

1.Wrestling

Wrestling

Wrestling is a Farsi word which is known as "Batthambattha". It is played worldwide, in one or the other forms according to the cultures and skills of the region. It is recognized with different names in different parts of the world. For example: In Japan it is known as SUMO, in Russia - SAMBO, in Turkey-CHALGI, in Iran- Kushti, in India - Malyuddha.

In ancient Indian culture, Malyuddha was famous and during the times of Mahabharata, Shree Krishna, Balram, Bheem, Kans, Chanur, etc were the famous skilled players known. But in the present times it is played in two styles: Freestyle & Graeco-Roman which are widely accepted and famous. Wrestling is also included in Olympic Games. Wrestling was included in Olympics since 1896 rather; the importance of Wrestling took a tool after the World War II. Now, almost every country entertains the event internationally.

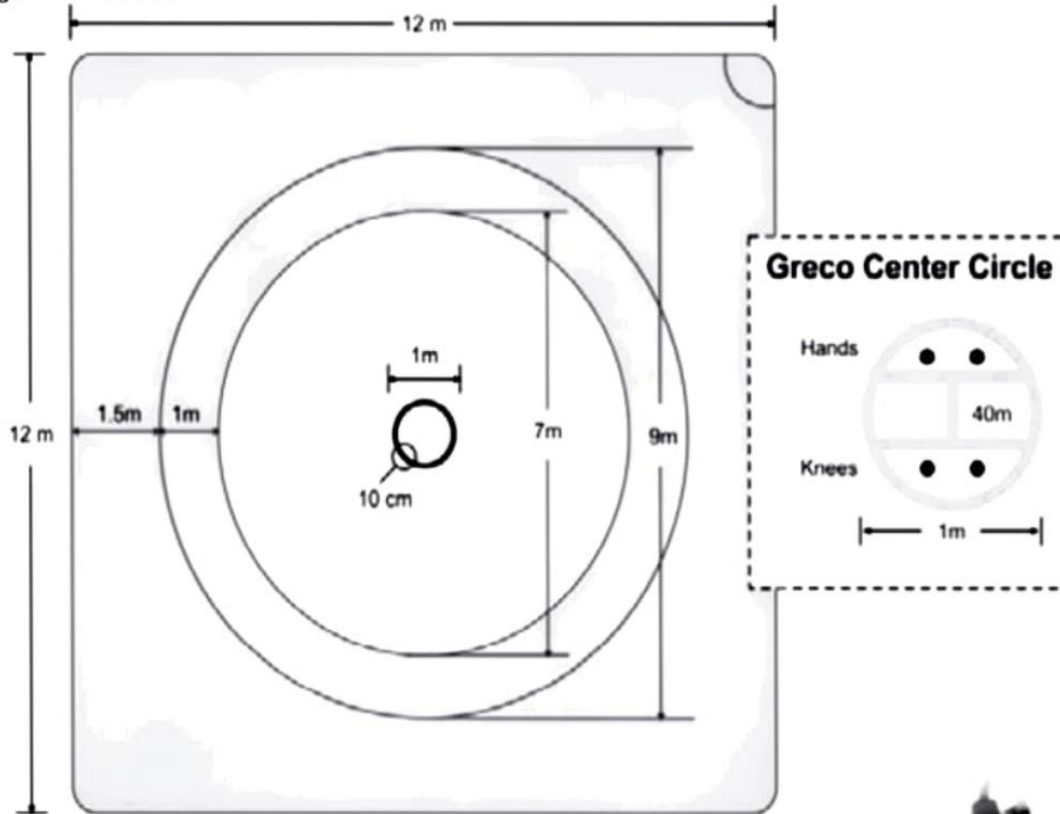
Freestyle of wrestling is very famous and has lot of viewership than the Graeco-Roman style. In that all styles of grip, throw and pinning the opponent is allowed, but duels are controlled by the International Rules of Wrestling. Graeco-Roman wrestling has the same rules as Freestyle, but the main difference is that you cannot hold the opponent below the hips or pin them with your legs. In both, pulling or snatching of the hair, muscles or the covert organs of the opponents, kicking the hands, legs or fingers; strangulating the neck are considered to be violating the rules.

Rules :

- (1) In one weight category, only one player of any team can participate.
- (2) One the day of the competition, the competitor should be clean shaven or must have been growing it for a long time.
- (3) In the game of wrestling, there are 3 rounds of 2 minutes each. In between two rounds, there is a rest period of 1 minute. If the player wins before the time, the game will be over.
- (4) To win the game, you have to pin down the opponent with his/her shoulders on the mat and the hold is kept for 1 second to win the game.
- (5) If you wish to use ear protectors, you need to take prior permission from the authorities. It cannot be made of metal.
- (6) Players cannot wear dress with maps of countries logos or other emblems.
- (7) You should not wear wrist bands, unless permitted by doctor or in case of any injury.
- (8) The body cannot be smeared with oil or grease.
- (9) You should not step into the mat frequently during the competition.
- (10) Players should not wear rings, bracelets or any other things that injures the opponents.
- (11) While Weighing the players, the referee should investigate in accordance to the requirements of the game, and then the referee has to warn the player and not allow them to participate.
- (12) If the player is insufficiently dressed player should be given 1 minute time. In this given time, if the requirements are not fulfilled, the player is considered to lose the game.

- (13) A junior player is allowed to participate in the senior category after getting Doctor's certificate and permission from guardians.
- (14) To take part in any international competition, the male or female player must have been granted permission from the International organization.

Figure of Ground :



Uniform

According to the international rules, competition-uniform is a singlet one-piece singlet. In this singlet, one is red and one is blue. Bandage or sports belt should be worn by doctor's advice. Light kneecap is permitted. Shoes should be light weight and without heels. The body should not be smeared with oil or grease. Nails should be cut and trimmed.

Time

Sub-junior section : There are 2 rounds of 2 minutes each in sub-junior wrestling. There is a break of 30 seconds in between the rounds.

Junior & Senior : There are 2 rounds of 3 minutes each. There is a break of 1 minute in between the rounds. But, if any player wins before the time, the game will be over. The time-keeper announces the time every minute. When the time ends, the time-keeper will ring the bell and then the referee will blow the whistle and signals the end of the game.

Officials :

In this game there are four officials-one referee, one chairman, one judge and time-keeper

2.Judo

Since ancient times the weaponless fighting art are popular. Wrestling was one of the arts among all art which became popular since Ramayana & Mahabharat times. Another art originated in the end of 19th Century is Judo. It is believed that Japan is origin source of Judo. Japan has developed this game/art.

The Buddhist monks' monastery had lots of wealth in Japan. And there was a fear of that wealth being stolen by thieves/robbers. To get rid of this fear the Buddhist monks discovered this art so that they could defense against the thieves also and their principle of "Non violence the best religion" was also maintained. This art was "Judo". Thus to face the thieves without weapons and to protect their wealth and for self protection, Buddhist monk mastered in Judo game/art. Through this weaponless art they just gave physical pain to the robebrs/thieves and chased them away. Thus with the passage of time it became the game for self defence. Judo became regularized and competitive.

The fight fought without weapons was called YAWARA OR JU-JITSU, in Japan before 1870

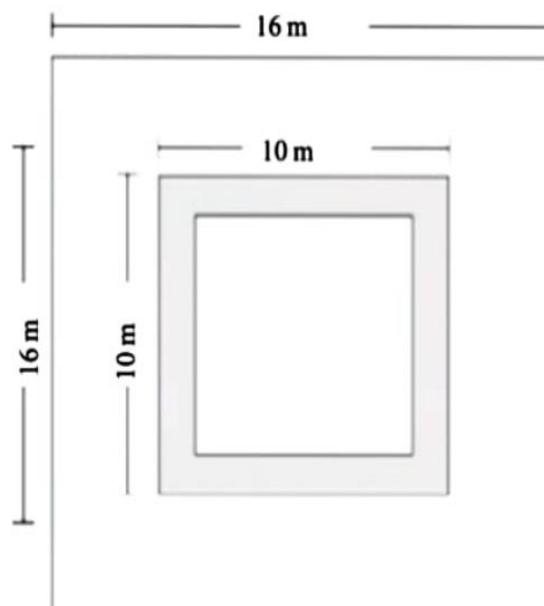
In 1870, Dr. Jigro Kano of Japan learnt, other types of arts fought without weapons and removed the wild elements from it. Then in 1882, this activity began to be taught as Judo in KODOKAN.

In the world Judo 'Ju' means gentle or soft and 'Do' means WAY. Thus this 'Gentle art' or 'civilized way' training was given to the soft and gentle people. In which Buddhist monks were included. 'Judo' means give way, according that he moves out of the way of the opponent and opponent is defeated just by giving some gentle force in the direction of opponent's velocity. By just little force he can be defeated.

Competitions of Judo started in world Olympic Games organized at Tokyo in Japan in 1964.

Ground

As shown in the below figure Judo ground is 16 meters by 16 meters, but competition ground is of 10 meters by 10 meters. The ground outside the competition area is called the safety area.



3.Karate

History

Buddhist monks introduced this art in India. In the early days, the Buddhist monks used this art to save themselves from the wild animals and thieves in the forests, by overpowering them without harming the opponents in accordance to the non-violence beliefs of Buddhism. As Buddhism gathered prominence in China and Japan, this art travelled with the monks and reached the foreign shores.

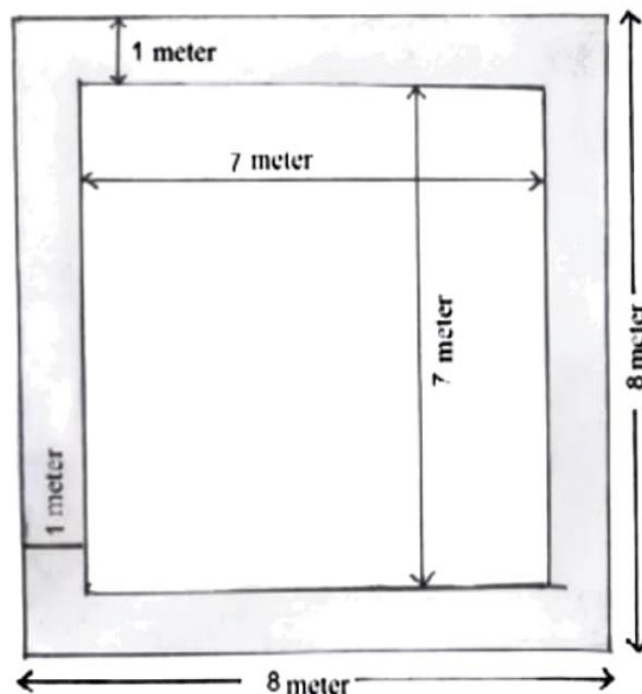
Karate is a Japanese word. "Kara" means empty, "te" means hands. The art of fighting with empty hands (without weapons), is called Karate.

In the 17th century, the King had banned the usage of weapons in the Okinawa province of Japan, so that no one could dare fight the King. Under these circumstances, the people of the province started to learn and promote fighting empty handed for self-defence to handle enemies and opponents, which became famous as Karate. From the Okinawa province, it spread all over Japan and then it spread to the whole world. Now people from more than 180 countries are learning Karate.

Gichin Funakoshi is revered as the founder of Karate in Japan. At the end of the 18th century, he promoted and popularised Karate. In the beginning of the 19th century, this art form was modernised and promoted across the western world by Hansi Gogin Yamaguchi.

In India, this martial art form was first demonstrated in Shanti Niketan. Shinzo Tagaki from the Tokyo province of Japan had come to India at the behest of Shri. Rabindranath Tagore

Ground



4.Food

(b) Proper Proportion of Food : Proper proportion of food can be different according to the age. This proportion can be known from the requirement of the calories necessary for a day.

The daily requirement of the calories from a six months child to different age groups is shown in the following table :

Sr. No.	Age : Months/Years	Necessary Daily Calories
1.	6 months child	118
2.	7 to 12 months child	108
3.	1 to 3 years child	1125
4.	4 to 6 years child	1600
5.	7 to 9 years child	1925
6.	10 to 12 years Boy Girl	2150 1950
7.	13 to 15 years Boy Girl	2400 2050
8.	16 to 18 years Boy Girl	2600 2050
9.	Above 19 years (A) Sedentary persons Man Woman (B) Persons doing less labour Man Woman (C) Persons doing more labour including active players Man Woman	2350 1800 2700 2100 3200 2450

5.Disease & water

Health Education :

All persons in the family and especially children should be imparted such education so that they may be aware of purity of water. Elders should behave in such a way that good habits developed in children. Children follow elder's behaviour, so elder's behaviour for purification of water should be ideal for children. When children go to school, it is necessary to give them education of basic need. Teachers should provide pure water to the children. Children should be educated for pure water and put an ideal model for health education.

Methods of Purification of Water :

It is essential for the health that the potable water should be free from insect. There is water purification plant launched in big cities for purifying water. Purified water is supplied to the citizen. Filtration of water, decantation and application of insecticides like chlorine as well as mixing of alum are the main system for villages and small cities. Some time, pipes which supply water, are splitted or break, polluted water mix with pure water and it becomes impure. So it is necessary, the pipes should be in a good condition, old pipes should be replaced. The following methods are used with the purpose of using only pure water for drinking.

(1) Decantation : This method is very useful in rural and urban areas, to prepare purified water with out expenditure. Water should be kept still in the vessel for some time, so that impurities like soil, dust particles and dirt in the water settle down at the bottom, while light weight rubbish, such as leaves, grass etc. float over surface. Those can be removed by filtration using piece of cloth. This method is simple, it need not any expense. However, its use is also necessary before purifying water with substances like chlorine. Effectiveness of insecticide like chlorine reduces turbidity of water to a great extent.

(2) Filtration of Water : As heavy impurities settle down at the bottom, keeping water still for some time, light rubbish like grass, leaves etc. float on water. Such rubbish floating on the surface can be removed by filtration. Clean piece of cloth duly washed or plastic net should be used for this purpose.

(3) Water Purification by Mixing Alum : Alum has the characteristic of purification of water. Mistresses of house use Alum in rural and urban area. Municipalities in urban area also use Alum for purification of water.

(4) Filtration Bed of Earthen Substances : Water of well-stepwell is being purified by Filtration bed. But three earthen pots method is used for home. In this method, there are thee pots, in the most upper pot there is water, from this pot, water fall drop by drop in its below pot. This pot is filled by sand. Water passes through this sand and gets collected in bottom pot. There are pieces of stone in small and medium size water pass through them. Water is collected in a vessel, this is pure water.

(5) Disinfectants : Water which is not turbid (muddy) is made free of bacteria by adding disinfectants. Chlorine and likewise disinfectants (Potassium Permanganate, hypochlorate etc.) are used thus. Bleaching powder is used at village level for medium sized tanks. If bleaching powder is directly mixed with water, it contains lime. Hence if bleaching powder is mixed in bucket water and then allowed to decant, lime part settles down at the bottom. Water on upper part contains chlorine. This water on upper part is mixed with water in the reservior tank according to need.

6. Infectious Diseases & Their control

Human resource is a valuable resource of the nation. In development of the nation people's health is very essential. Hence it is said that 'Fit people, Fit Nation' man has to do constant efforts in various ways in order to keep body and mind healthy. Pure air, water and nutritive (and nourishing) food (diet) are primary necessities of physical health. Moreover residence and atmosphere around should be clean. Man can live healthy life easily in favourable situation, but on not being adjustable to adverse situation his health is adversely affected and various types of diseases are caused.

Infectious Diseases : Concept :

Infection is a well known word. If one person is suffering from disease and the other person comes in contact with him and is get affected with that disease, then it is called infection. Diseases caused by bacteria, viruses and fungi are infectious. Crores of germs and bacteria from the body of a diseased person reach bodies of other animals via some way and cause disease in them. These bacteria enter human body through medium of air or dust, through water-milk or food, through stings of animals or insects, through - personal contact or through respiration or excreta - urine of disease carrying persons and cause disease. When a disease is spread through bacteria from one animal to other animal we call that disease as the infectious disease. When a large number of persons are attacked with infection of certain disease simultaneously it is called Epidemic. Colds, Influenza (flu), Pneumonia, Tuberculosis (TB) of Lungs. Jaundice, Cholera, Typhoid, Whooping cough, Diphtheria, Measles, Chicken-pox, Leprosy, AIDS, Guineaworm, Dysentery etc. are infectious diseases.

Spread of Infectious Diseases :

Many types of bacteria any how get entry into human body, through air, water, food and contact, white cells contained in (blood, of) human body attack these bacteria. These white cells besiege bacteria of diseases, take the bacteria in their body and kill them. They are body-guards. Anti-toxin as an antidote of poison produced by bacteria of diseases is produced in human blood. Thus due to while blood corpuscles and antidote bacteria of diseases in human body are killed. It is called immunity. Immunity to fight against disease for long time after certain disease is caused is called Acquired Immunity.

Bacteria of a disease anyhow enter the body, reproduce themselves at proper place and colonizes of their own. The time duration required for this is called Incubation period. Thus the time period inbetween entry of bacteria in the body and appearance of the first sign of a disease is called Incubation period.

Different types of bacteria do different actions. Some bacteria are nourished by dead and rotting substances and convert them into harmless substances. Such substances are used as manure for vegetables. Milk is converted into curds and alcohol is prepared from sugar. This is also with the help of one type of bacteria. Some bacteria anyhow get entry into human body and grow there. Due to this, poisonous substances are produced which result in different diseases. These bacteria from a diseased man enter the body of a healthy man and spread disease in such a way that as a result, the epidemic starts. Bacteria of diseases enter the human body mainly through the following ways :

(1) Through Air : Bacteria of some diseases enter the human body alongwith air and dust therein, by taking polluted air during respiration e.g. Bacteria of Tuberculosis (TB), Influenza (Flu), Small-pox, Cough etc.

(2) **Through diet (food) :** Water and milk. Bacteria of some diseases enter human body through polluted water, food or milk e.g. Bacteria of diseases like cholera, (intestinal) worms, dysentery typhoid, jaundice etc.

(3) **Through direct contact :** Some bacteria enter directly or through contact. Such diseases are called contagious diseases e.g. Diseases like scabies, ringworms, leprosy etc. spread through direct touch or contact with a diseased person.

(4) **Through animals and insects :** Rabies, Malaria, Plague, Dengue, elephantiasis are caused through bite of rabid animals, mosquitoes, fleas, flies or insects.

(5) **Through rubbing of skin :** Skin works as coverage against bacteria entering into the body. Even then some times bacteria of diseases enter human body through rubbing of skin e.g. Anthrax, tetanus diseases spread in this way.

(6) **Through organs of generation :** Sexual diseases or secret diseases are contagious diseases entering from one body to another body through organs of generation. Gonorrhea syphilis Chlamydia, Herpes, AIDS are diseases spread through sexual contact.

(7) **Through disease holder :** Some men are such that bacteria of specific disease are there in their bodies, but as they have got immunity to fight against such bacteria the disease do not adhere to them, but if bacteria from their bodies enter bodies of others, then they can be diseased. Such persons are called carriers of diseases. In such a way when a man becomes free from certain disease, he is carrier of bacteria for some days. Hence his disease can be adhered to the other person. Diphtheria, typhoid etc. spread through disease carriers.

Characteristics of Infectious Diseases :

General characteristics of infectious diseases are as follows :

The time - period inbetween entry of bacteria of diseases into human body and appearance of signs of disease is called Incubation period. During this period white blood corpuscles (w.b.c.) i.e. white cells in blood fight to destroy bacteria. Antitoxins produced in blood do not allow the poison produced through bacteria to affect on human body. The disease - resistance strength of human body is called Natural Immunity.

Some times man, falls ill and then he gets recovered then strength to fight against specific disease is produced in him. It is called Acquired Immunity e.g. man suffers small-pox disease only once and then it does not affect again. Such condition can be brought by injecting acquired immunity vaccine.

- Each infectious disease has a definite time-period. The disease recovers at the end of the time-period.
- All infectious diseases are caused by specific type of bacteria. Each disease is caused by different types of bacteria.
- A person gets immunity to fight against a disease after he is caught once by that disease.
- This disease spreads from a diseased person to a healthy person.
- At the time of attack of an infectious disease the diseased person has to pass through specific conditions.
- A diseased patient experiences characteristics like dislike (or aversion) no appetite, weakness, feeling dry neck, nausea-feeling, feeling body-ache etc.

7.Disease

Pneumonia :

Pneumonia is a disease caused by one type of bacteria and some virus. It is considered as a fatal disease - proportion of this disease in much is children below the age of six.

Characteristics of Pneumonia :

In the beginning shivering in body headache, fever. Due to swelling in wind-pipe trouble occurs in breathing in, chest severely aching. The patient has a fit of dry and severe coughing and drags out. Phlegm of yellowish colour. Many a times children have more fever and alongwith it attack of fits also.

Treatment and prevention of Pneumonia :

Immediately consult a doctor in case of such characteristics and do treatment accordingly. Children should be particularly admitted to the hospital and proper treatment be given.

Tuberculosis (TB) of Lungs :

TB is a disease caused by special type of bacteria. TB is of many types. Particular part of the body is attacked by bacteria, then it is called TB of that particular part. Bacteria enter into the Lungs and then they grow. It is called TB of Lungs. If it starts in intestine, bones or joints then it is called. TB of that specific part. It is a general belief that TB means TB of Lungs. Here we would discuss about TB of Lungs.

How this disease is caused ?

Two things are essential for this disease. (1) Entry of particular germs of TB in the body. (2) Favourable condition for the growth of these germs e.g. weakness in body.

Innumerable bacteria of this disease spread in air with breathing and coughing of the patient of TB. Innumerable germs of TB come out in sputum of a diseased of TB. Sputum gets dried, then germs stay flying with dust-particles. When a man breaths in and out in such type of air germs of this disease enter into his lungs.

TB germs enter into the body then TB is definite. It is not so. If a man whose immunity is reduced due to some reason, germs of disease enter into his body and grow there. A man who does not get enough nutritious food, who resides in a place without facility of air and light, a person who has fallen weak due to long sickness a person who has infection of HIV, immunity decreases. If germs of TB enter into the body of such a person, symptoms of TB appear.

Characteristics of TB of Lungs :

In the beginning fever at night and perspiration. Then coughing begins. Cough begins to come out blood in phlegm - chest-ache, rapid breathing distaste for food, weakness increases day by day, loss of weight, loss of vitality man become bed ridden. If proper treatment is done from the very beginning, then the diseased can be free of disease. If the disease becomes chronic, then the treatment becomes rather difficult.

Control of TB :

The central government has launched a movement for eradication of tuberculosis. Survey and free treatment are a part of the movement. Non-government organizations (NGOs) also give a good contribution in its control. Examination (test) of phlegm and X-ray of chest these two things give diagnosis of TB. Control of the disease can be had by timely treatment. For long term prevention, long term treatment is required to be given, until fully recovered.

Treatment and Prevention of TB :

In the spittle of the diseased of TB there are innumerable TB bacteria. So the diseased should not spit anywhere on road. He should spit in spit-pot with antiseptic medicine. Then close the pot properly and destroy it in fire. At the time of coughing the diseased should hold a hand-kerchief with antiseptic medicine already sprinkled, in front of his mouth keep the patient of TB in a separate room. Others except the nursing attendant should remain away from him as much as possible. His things like clothes, vessels etc. should be kept separate. The patients room and his things should be made free from bacteria. Arrange for enough sunlight and open air in his room.

Take care that dust mixed in air may not enter in our lungs with breathing in and out.

Bacteria of TB live for long in closed and dark place. They die (vanish) in sunlight and open air so house should be kept clean. Have a facility of enough air and light in house.

Entry of bacteria of the disease in the body and lack of immunity to fight against them in blood. These two are responsible causes for this disease. To enhance immunity of the body man should eat. enough nutritious food. Proper exercise, yoga, yogasanas and rest are also required. The diseased needs dry air, plenty of sunlight nutritious food and rest.

BCG vaccine is given to all new borne for prevention of TB

Nowadays many effective medicines are available. That should be taken for a complete period according to the doctor's consultation and advice. Irregularity of the treatment harms the patient, not only that, it harms, much to the society. Due to the incomplete treatment bacteria of TB get accustomed to medicines and then it has no effect. If the other person is infected with those bacteria, then these medicines don't prove effective for him also.

Diseases spreading through food and water :

(1) **Jaundice** : It is a disease caused due to infection of viruses in liver. Incubation period of this disease is 15-50 days. Proportion of bilirubin in body increases. Skin and eyes appear yellowish. This condition is called jaundice. Viruses of this disease come out through stool vomit, urine, blood of the patient and it infects others. Liver gets swelling.

Characteristics of Jaundice : Fever, yellowish urine, distaste, vomit and pain. In case of yellowish urine alongwith fever, get immediately the laboratory test done and diagnose whether jaundice or not. It is inevitable to know whether it is jaundice or not, before prescribing medicine for fever.

Laboratory test : Proportion of bilirubin increases. Proportion of haemoglobin decreases. Presence of bile in urine is detected.

Treatment and Prevention of Jaundice : Inform the health department. If need be, admit the patient in the hospital and give him treatment according to the doctor's, advice. Keep away from the patients contact. Put disinfectant medicine in excreta-urine and then destroy it. Drink water and milk after boiled them. Don't eat stale - open food from bazaar. Take more carbohydrates / glucose in order to increase efficiency of the liver. Avoid ghee-oil-fatty food for some time according to the medical advice. Before taking injection, syringe and needle should be sterilized or use disposable syringe. While donating blood or taking blood, proper test for B. type jaundice should be done. Unsafe sexual relation is harmful.

Cholera : Cholera many a times is a fatal disease. It causes due to particular type of bacteria (cholera vibrio).

Characteristics of Cholera : Bacteria of this disease enter human body through polluted water and food. In a very short time within three days characteristics of the disease appear. Bacteria enter the intestine and loose motions start. Colour of the motion is like water from cooked rice. Alongwith motions, vomiting also starts. Hands and legs / feet ache. Weakness prevails, Urine hinders. Feeling thirsty. Slow pulse. Body begins to be cold slowly. In absence of proper treatment the patient may die. Throbbing of heart becomes slow. Decrease of proportion of water and salts in body due to loose motions and vomiting, That can be fatal.

8.Spot

Sex	Distance of the race (mts.)	Height of the hurdle (mts.)	Distance from the start line to first hurdle (mts.)	Distance between hurdles (mts.)	Distance from the last hurdle to finish line (mts.)
Men	110	1.067	13.72	9.14	14.02
Men	400	0.914	45.00	35.00	40.00
Women	100	0.840	13.00	8.50	10.50
Women	400	0.762	45.00	35.00	40.00

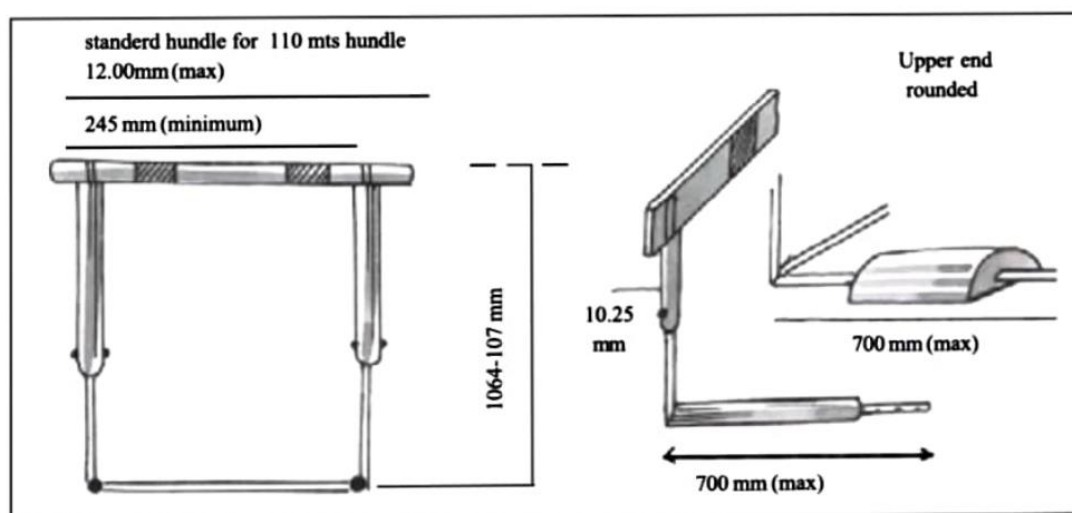
Each hurdle shall be so placed on the track that the support shall be on the side of the approach of the competitor.

Dimensions of Hurdles :

- Height of hurdle for Men in 110 mts 1.067 mts for women in 100 mts 0.840 mts.
- Width of the hurdle is 1.20 mts.
- Total weight of the hurdle should not be less than 10 kg.

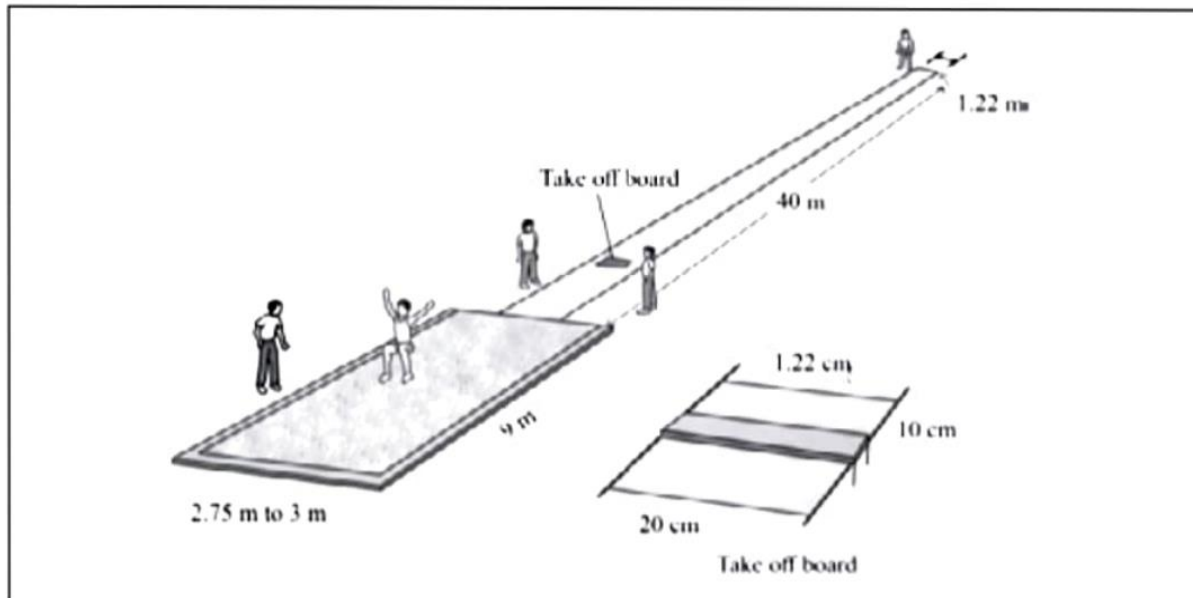
Skills of Hurdlerace : (100 Mts and 110 mts.)

- (1) **Start** : Generally crouch start is taken as per the short distance running. in which medium start is more preferable.
- (2) **Action from start to the first hurdle** : After starting athlete reaches at the first hurdle with maximum speed within 8 to 10 strides.
- (3) **Action over the first hurdle** : Athlete will manage to reach to the first hurdle after the start so that last stride near the first hurdle will be on strong leg and with same leg athlete will take off to clear the hurdle. During this phase free leg and opposite hand will be extended straight. This time runner will lean the body forward in running direction. When the body will cross the hurdle at that time athlete will bend his strong leg in



9.Hop – Step - Jump

In ancient Greece country the method of "Hop-Step-Jump" was of different types. In 19th century many strange methods were adopted. The competition seems to have started in Ireland. The Irish player F.A.M. Weber was the first one who had demonstrated the method of jumping "Hop-Step-Jump".



Play Ground :

The distance of take-off board from the front edge of the jumping pit :

For Men : 13 metres

For Women : 11 Metres

Taking into consideration the level of the competitors this distance can be changed.

Skills of Hop-Step-Jump :

(1) Approach run (2) Hop (3) Step (4) Jump (5) Landing

Now we shall study these skills in detail as follows :

(1) Approach run : Like long jump, in hop-step-jump also, an approach run is used to get maximum speed and cover more distance with better take-off. The method of approach run is like long jump. The approach run is shorter than that of long jump.

(2) Hop : To get better performance in this skill, the following three actions are needed to perform with specific attention.

(a) Take-off : Making the use of Newton's third law of motion and the principle of projectile, a take-off is to be taken from a take-off board with a strong leg and the body is lifted upward and forward at an angle of 25° . In this action, the body is leaned little forward keeping the trunk of the body little on the back side of the take-off board. While keeping the centre of gravity on the lower side, the speed does not decrease, but it gives advantage in the step and jump.

(b) Floating in the air : In floating a jumper keeps his body straight in the air. While take-off, the free leg which was in front is to be straightened and the swing is to be given on the back side. This time the take-off leg is bent from the knee and taken forward. In this whole action the movements of the hands and the head, help in keeping the balance of the body.

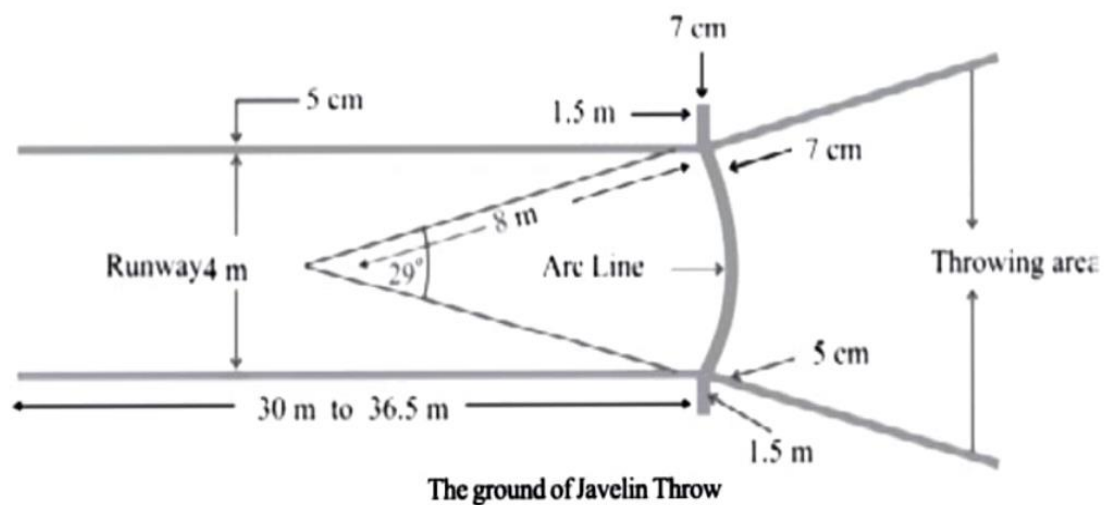
10.Javelin Throw

Man has been using the spear for hunting and in wars since ancient times. When the ancient Olympic games began, Javelin Throw was included in the group of five games called 'Pentathlon'. In beginning, It was allowed to throw a javelin with turn, but it was dangerous method for competitors, referee and spectators. IAAF Prohibited to throw in such method. In beginning the measurement and shape of Javelin were not fixed. IAAF Prepared rules, fixed the measurement and shape of Javelin, prepared rules for throwing also.

A Javelin throw was included in 1908 Olympic games for man, and in 1932 Olympic games it was also included for woman.

Javelin Throw

The Ground :



The ground of Javelin Throws has been divided in two parts : (1) Run way (2) Throwing Area

Run Way :

- (1) The breadth of Runway is 4 metre
- (2) The length of Runway is 30 metre to 36.5 metre
- (3) The breadth of marking lines are 5 cm.
- (4) The breadth of Arc Line is 7 cm.

Throwing Area :

The throw shall be made from behind an arc of a circle drawn with a radius of 8 m. The breadth of a arc is of 7 cm. So take a radius of 8.07 m and draw a arc. So that the breadth of the arc will be 7 cm. The arc will be made of a wooden or metal strip 7 cm in width at ground level. It will be painted white. Lines shall be drawn

from the extremities of the arc at right angles to its parallel lines marking the runway. These lines shall be 1.5 m in length and 7 cm in width. The throwing area or a sector is marked on the ground by extending the lines from the centre of a circle having a radius of 8 m, of which the arc is a part, through the points at which the arc joins the lines marking the runway. The angle of the throwing area will be 29° . The ground lies from the North to the South.

Equipment :

(1) Javelin (2) Measure tapes (3) String (4) Lime powder (5) Bucket (6) Nails (7) Flags, etc.

Javelin :

The Javelin is made from cane, bamboo or aluminium. But in a competition, a javelin made from aluminium is used. The measurements of Javelins for men and women are given in the following table :

Details of Measurements, weight etc. of Javelin for Men and Women :

<i>Sr.</i>	<i>Particulars</i>		Men	Women
1.	Weight for competition for acceptance record minimum		800 gm.	600 gm.
2.	Weight for competition	Min. Max.	805 gm. 825 gm.	605 gm. 625 gm.
3.	Length of the Javelin	Min. Max.	2.60 m. 2.70 m.	2.20 m. 2.30 m.
4.	Length of Metal Head	Min. Max.	25 cm. 33 cm.	25 cm. 33 cm.
5.	Diameter of shaft	Min. Max.	25 cm. 3 cm.	2.0 cm. 2.5 cm.
6.	Distance between the tip of metal to the grip	Min. Max.	0.90 m. 1.02 m.	0.80 m. 0.92 m.
7.	Width of the grip	Min. Max.	15 cm. 16 cm.	14 cm. 15 cm.

The skills of Javelin Throw :

(1) Grip (2) Carry of Javelin (3) Approach (4) Throw (5) Release (6) Change of feet (Balancing)

Grip :

In Javelin throw, it is compulsory for a competitor to hold the Javelin at the cord wrapped on the middle part of the Javelin. There are three types of grip (1) Finish Grip (2) American Grip (3) Hungarian Grip.

11.Volleyball

History :

Volleyball is an International game which is played in open air ground and in indoor hall. Volley ball game was invented in America in 1895 by Prof. William A. Morgan. In the beginning name of game was 'Mintonat'. After the advice from his college A.D. Helstard the name was kept volleyball. This game is played keeping ball in air all the time. In English playing ball in air is called 'Volley', so that volley ball is a suitable name for the game.

The volleyball game was started in India by Y.M.C.A. Madras. Due to less space, equipment and less expenditure this game became very popular in India. Today each school - college has facilities of volleyball ground today above cities to villages also this game became very popular and played with interest. According to volleyball rules and with the hard work of Shri R. S. Kirpanarayan first All India Volley ball tournament was held in 1933.

The volleyball federation of India was formed in 1951 to coordinate the game at National level Today different competitions of this game is held at Taluka, District, National and International level. During Berlin Olympic demonstration of game was organised in 1936. In 1939 volleyball game was included in world university sports festival. International volleyball federation was established in 1947 and prepared the rules of the game. The first volleyball championship at world level for men was held at Czechoslovakia in 1949. In which Russia became champion. Asian volleyball federation was established in 1954. Asian volleyball championship was held in Tokyo (Japan) in 1955 and India won this championship. Third Asian game was held in 1958 in Tokyo in which volleyball game was included officially. First time India had participated in this championship. In 1964 Olympic game Russia, Czechoslovakia and Japan won the championship respectively.

Ground of Volleyball Game :

(1) **Ground** : Volleyball ground is 18 mts, long and 9 mts wide, surrounding by a free zone, which is a minimum of 3 mts wide on all sides. The free playing space shall measure a minimum of 7 mts in height from the playing surface.

For FIBA world championships the free zone shall measure a minimum of 5 mts from the side lines and 8 mts from the end lines. The free playing space shall measure a minimum of 12.5 mts in height from a playing surface.

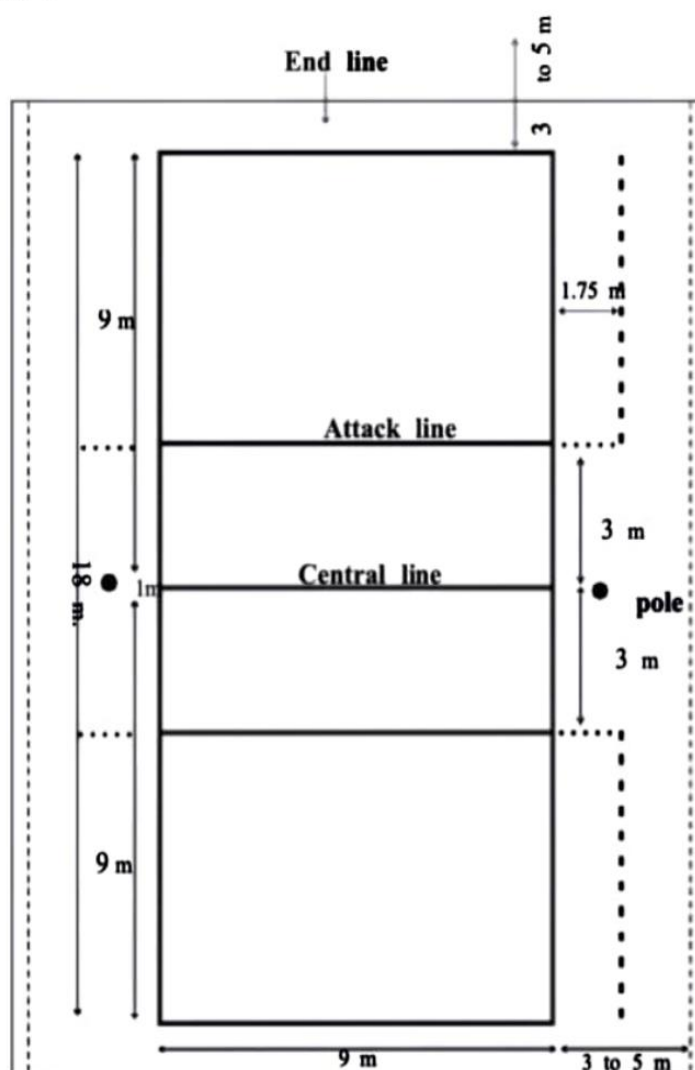
(2) **Centre Line** : The axis of the centre line divides the playing court into the equal courts measuring 9 mts × 9 mts each.

(3) **Attack line** : On each court an attack line whose area edge is drawn 3 mts back from the axis of the centre line marks the front zone. The attack line is extended by the addition of broken lines from the sidelines; with line 15 cm short line 5 cm wide drawn 20 cm from each other to total length of 1.75 mts.

(4) **Boundry line** : Two sidelines and two end lines mark the playing court. Both lines are drawn inside the dimensions of the playing court.

(5) **Service area** : The service is performed behind the end lines, which is called service area.

Volleyball Ground :



Equipment :

(1) **Posts** : The posts supporting the net are placed at a distance of 1.00 mt outside the sidelines. They are 2.55 mts. high, round and smooth.

(2) **Net** : The net is 1 m wide and 9.50 mts long made of 10 cm square. At its top there is a horizontal band, 5 cm wide made of two fold white canvas shown along its full length, Each extreme end of the band has a hole, through which passes a cord fastening the band to the posts for keeping its top feet.

(3) **Side-Bands** : Two white banners are fastened vertically to the net and placed directly above each side line. They are 5 cm wide and 1 m long and are considered as part of the net.

(4) **Antennae** : An antennae is a flexible rod 1.80 mts long and 10 mm in a diameter, made of fiberglass or similar material. An antennae is fastened at the outer edge of each side band. The antennae are placed on opposite sides of the net. The top 80 cm of each antennae extends above the net and is marked with 10 cm stripes of contrast colour preferably red and white.

(5) **Ball** : The ball shall be spherical, made of flexible leather or synthetic case with bladder inside made of rubber on a similar material. Its colour may be a uniform light colour, or combination of colours. Its circumference is 65-67 cm and its weight is 260-270 grams.

12. Softball

Softball is a popular game in America. This game is invented by a member of Farra-gut Boat club George W. Hencoc in Chicago. This game began in the year 1920. This game was played in open air in Canada after that it became more popular

Up to 1895 this game was played with different names like Kitten ball, Diamond ball. Mush ball, Fatt Ball, big ball, Night ball recreational ball, play ground ball etc.

In 1900 first time official rules of the game were framed. In 1908 National rules were declared. First time in 1908 competition was organised by National amateur play ground ball association. First time this game was declared as soft ball by Walter Hensen, YMCA and National recreation congress in 1926. International committee was formed in 1933 to frame a simple and effective rules of the game. who framed standard rules of the game. Upto 1950 this game became more popular. First time world championship for women was organised in Melborn (Australlia) is 1956, where is for men it was organised in Maxico city in 1966.

Soft ball game in India was started by Shri Dasharathmal Mehta of Jodhpur (Rajasthan). He was a member of American library. So he studied American books and literature of soft ball in library. He made softball game famous as recreational game among youth of Jodhpur. This game was spread in 1954. Dasharathmal Mehta has framed softball association on 21st November, 1961. First Inter state soft ball competetion was held under the banner of softball Association of India in 1967. In this tournament teams of Rajasthan, Delhi, Maharashtra and Andra Pradesh took part with the effort of YMCA game was spread in India.

Indian team had participated in Asian championship which was held in Japan in 1985. Men and women team had participated in Phillipaince in 1997.

This game has more recreational aspect. Because of small ground and less costly equipment the game became very famous.

This game is managed by International softball federation at world level, Head office of federation is situated in Gklahoma (USA).

(1) Ground : Softball ground is like kite shape. Diameter of ground is 225 feet (68.96 mts) for men and 200 feet (60.96 mts) for women. It shall be levelled and unobstructed area, which is shown in figure.

13. Softball

(2) Equipment : Following equipments are used for soft ball.



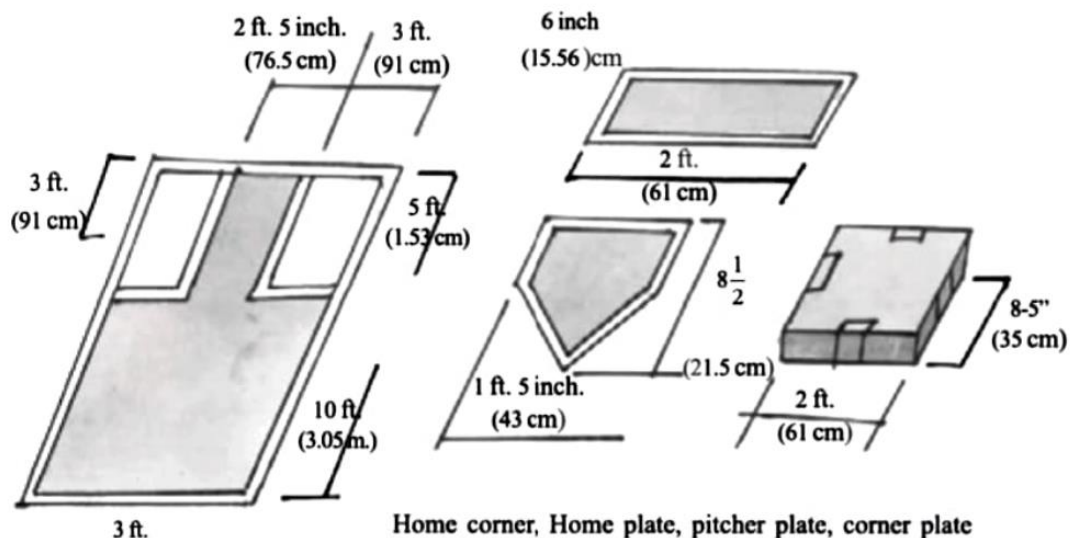
Bat and Ball

(i) Slager (Bat) : To hit the ball, a bat is used. The bat shall be round and shall be smooth. Front part of the bat is thick and end part shall be thin. Maximum length of bat is 34 inches. Diameter of thick part of bat is 2.5 inches. Bat shall be of metal, bumboo, plastic, fibre glass, ceramic or any other composite materials surface shall be soft and safe, shall to have a safety knot of a minimum of 0.6 mm protruding at a 90 degree angle from the handle. Approved bat by ISF shall be used.

(ii) Ball : Ball shall be a regular, smooth - seamed concealed stitched and flat surface ball. Shall have a centre core made of either no. 1 quality long, fibre kapok, 4 mixture of cork and rubber, a polymerethane mixture circumference of the ball shall be better $11\frac{7}{8}$ inches and $11\frac{1}{4}$ inches. Weight shall be between 6 once and $6\frac{3}{4}$ ounces shall be smooth - seamed, concealed stitched or flat surface ball. If cover of ball is made of synthetic material is allowed. ISF approved ball shall be used in compation.

(iii) Home Plate : Plate shall be made of rubber or suitable material. It shall be a five sided figure. Plate is 17 inches wide, long straight line is of $8\frac{1}{2}$ inches and bent line is of 12 inches.

(iv) Pitcher's Plate : The pitcher's plate shall be of rubber or wood. Plate is 2 feet long and 6 inches wide. The top of the pitcher's plate shall be level with the ground. It is 46 feet away from the home plate for men and 40 feet for women.



Home corner, Home plate, pitcher plate, corner plate

(v) Base Plate : The bases plate other than home plate shall be of 15 × 15 inches square. Thickness shall not be more than 5 inches and shall be made of canvas or other suitable material. The bases shall be securely fastened in position.

(vi) Gloves : Any player may wear a gloves.

(vii) Shoes : A shoe shall be considered official, if it is made with either canvas or leather.

(viii) Masks (Head Guards) : All catchers must wear masks, throat protector and helmet. Head guards shall be made of leather and net.

(ix) Chest Guard : Catcher, home plate officials and women players shall wear the chest guard . It protects chest and abdomen. It shall be made from cotton, foam, rubber or thermocol and it is covered by canvas. To fix the guard belts are used. Players also use skin guards.

(3) Skills : Following are the main skills of soft ball game. It includes throwing, catching pitching batting, fielding, bunting, base running. In our syllabus only throwing, catching and pitching are included, but when players play the game they will also use other skills. During games teachers should taught these skills.

(1) Throwing : If throwing action is weak or lack of accuracy it spoils the game. The ball should be thrown correctly and fast. There are different types of throwing.

(i) Over head throw : Right handed thrower, player should keep left hand near the bent foot. While throwing use the body weight, keep left hand forward and throw the ball and bring right leg forward.

(ii) Side arm throwing : Throwing action is as per the overhead throw, but the ball should be thrown by side way.

14.Hockey

Preface

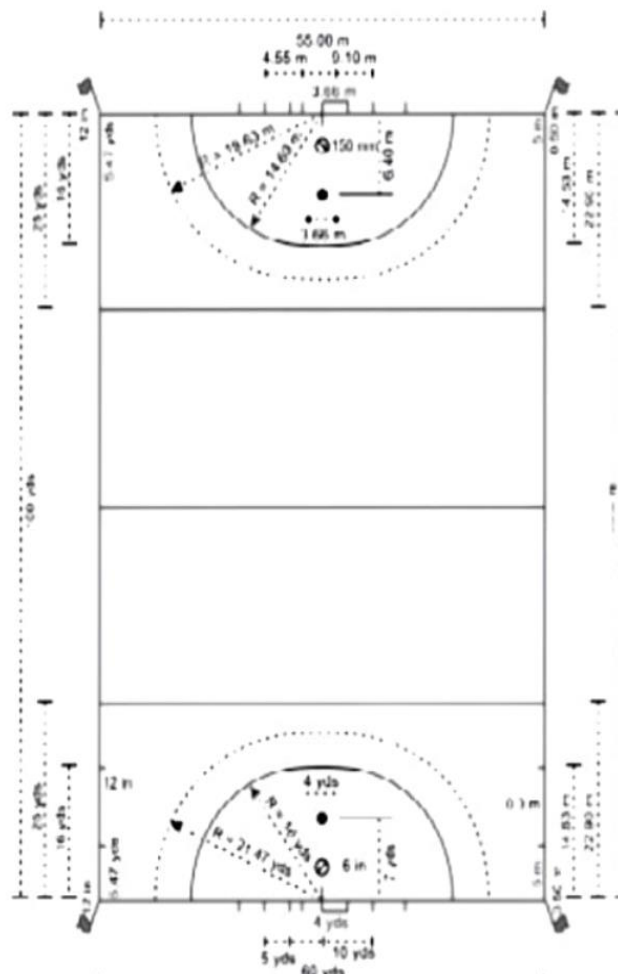
Though cricket is most popular game in India, our National game is Hockey. When is this game started for that there is no evidence found. It is presumed that in ancient time, a game played with bent rounded stick and ball who played in PARSHIYA. This game derived from Parshiya to Greece and Rome.

Hockey word is derived from the french word 'Hotic'. Hotic means a stick rounded at one end. In India this game was being played in the times of Mahabharat in the form of 'Gedi-Dada' American 'Auka' Japanese 'Kanchi', Scottish 'Shinti' games are almost similar to Hockey.

Modern Hockey game has been presented by England to the world. In 1861, the first world Hockey club was established in Blackkith. In 1875 the first world Hockey conference was organised in England. The rules of Hockey were framed in this conference. In India, hockey game was started by English Military officers in Kolkata in 1885. This game was introduced in Olympic game for the first time in 1908. All India Hockey Association was established in 1925-26. India participated in 1928 Olympic games organised in Amstardum. India had won gold medal in this Olympic game. Since then (1928) India had been winning the gold medals continuously upto 1956 Olympic games. In 1964 and 1982 Olympic games also India had secured gold medals. In getting maximum gold medals, the contribution of Hockey vizard Dhyanchand was the greatest. In reality his contribution was Gupara Ibel.

The Hockey Ground

The hockey ground is a rectangular field. The measurement of hockey ground is decided in yard, foot and inch at International level, but the measurements are also given in Metric system metre-centimeter-millimeter in the figure. The detailed of the ground with measurements are given in the figure.



The Hockey Ground (As per metre and yard)

15. Table Tennis

Invention and development of Table-Tennis game :

The game of Table Tennis was invented in 1880 in England. When this game has invented its name was "Gasima." Some years after the invention the name "Ping pong" was given to this game. The name of the inventor of this game was "Jems Gib' The association of Ping Pong game was established in 1902, in England for the first time. The same year its competition was held. The final name of Ping Pong game was considered as "Table Tennis in 1921. The newly named association was established in 1926. Table Tennis Association" as "England Table Tennies Association".

For the establishment of "World Table Tennis Federation", Dr. Olay Lahman of Germany had convened a meeting in 1926 in Berlin, in which Germany, Australia, England, Hungary, Czechoslovakia and Sweden countries had taken part. The first president of this newly established "World Table-Tennis federation" was Ewar Monteue. The first world Table Tennis competition of this first federation was also organised in 1926. Upto 1935 the countries taking part in Two yearly Table Tennis championship were all European countries.

America, England and India had started taking part in world championships in 1935, 1937 and 1939 respectively. Outside the European countries, the world Table Tennis championship was organised in the city of Keiro of Egypt country for the first time in 1939. Because of II world war, these competitions were not organised from 1939 to 1945.

In 1937 "All India Table Tennis Federation was established in India under auspicious of this Federation" National Table Tennis championship was organised in Kolkata in 1938, for the first time. After that, regularly the National competitions are being organised in India regularly..

In 1952 and 1975, under the auspices of All India Table Tennis Federation the 'World Table Tennis championships were organised in Mumbai and Kolkata respectively.

Play ground:

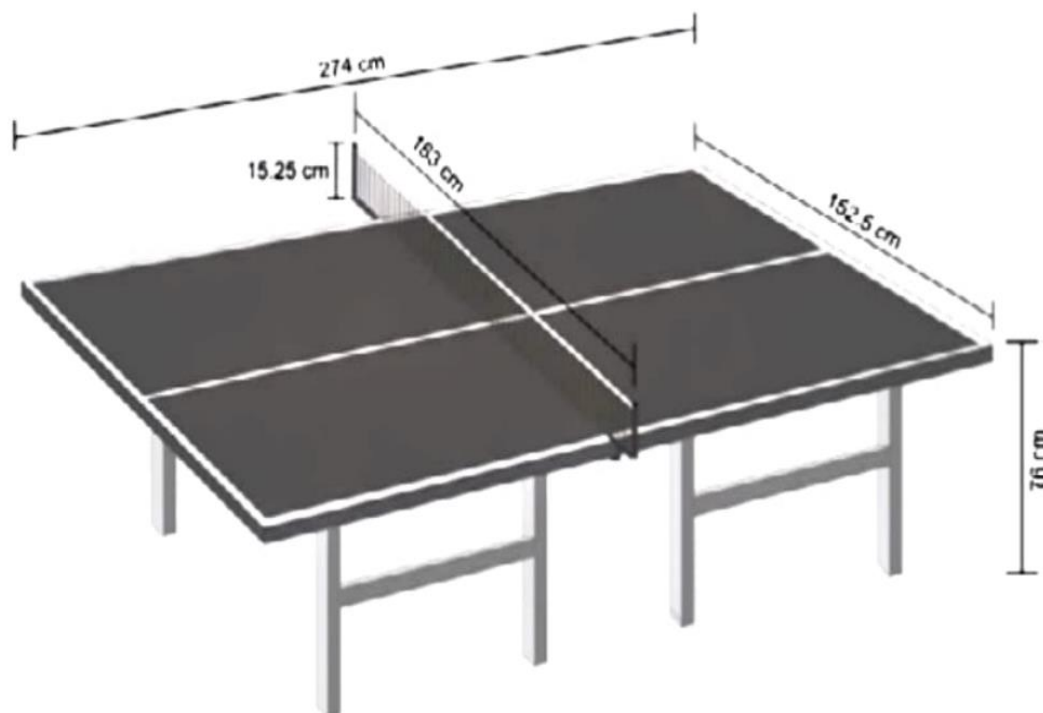
Mostly the game of Table-Tennis is being played in a closed big room or in a hall, Keeping a table. The length of the table is 274 cm, the breadth 152.5 cm and the height is 76 cm.

Since, the weight of the ball of Table Tennis is 2.40 gm to 2.54 gm, the possibility of the ball being deflected with a slight wind is there, hence the windows and the door of a room or a hall are kept closed. Presently this game is being played in an air-conditioned room or a hall. So that, at least one table can be put in a room and a player can have free movement around the table, the minimum length of a room, should be 25 feet and the height 15 feet. The ceiling of a room or hall from the floor should be 12 to 15 ft. minimum.

Equipment :

The equipments of the game of Table Tennis, are : (1) Table (2) Net with its supporting posts (3) ball and (4) Racket (Racquet)

(1) Table : The table is rectangular. The figure of the table shown is as under; As shown in the figure, the length is 274 cm (2.74 mts), the breadth is 152.5 cm (1.525 mts) and the height from the floor upto upper surface of the table is 76 cm. The upper surface of the table can be made from any substance, but should be such that, when a standard ball is dropped from the 30 cm height on the upper surface of the table, it should rebound upward from 22 cm to 24 cm.



The colour of the upper surface should be dark especially green. The edge of the upper surface around the table should be 2 cm wide and it should be coloured with white colour. The 152.5 cm long lines are called end lines and the 274 cm long lines are called side lines

For the game of doubles, the upper surface of the table is divided in two equal halves by 1/4 cm wide central line, which also should be white in colour. It is called middle line. It is parallel to the side lines.

(2) Net with supporting posts : Net is tied in the centre of the table, which divides the table in two equal halves from the above surface of the table. The net shall remain parallel to the end lines. The length of the net shall be 183 cm and its width shall be 15.25 cm. It is tied with the supporting posts with the strings. The heights of the supporting posts also shall be 15.25 cm. The outer edges of the supporting posts shall be 15.25 cm away from the side lines. In the figure of the table the net is shown tied in the centre of the table.

(3) Ball : The ball should be completely round. It's diameter should be 40 mm. It's colour should be white or orange and unreflected. It's minimum weight should be 2.67 gm and maximum 2.77 gm.

