by following certain kinds of precautions. The motto of occupational health is making arrangement for mental, physical and social welfare of the people. We must follow the following principles to prevent disability.

1. To Examine the Health of Employees : Before recruiting an employee for any occupation, the employer must get the medical examination of the employee done and a record of his health must be maintained. If the employee has any health problem, the first priority must be given to his medical treatment. The employee must be assigned the task according to his physical fitness.

2. Regular Medical Check up : Regular health check up of

the people who work at industries or factories should be conducted. If any disease is diagnosed at the time of medical check-up, there should be no delay in getting the employee treated as delaying the treatment may deteriorate person's condition and prove to be fatal for the patient.

3. Avoid Excessive Work: The workers, who work at factories or industries, should work only according to their physical capacity. If a worker works beyond his capacity, it may cause undue mental and physical pressure and the worker may get affected with some serious disease.

4. Safety Equipments : Keeping in mind the safety of the workers, it should be mandatory to install or use required safety equipments at the work place. This reduces the chances of an accident. For example: wearing rubber gloves while working with electrical equipments, wearing helmet during some construction work, and using other safety gears or equipments

5. Prevention of Drugs : There should be a complete ban on drug abuse in any occupation because working under the influence of drugs may cause a dangerous accident.

6. First Aid : There must be provisions for first aid in every occupation. In case of any accident, first aid may be helpful in preventing the situation from turning serious. Thus first aid at the right time may prevent disability.

7. Neat and Clean Environment : In any occupation, the surroundings and the environment must be kept as clean as possible. Unhygienic working conditions may make a person fall sick. An unhealthy environment causes diseases like T.B., asthma, skin diseases etc.

8. Awareness Camp : There must be regular provisions for workshops, seminars or awareness camps for the workers in order to make them aware of things they must keep in mind while

working. The workers should be motivated to work carefully. This will reduce the chances of accidents and raise the level of physical fitness of the workers.

Rehabilitation

Meaning of Rehabilitation

The word rehabilitation has been derived from the English words, 're' meaning 'again' and 'habitia' meaning ability. Thus we can say that the verbal meaning of the word 'rehabilitation' is 'regaining the ability'. Thus rehabilitation is providing all possible assistance to a physically or mentally challenged person and enabling him to live a normal life again. For example: Medical assistance, financial assistance, employment etc.

Definition of Rehabilitation

According to WHO, "Rehabilitation is a set of measures that assist individuals who experience, or are likely to experience, disability to achieve and maintain optimal functioning in interaction with their environments"

According to Rehabilitation Council of India

Indian Rehabilitation Council of India has categorised disability into four categories.

- (i) Related to Mental Health
- (ii) Related to Eye Sight
- (iii) Related to Hearing
- (iv) Lack of Motor Ability

Scope of Rehabilitation

Rehabilitation has a great scope as accidents keep occurring everywhere. It is impossible to get rid of accidents as accidents may occur anywhere and anytime.

According to a survey conducted by WHO, there are 300 million disabled people in the world out of whom 70% are the residents of poor countries. These countries have provisions for

the rehabilitation of only 1-2% people. However, for the past some time, WHO has been putting in efforts for rehabilitation so that the persons affected with any disability do not consider themselves a burden on the society.

In order to preserve the rights of disabled persons, to rehabilitate them in the society, and enable a disabled person to live his life well, the government of India established Rehabilitation Council of India in 1993.

Equal Opportunities, Protection of Right and Full Participation :- The government of India passed Equal Opportunities, Protection of Right and Full Participation Act in 1995 in which many government, semi-government and non-governmental organisations are working for physically handicapped and disabled persons. These organisations help in making a disabled person's life better.

In order to resolve the issue of rehabilitation of disabled person, new researches, new provisions, new equipments can be very helpful. Some experts describe rehabilitation as explained below.

1. Medical Rehabilitation : Although rehabilitation has a great scope, in this area, efforts are made to provide medical assistance to a person who has lost some organ in an accident and to remove or make for his disability. For example: Providing artificial limbs, boots, crutches etc.

2. Occupational Oriented Rehabilitation : In this area of rehabilitation, a disabled person is taught various occupational skills. He is helped in overcoming his inferiority complexes as to enable him to live his life well.

3. Social Rehabilitation : Social rehabilitation involves reactivating the social life of a disabled person and enabling them to live their life like a normal human being.

4. Psychological Rehabilitation : When a person depends on others for doing his routine work, a lot of thoughts come to his mind, and he suffers from inferiority complex. However, if a disabled person is treated with love, sympathy and care and provided with all the required assistance and enabled to get back to his work, he can lead a normal life with self-respect and confidence.

Role and Contribution of Social Institutions in the Field of Rehabilitation

1. Indian Red Cross Society : This organisation was established in 1920. More than 400 of its branches are working on district and zone level. This organisation works for health improvement and prevention from diseases. This organisation helps people at the time of natural disasters. It is also running hospitals for wounded or ailing soldiers, which are called Red Cross Homes. It helps in providing assistance to disabled persons, handicapped children and pregnant women.

2. The Hind-Kusht Nivaran Sangh : This organisation was established in 1950. It has its headquarter in Delhi. It helps people suffering from leprosy. It provides financial and medical assistance to leprosy-stricken people, and also conducts research work in the same field.

3. Indian Council for Child Welfare : This organisation was established in 1952. This organisation is recognised by International Child Welfare Society. This organisation works as legal advisor for the preservation of child rights, so that the all round development of the children may be ensured. This organisation helps in rehabilitation of juveniles and forming child welfare acts. Thus, this organisation is dedicated to child welfare.

4. Tuberculosis Association of India : This organisation was established in 1939. Many branches of this organisation are working. Every year, this organisation raises funds to help the T.B.

patients. It also organises conferences for prevention from T.B. This organisation is also running a lot of hospitals for T.B. patients.

5. Bharat Sewak Society : This organisation is also known as No Politics Organisation. This organisation was established in 1952. This organisation works for raising awareness amongst people about health. It provides door to door services to make people aware of the importance of toilets and motivates people for using toilets.

6. Kasturba Memorial Trust : This organisation was established in the fond memory of Mahatma Gandhi's wife Shrimati Kastoorba Gandhi and named after her. This organisation works for women welfare. This organisation helps women and works for their rehabilitation.

7. All India Blind Relief Association : This organisation works for the rehabilitation of the blind. This organisation came into existence in 1946. It organises free camps for the blind. It opens schools or colleges for the blind children at various places in India. It also provides new directions to these children. This organisation also motivates people for donating their eyes after death.

8. Artificial Limbs Manufacturing Corporation : This organisation produces artificial limbs for the physically challenged or handicapped people. It has its branches at Kanpur and Pune.

9. I.I.T : The complete name of this organisation is Indian Institute of Technology. It is an educational and research institution which has its branches at various places in India. This institution conducts researches and produces new equipments. It also uses various latest techniques and produces new equipments or devices for weak or special children so that they may also

acquire education like normal children.

10. Kamayani School for Mentally Handicapped: This organisation was established in 1964 at Pune. It designs activities for the mentally retarded children, and also trains them in wood work and polishing. This organisation provides skill based education to the mentally retarded children.

11. National Physical Laboratory : This organisation has its branches at Kanpur and Pune. It plays a vital role in rehabilitation. This organisation has invented an ultra-sonic device for the blind people. It keeps on conducting new researches to improve the life style of the disabled.

12. Asha Niketan Rehabilitation : This organisation has opened hospitals and physiotherapy centres for mentally retarded children and children with hearing impairment so that the children who are in some inferiority complex may be rehabilitated and enabled to lead a normal life.

13. Industrial Home for the Blind : This organisation is at Mumbai. This organisation trains blind people for manual work such as stitching clothes, weaving chairs, wood work, preparing articles from card board etc.

14. St. John's Ambulance : This organisation works for curing the patients and taking care of them. It also organises blood donation camps for the poor and the needy.

The chief aim of all these organisations is to get rid of disability with the help of health development, health safety, freedom from diseases and treatment of the ailing people.

Exercise

One Mark Questions

Question 1: What is the meaning of disability?

Question 2: What is social rehabilitation?

Question 3: Where are industrial units set up for the blind?

Two Marks Questions

Question 4 : What is Permanent Disability?

Questions 5: What is Functional Disability ?

Question 6: What is the difference between Permanent Disability and Temporary Disability ?

Question 7: Write two reasons of disability.

Three Marks Questions

Question 8 : Write the types of disabilities caused due to occupations.

Question 9: Write a note on the following:

- | | |
|-------------------------|---------------------|
| (i) Anthracosis | (ii) Lead Poisoning |
| (iii) Cancer and Asthma | (iv) First Aid |

Question 10: Write about Indian Red Cross Society.

Five Marks Question

Question :11 What is the meaning of rehabilitation? Explain it in detail.

Question 12: Explain in detail about the organisations involved in rehabilitation.

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Chapter-6

Sociological and Psychological Aspects of Physical Education

Meaning of Sociology

Man is a social animal. He is born and brought up in a society and leads all his life there in since man is a part of society, his life is directly influenced by it. Similarly, man also leaves his impression on the society.

The English word 'Sociology' has been derived from two words, 'Socio' and 'logos'. The word 'socio' means 'society' and the word 'logos' means 'study' or 'science'. Thus we can say that the word Sociology means 'Science of Society'. Sociology is the subject that provides knowledge about man's relationship with society.

Definition of Sociology

Different scholars have given different definitions of Sociology, which make it easy to understand the meaning of Sociology. Some definitions of Sociology according to some scholars are given below.

According to L.F. Ward: "Sociology is the science of society or social phenomena".

According to Kimball Young, "Sociology is an analysis of social behaviour."

Games and Sports as Man's Cultural Heritage

Games have an age old relation with human beings just as human beings are related to the planet (earth). All human physical activities also got initiated when man's existence on the earth came into being thousands of years ago. At that time man lived in forests and hunted wild animals to satiate his hunger. He did various activities to keep himself safe from wild animals. For saving himself from wild animals or hunting them, man used to do activities such as running, jumping, swimming and shooting. The ancient man used arrows and spears to hunt animals and to save himself.

With the passage of time, man moved towards getting Civilized and started living in small social groups. Living in groups made him feel safe. Man started using activities such as running, jumping, swimming, shooting and throwing spear for his entertainment. The man who used to be an expert in different activities was considered to be better than others. Gradually these activities converted from entertainment into sports and man started sports competitions of wrestling, throwing stones, shooting etc.

Greece is considered to be one of the most ancient civilizations in the world. Keeping in view the popularity of sports, Greece started ancient Olympic Games in 776 B.C. On Mount Olympia at Athens in Greece, various sports competitions such as races, javelin throwing, wrestling, chariot races, swimming, horse riding etc. were organised.

Besides Greece, various other countries also contributed a lot to the field of sports, which enlarged the scope of sports. India also enjoys a great reputation as one of the oldest civilisations of the world. India is also considered to have contributed greatly in the development of various sports. Yoga is a contribution of Indian culture. Today yoga is being practised by the whole world. The art of archery, fencing, horse riding etc. are some of the activities

taught and practised in Gurukulas. Today all these activities taught and are associated with modern sports. Apart from these, chess, kabaddi, kho-kho, wrestling, weight lifting, singing and dancing are also considered to be a major part of Indian history.

Gymnastics is considered to be the mother of all sports. It is believed to have started in Germany. Apart from Germany, Sweden and Denmark also have a prominent role in gymnastics. England is considered to be the mother of sports involving balls. Games like football, hockey, tennis, cricket etc. involve balls, and these games are considered to have started in England. America provided information about sports such as basket ball, baseball, volley ball etc.

Socialization through Games and Sports

Sports contribute a lot in developing social skills and values. Sports increase personal and social engagements and interactions and keep the social structure balanced. Sports help in developing social values in the following ways.

1. Strengthening Brotherhood

Sports develop the feeling of brotherhood amongst players. They motivate the players to show respect towards the players of other teams. While playing, the players prefer to play and remain in groups.

2. Development of social feeling

When players participate as a team in some sports competition, they try their best to make their team the winning team. In doing so, they work and play as a team and support and coordinate with one another. This coordination develops feelings of social bonding amongst the players.

3. Freedom from Inferiority Complex

Sometimes a student becomes a victim of inferiority complex and stops participating in social activities. Participation in sports activities helps such students get rid of their inferiority complex. Sports provide equal opportunities to all the students without any discrimination. While playing, players support and motivate one another. This increases their confidence.

4. Reducing Mental and Physical Tension

If a person suffers from physical and mental stress, he can reduce this stress by participating in sports activities. If a person is unable to get rid of stress, he cannot adjust in his society. By participating in sports, a person can entertain himself. Sports make a person physically fit and mentally balanced and stress-free.

5. Elimination of Hatred

It is often observed that if a person hates someone, he develops a negative attitude towards that person. Consequently, a person has to face a lot of physical and problems. Sports develop the feelings of brotherhood amongst people. Players learn how to forget personal grudges and respect the players of the other teams.

6. Change in behaviour

Sports maintain social balance. They also change the basic nature and tendencies of a player. Through participation in games, a player can bring positive changes in his behaviour and become a well civilized human being in the society. Sports channelize the feelings of a person in a positive direction and bring positive changes in his life style.

Social Institutions Affecting Human Behaviour

When a child is born, he/she is innocent. He/she is like a blank slate with no personal experiences or knowledge. He/She cannot even speak. As the child grows up, he/she learns a lot of things. In order to develop the personality of a child, the following institutions play a vital role.

1. Family

A child is born in a family which is considered to be the first society he/she interacts with. Generally, a family consists of parents, siblings, grandparents etc. What a person learns from his family forms the very basis of his behaviour. The child follows his parents' way of speaking. The atmosphere of the family leaves an indelible impression on the child. There would be no exaggeration in saying that a child learns the first lesson of socialisation from his family.

Family leaves a deep impression on the personality of a child because he/she spends most of his/her time with his/her family. If the parents develop good values in the child and provide him/her congenial environment to grow in, the child will have a sound foundation of a good life. There are a lot of factors which have a great impact over a child's life. For example: personality of the parents, traditions, religious orientation of the family etc.

2. Educational Institute

After family, educational institutes affect a child's personality. The child enters a school with the intention of getting education. The child learns a lot of new things in his school which help him a lot in his future life. Education transforms the vision of the child. In school, the child comes in contact with various other children with different personality traits. This develops a child's personality very rapidly.

When a child leaves his family atmosphere and enters his school, a lot of changes may occur in his behaviour. His physical activities increase a lot. The child steps forward

His physical activities increase a lot. The Child steps forward towards his overall development. Thus, we can say that educational institutions play a vital role in developing the personality of a child.

3. Peer Groups:

During childhood and adolescence, a child is most affected by his friends. Before and after the school, the child spends his maximum time with his friends. He gives more importance to his friends than his parents and teachers. If a child's friends are well-behaved and have good moral values, it will leave a positive effect on the child. On the other hand, if a child's friends always tell a lie or keep fighting, it is natural for the child to develop bad habits. A good company of friends plays a very important role in shaping the behaviour and personality of the child.

4. Religion

Religion enjoys a pivotal place in Indian society as it is religion that unites people with different ideologies. Often a child follows the same religion that is followed by the parents. Each and every religion guides a person to follow the right path. Religion plays an important role in developing self-discipline in a person and consequently a good behaviour.

5. Ruling System

Each independent country has the right to choose the mode of government it wants to run. For example, in India, we have a democracy. In a democracy, each and every citizen has some fundamental rights and some duties. Only a person who performs his duties well has the right to demand the fulfilment of his fundamental rights. These rights and duties leave a deep impression on the personality of a person because they change his mentality and philosophy.

Role of Games and Sports in National Integration

In today's world, each and every country is divided in many sections on the basis of language, region, caste system, religions, difference in economic status.

Every country puts in efforts to deal with this problem, but fail to achieve the desired results. A lot of challenges are faced by a country in its efforts to integrate its citizens. However, sports play this role very well. Today, sports are playing a very positive role in developing national and international harmony. The factors mentioned below play a vital role in strengthening national integration.

1. Development of Ethical Values and Social Development

:: Sports develop social and moral values in human beings. Players keep the self-respect of other players in mind while playing together. This develops national integration amongst them. Sports motivate players to play with self-disciplin, and inspire respect towards their coach, captain and fellow players.

2. Absence of the Caste and Religion : Sports motivate a person to keep his religious or racial differences aside and play without any bias. The most important thing for a person is his nation. Therefore, he forgets about all his religious or caste differences with other players and plays harmoniously with them. A player may belong to any religious sect; however, sports provide him an equal.

3. Free Form Language and Regionalism : Sports move ahead beyond the boundaries of region and language. Players belonging to different regions speak different languages, but while playing for the nation, they play together without any differences. When players belonging to different regions and speaking different language come in contact with one another, they get an opportunity to live together and understand the traditions of one another. This promotes national integration.

4. Development of Leadership : Sports develop the qualities of leadership in a person. Consequently, a player acquires the skills of leading his nation in the upcoming sports events and represents his country in international competitions. This helps in the growth of the country and increases international harmony. A player can became the

captain of his team and leads his team. This also develops his leadership qualities. With the help of these qualities, he becomes able to represent his country.

- 5. Development of Courage :** Sports make a person courageous. It is with the help of courage that a player plays for his country and records victory over others. Napoleon says, "Losing the game is not defeat, but losing the courage is defeat." After losing a match, a player does not lose heart, instead he works hard on his shortcomings, overcomes them and prepares himself for the next competition.
- 6. Control on Emotions :** Despite losing a match players of the runner-up team overcome their emotions and congratulate the players of the winning team. Victory and defeat are two faces of the same coin. If one team wins, the other loses the match. Sports develop the quality of self-control over one's feelings.
- 7. Tackling situation better :** A sportsman is able to handle a situation of competition more courageously than a non-sports person. The reason behind this is that while training for sports he becomes accustomed to tolerating both physical and mental pressure. Thus players support one another during difficult situations. This mutual support promotes national harmony.

Thus we can say that sports promote feelings of brotherhood, mutual respect and harmony, patriotism and play a vital role in promoting national integration.

Meaning of Psychology : The word psychology has been derived from two Greek words, 'Psyche' and 'Logus'. The word 'Psyche' means mind and the word 'Logus' means science. Thus the word psychology means the science of mind. Earlier psychology was called the science of the mind. Later it was called science of the soul. After that it was called the science of consciousness.

Different philosophers had different opinions about mind, soul and consciousness, therefore psychology is now called the science of behaviour. Today psychology is seen as a study of mental and behavioural activities of a human being.

Psychology plays an important role in every field of life. Therefore there are many branches of psychology. Psychology also plays an important role in the field of sports. Psychology related to the field of sports is called sports psychology. Sports psychology analyses the difficulties and challenges faced by sports persons. Today sports psychology enjoys a special status in each sport throughout the world.

Importance of Psychology in Games and Sports

1. Change in Behaviour: It is often observed that during sports training, a player's behaviour keeps on changing from time to time. While playing, a player faces different situations. In the study of a player's behaviour in these situations, sports psychology plays a very important role. If a coach fails to study the behaviour of his player, there are chances that the behaviour of that player may affect the behaviour of other players as well. If the coach is aware of psychology, he may study the behaviour of his players and solve their problems effectively.

2. Knowledge of Individual : No two individuals in this world are same in physical or mental aspects. There are differences in their interests, habits, nature and capacity. Psychology helps in understanding these differences. If a coach keeps individual differences in mind while training his players, he may get better results.

3. Helps in Learning : Learning is a complex process. Psychology helps to make this process easy. If an activity is taught keeping in mind the player's psychology, he learns it quickly and easily. In order to train a player well and to improve his skills, it is important to understand his mental level, his environment and his interest. It is important to train a player by arousing his interest in the things to learn. This is possible only with the knowledge of psychology.

4. Selection of Appropriate Game : It is often observed that a player is unable to choose the right sport in the absence of appropriate direction. Consequently he fails to perform well in his sports. If a player's sport is selected keeping all the aspects of psychology in mind, better results can be expected and the opportunities for positive results can be increased. Factors such as individual differences, heredity and interest must be taken care of.

5. Knowledge about different Stages of Development: Each player has to pass from one stage of development to the other. These stages are childhood, adolescence and adulthood. Without a deep understanding of psychology during these stages of development, sports training cannot be fruitful.

6. Psychological Preparation : However well a player might prepare before the competition, it is natural for him to get scared just before the competition. If the player is not helped in overcoming his fear, he cannot succeed in performing well. It is very important to prepare a player psychologically before any competition. Therefore a psychiatrist is appointed to counsel players of those teams who compete on international level.

Thus we can say that a player has to face different situations in his life. In order to solve various problems faced by the players, the study of psychology is very important.

Learning

Every person has a natural tendency to learn. A person starts learning right from his birth and continues to learn throughout his life. If a person lacks the quality of learning, he is no better than animals. Learning is the first step of a person's development. First of all, a child learns from the members of its family. Therefore, family is called the first school of a child. A child acquires social and moral values from his parents. Learning is the adaptation of techniques and skills for completing tasks. .

Definition of Learning

According to Woodworth, "Any activity that develops a human being and brings changes in his behaviour and experiences can be called learning."

According to Gates, "Learning is the change in behaviour caused by experiences."

Thorndike's Laws of Learning :

Thorndike has proposed various principles of learning based on the Principle of Try and Error. The following three principles are the main principles of learning.

1. Law of Readiness : This principle describes about the mental status of the learner. If the learner is willing to learn a thing, he can easily do so, but if he is not willing to learn it, he cannot be taught something forcefully. In simple words a child should be allowed to do an activity according to his interest. This will produce positive results. There is a famous saying that you can take the horse to water but cannot make it drink the water.

2. Law of Effect : The activities that produce the desired results or satisfactory results are often repeated by a person. On the other hand, if we do not get satisfactory results of an activity, we avoid doing it. If a player fails to get the required results in his sports, he works harder and tries to use new techniques to get the required results.

3. Law of Exercise : If a person repeats an activity time and again, he acquires expertise in it. Regular practice of an activity helps a person do it successfully. Hence, it is important for a person to practise regularly the things that he wants to excel in. This law of exercise is applicable on both easy and difficult subjects. This law is practised from sports grounds to universities. It is often observed that sometimes a child learns a thing very easily but another child finds it difficult to learn the same thing. This difficulty hampers the learning process of the child. A teacher can solve this problem by making the children revise things regularly. Thus it is clear that exercise affects learning.

Transfer of Training

When the effects of one thing that a person learns are clearly visible in the learning of the other thing, it is known as the transfer of training. Learning has an important role in the field of education. Transfer of training is always present in learning. When a person becomes expert in one thing, his learning helps him on the next step. Sometimes his learning of one thing hampers the learning of another thing.

Types of Transfer of Training

Transfer of training is not always fixed. It may change from one situation to another. There are three types of transfer of training.

1. Positive Transfer of Training
2. Negative Transfer of Training
3. Zero Transfer of Training

1. Positive Transfer of Training: When learning of one thing becomes helpful in learning of the other thing, it is called positive transfer of training. In positive transfer of training, a person uses the experience of his previous learning of a technique in learning a new technique. For example: The dribbling learnt in hand ball helps in learning dribbling for basket ball.

2. Negative Transfer of Training : Negative transfer of training is just opposite to positive transfer of training. When learning of one thing hampers the learning of another thing, it is called negative transfer of training. For example: a player of volley-ball touches football with hands, a person who knows typing in English language finds it difficult to type in Punjabi.

3. Zero Transfer of Training : When learning of one thing has no effect on learning of another thing, it is known as zero transfer of training. In this case, there is neither positive nor negative transfer of learning. For example: when a player of volley-ball learns swimming, there is neither positive nor negative effect of volley-ball learning on learning swimming.

Meaning of Adolescence Period

The word adolescence has been taken from the Latin word 'Adolescere' which means 'to mature'. Adolescence is the period when a child undergoes a lot of physical, mental, behavioural and social changes. It is difficult to mark exactly the beginning and the end of this stage of life, however, generally it is considered to last from 13-14 years to 18-19 years. Psychologically, it is the stage next to childhood. In this stage, a child moves from childhood to boyhood.

Definition of Adolescence

Some definitions of adolescence are given below:

1. According to Stanley Hall, "Adolescence is the period of stress, struggle, storm and rebellion."
2. According to Kuhlén, "Adolescence is that stage which has Psychological Definition:
3. Adolescence is that stage which creates psychological disturbances. It differentiates between the behaviour of a child and a boy.

Problems of Adolescence Period

Adolescence is considered to be the most important stage of life. According to some scholars, this stage is also called the stage of turbulence and storm because there occur lot of physical and mental changes at this stage. Besides physical and mental changes, the changes in thoughts also occur rapidly. At this stage an adolescent faces a lot of problems.

1. Desire of Independence :

At this stage a child moves towards maturity. He wants to get free from the restrictions imposed upon him by his parents. He wants to do all his major and minor tasks himself. He does not want to be called a child. He has a strong desire of complete freedom.

2. Problems related to behaviour : Adolescence causes restlessness rebellion mood swings and hyperactivity. Consequently, an adolescent undergoes a lot of behavioural changes. This may create a lot of problems. In order to prove his existence, an adolescent often becomes rebellious.

3. Problems Related to development : There are a lot of physical changes at this stage of life due to physical development. The child moves from childhood to puberty. As the child is unaware of these physical changes, he becomes restless.

4. Worry about Future : Adolescence is not childhood. At this stage, an adolescent starts worrying about his future, but he is not mature enough to find a solution to this problem. Thus an adolescent faces a lot of psychological problems.

5. Self-Dependence : At this stage an adolescent wants to become self dependent. Financial dependence is a serious problem at this stage. If the adolescent is not financially independent, he may take up wrong measure to earn money. He may adopt immoral ways to fulfil his needs. If his financial status is below the financial status of his peers, he may suffer from inferiority complex.

6. Lack of Co-ordination with Family and Society: An adolescent finds it very difficult to coordinate with his parents, family and society. He does not like the restrictions imposed upon him by his parents. He becomes rebellious towards his parents. Similarly his attitude towards rule, regulations or traditions of society turns rebellious.

7. Improper Use of Surprise Energy: There is a lot of energy in an adolescent. It is such a store house of energy that an adolescent remain energetic even if he keeps running for the whole day, if this energy is not properly channelized, it may lead him astray. Therefore it is very important to make an adolescent channelize this energy positively.

Exercise

One Marks Question

- Question 1: Where has the word Sociology been derived from?
- Question 2: Which country is considered to be the most ancient civilization in the world?
- Question 3 : Which sport is considered to be the mother of all sports?

Two Marks Questions

- Question 4: Write the definition of Sociology.
- Question 5: What is the meaning of sociology?
- Question 6: Write about 'brotherhood'.
- Question 7: How can a person get rid of physical and mental stress?

Three Marks Questions

- Question 8: How are social values developed?
- Question 9: Explain the contribution of sports in national integration.
- Question 10: Write a note on the following:
- (i) Educational Institution (ii) Social Groups (iii) Development of leadership (iv) Selection of the right sport

Five Marks Questions

- Question 11: What is learning? Write the definition and principles of learning.
- Question 12: What do you know about the problems of adolescence? Explain in detail.
- Question 13: What is the meaning of Psychology? What is the importance of Psychology in sports?