1.1 A BRIEF ACCOUNT OF FAMILIARIZATION OF BASKETBALL PLAY

The game basketball originated in America in 1891. To start with, during the initial days of development of basketball game, a peach basket was put up at either end of the gymnasium and football was played by two teams using the hands. The play consisted of each side trying to send the ball into the opponent's basket. In course of time the game became one of the most popular and interesting games. About 45 years back it was included in the Olympic Games. It is now being played in several countries all over the world.

The inventor of basketball game was Dr. James Nal Smith of Springfield College, Massachusetts (USA). The original idea was to have this game during the winter season and to play it indoors. The inventor conceived of the game which could be played with a call by hands keeping the goals at a height and requiring the players to put the ball into a sort of basket which would serve the purpose of the goal. The baskets were fixed to the walls on either side by nails. Originally, to get the ball out of the basket a ladder was also fixed.

In the early stages, 30 to 40 players played on each side but in course of time the number was considerably reduced. Now each side consists of 5 players. As the game developed from time to time and became popular, the necessary rules were framed and later on they were standardised. The popularity of basketball is very high in the United States of America. Every high school takes part in the Inter-school basketball competitions. It is widely played in the Universities.
also. It is estimated that at present more than a crore of people in the United States play the game. It is usually played during the winter season and mostly indoors on wooden floors. Americans hold the first place as champions of this game. Though other countries have taken up this game early enough still their standard is not comparable to that of the Americans.

This game was introduced in India about 70 years ago. In course of time, it became a popular game in the schools and colleges. Inter-collegiate Inter-university and national championships are being held in this game in several places. Of late, the standard of the game in India has been improved to a great extent. The Young Men Christian Association (Y M C A) College at Madras and National Institute of Sports at Patiala have contributed a great deal to improve this game and popularise it among Indian youth. The women also have taken active part to play this game. Women basketball was started in the United States in about 1900 by Mrs. Sandra Abbot. It was then called "Line basketball". It is very popular in the United States and it is spreading and developing in other countries also. About 30 years back it was introduced in India also and it is widely played in some of the big cities in this country.

As the game involves much physical strain, it is essential that the players should be in good condition, agile and alert, and they should also be able to run well. No significant progress can be made unless it is practiced intensively for considerable time and good training is imparted.
Among all the games existing in the world, basketball is probably the leading ball game as far as "action occurrence" is concerned. The word "action" implies movement and basketball is very much a movement oriented game. This is one of the most popular games in the world. In this game a good number of skills are involved during the game situation. They are holding, receiving, passing, shooting, rebounding, pivoting and offensive and defensive strategy. Of all these, the skill of shooting plays a predominant role. The main objective in basketball is to shoot the ball through the opponents' basket. This is the only way to score points and victory can only come to the team which can score more often than its opponents. Hence during the play, the purpose of each team is to throw the ball into opponent's basket and to prevent the other team from securing the ball or scoring. Therefore to "Shoot a Basket" becomes the main objective. In the game of basketball the power to shoot and accuracy are essential and they are like the two faces of a coin.

Basketball shooting has undergone a remarkable revolution. It is now realised that a good technique is that which produces a high proportion of successful shots and with defenders in the team being aggressive and intelligent. The stereotyped shooting methods which produce good results during practice do not always workout during the game situation. Players to-day are well equipped with ability and skill in all phases of the game from passing and dribbling to shooting and rebounding. Good techniques are always producing a high pro-
portion of successful shots during the game situation. The combination of jump and angle of release of the ball most likely resulting in a successful shot depends upon the shooting angle, ring aim, board aim, distance, position, type of shot and calibre of the person guarding the shooter. Several principles govern the jump. In the first place, a player will jump higher if he steps or hops before he takes off. Such a manoeuvre overcomes the inertia of the body and starts it in motion (Newton's first law). It also permits him to push off of the floor with greater force, which in turn will make him to achieve a greater height (Newton's third law). The stamp of the foot of the body by means of the hop before the jump, not only increases the force of reaction between the foot and the floor, but the stamp stretches the muscles of the foot. This gives a more forceful elastic rebound.

Shooting is obviously the chief factor in the game. In view of this fact, more attention has been paid to the significance of shooting angle and also analysis of the areas from where shots are put. During a game, there are varieties of shots that a player might apply in attempting to put the ball into the basket. They are

1. Set shot
2. Jump shot
3. Hook shot
4. Lay-up shot or cripple shot
5. Free throw
6. Dunking
According to distance, there are types of shots.

1. Short shot:

A "short shot" is a shot put from within a radius of 3.66 m from the basket. The 3.66 m radius is stipulated because this is the accepted area for the lay-up or cripple shot.

2. Medium shot:

A "medium shot" is a shot put by a player when he is at a distance of more than 3.66 m radius from the basket and less than 7.32 m radius from the basket.

3. Long shot:

A "long shot" is a shot put when the player is outside a radius of 7.32 m from the basket.

The successful shots in the basketball play are of two types. The one is that in which the ball goes clean through the basket without touching the backboard at all. In the other type, the ball rebounds or spins off the backboard and then goes through the basket. The former type can be made from any position and at any angle on the court, except directly under the basket. In the rebound type of the shot, players normally aim at a certain spot on the backboard depending on their position in the court.

The players may be having different types of techniques in shooting, but certain basic principles are inherent in each type of shot. The player concentrates on the spot before, during and after the shot. The target may be front edge of the rim or back of the rim or the backboard.
1.2 A BRIEF DESCRIPTION OF THE LAYOUT OF BASKETBALL PLAYGROUND

The basketball court is 28 m long and 15 m wide measured from the inside edge of the boundary lines. Variations of the order of 2 m in length and 1 m in width are generally allowed and are proportional. The court is marked by well-defined boundary line of separation being at least 1 m as shown in the figure 1.2.1. The lines running the length of the court are called the -lines, and those running the width of the court are called the end-lines. The distance from the boundary line to the spectators is usually maintained at about 2 m. In situations where the area free from obstacles around the court is less than 1 m, from the boundary lines. In general, all the lines are 5 cms width and clearly visible. There will be a centre circle at the centre of the court which will have a radius of 1.80 m measured to the outside edge of the circumference. There will be a centre line drawn parallel to the end lines from the mid-points of the side lines. The part of the court between the end line behind the opponents' basket is called the team's front court. The other part of the court, including the centre line is called the team's back court.

There are what are called free throw lines drawn parallel to each end line. The ends of the free throw lines are at a distance of 5.80 m from the inner edges of the end lines. The length of each free throw line will be 3.60 m. The midpoints of free throw lines and end lines and the centre are all collinear. The space limited by
Fig. 1.2.1 - Layout of basketball court.
end lines and the free throw line shown as A B C D in the figure 1.2.1 is called the restricted area. The free throw lines, which are extensions of restricted areas, shall be limited by a semi-circle with a radius of 1.80 m marked within the court, whose centres shall be the same as that of the free throw lines. Similar semi-circle shall be drawn with a broken line within the restricted areas. Along both sides of the restricted areas and outside them, three places for the free throw positions shall be marked with lines 10 cms long. The first position shall be located at 1.80 m from the end line. The second 0.85 m from the first, and the third 0.85 m from the second. These lines shall be marked perpendicular to the side-lines of the free throw area. Backboards are usually made up of hardwood with dimensions 1.80 m x 1.20 m with 0.03 m thickness made in one piece and having the same degree of rigidity as that made up of wood may also be used. The front surface shall be flat and coated with white paint unless it is transparent. The front view of the board is shown in the figure 1.2.2. The side view of the basket and the backboard is shown in figure 1.2.3.

A rectangle is drawn behind the ring with a line thickness of 5 cms shown in the figure. The top edge of the base line should be in level with the rim of the ring. The backboards are rigidly mounted in a position at each end of the court and at right angles to the floor and parallel to the end lines, and with their lower edges 2.75 m above the floor. Their centres lie in the perpendicular erected at the points in the court 1.20 m from the mid-points of the end lines. The up-rights
Fig. 1.2.3 - Side view of basket and backboard.
supporting the backboard will be off the court at a distance of minimum one metre from the outer edge of the end lines in the out of bounds area. The uprights will be of a bright colour in contrast with the background in such a manner that they will be clearly visible to the players. In addition, they shall be suitably padded to prevent injury.

The baskets are usually nets of white cord, suspended from solid iron rings having an inside diameter of 0.45 m. The rings are usually painted orange. The metal of the rings will be of 20 mm in diameter having small hooks in the underside which the net is hung. The net is constructed in such a way to check the ball momentarily as it passes through the basket. The length of the net will be 0.60 m. The ring is rigidly attached to the backboard in a horizontal plane. The perpendicular distance between the plane of the ring and the floor will be 3.05 m.
1.3 NORMS OF THE BASKETBALL PLAY

Each team consists of five players out of which one will be the captain. There will be seven substitutes for each team. This is the only game in which the substitutes exceed the number of players. The duration of the play is divided into two halves of 20 minutes each, with an interval of 10 minutes. The game will be started by the Referee who tosses the ball up for a centre jump between the two opponents in the centre circle. The same procedure is followed at the beginning of the second half and eventually of each extra period. At the beginning of the play the team toss for the baskets and in the second half the teams change the baskets. A goal is made when the ball enters the basket from above and remains in or passes through. A goal from the field counts 2 points and a goal from a free throw counts 1 point. A player shall not touch opponents’ basket or backboard while the ball is on the ring during a try for field goal. After a goal from the field, any opponent of the team credited with the score shall put the ball in play from any point out-of bounds at the end of the court where goal was made. He may throw it from any point behind the end line, or he may pass it on to a teammate behind the end line. Not more than 5 seconds time is allowed in getting the ball into play. A jump-ball takes place when the Referee tosses the ball between two opposing team players. During a jump-ball the two jumpers shall stand with their feet inside that half of the circle which is nearer to their own baskets, with one foot near
the centre of the line that is in between them. The Referee then tosses the ball upward (vertically) in a plane at right angles to the side lines between the jumpers, to a height greater than either of them can reach by jumping so that it will drop between them. The ball must be tapped by one or both of the jumpers after it reaches its highest point. If it touches the floor without being tapped by at least one of the jumpers, the Referee puts the ball into play again in the same place.

The ball is said to be dead during the times when (a) any goal is made, (b) a free throw which is to be followed by another free throw, (c) held ball occurs and (d) ball lodges on the basket support. Referee whistle is blown while the ball is in play due to any foul play and the expires for a half or extra period. Time-out occurs and the game watch shall be stopped whenever the Referee signals (a) a foul, (b) a jump ball, (c) unusual delay in getting the dead ball into play and (d) suspension of the play for an injury, or for removal of a player or for any other reason. Coach has the right to request for charged time-out. He shall do so by going in person to the scorer and asking clearly for a "time-out" makig the proper conventional sign with his hands. Electrical devices enabling coaches to request a time-out without leaving their places may be used. Such devices may not, under any circumstances, be used to request for a player substitution. The scorer shall indicate to the officials that a request for a charged time-out has been made by sounding his signal
as soon as the ball is dead and the game is stopped. A time-out shall be charged to a team for each minute consumed under this provision. If the team responsible for the time-out is ready to play before the end of the charged time-out the referee is given the authority to start the game immediately.

Although basketball is theoretically a "no-contact game", it is obvious that personal contact cannot be avoided entirely when ten players are moving with great rapidity over a limited space. For instance, when the ball is free, two opponents start quickly for the ball and collide. Even if the personal contact is serious, yet if both were in favourable positions to get the ball and were intent only upon getting it, it is treated as an unavoidable accident and not as a foul. On the other hand, if one player is about to catch the ball and opponent behind him jumps into his basket in an attempt to get the ball, the opponent commits a foul even though he is "playing the ball". In this case, while guarding from the rear, the player behind is usually responsible for the contact because of his unfavourable position related to the ball and to his opponent. If personal contact results from a bonafide attempt to play the ball and if the players are in such positions that they could reasonably expect to gain the ball without contact and if they use due care to avoid contact then such a contact may be classified as accidental and is not penalised. A personal foul is a player foul which involves contact with an opponent. Blocking is a personal contact which impedes the progress of the opponent.
Holding the opponent is a personal contact since it interferes with the freedom of the movement of the opponent. Guarding from the rear which results in personal contact is also a personal foul. The Referee has to give special attention to this type of initiation. The mere fact that the defensive player is attempting to play the ball does not justify him in making contact with the player in possession of the ball. If the defensive player causes personal contact in an attempt to get at the ball from an unfavourable position he should be penalised. A player shall not hold or push or charge or trip or impede the progress of an opponent by extending his arm, shoulder, hip or knee or bending his body into other than normal position nor use any rough tactics. He shall not contact an opponent with his hand, unless such contact is only with the opponent's hand while it is on the ball and is incidental in an attempt to play the ball, except when the other player is in the act of shooting. Contact caused by a defensive player approaching the ball holder from behind is a form of pushing and also a contact caused by the momentum of a player who has thrown the ball for a goal is also a form of charging. A dribble shall not charge into nor contact an opponent in his path, nor attempt a dribble between two opponents or between an opponent and a boundary line, unless the space is such as to provide reasonable chance for him to go through without contact. The offender is charged whenever a personal foul is committed by him. If a foul is committed on a player who is not in the act of shooting, the ball shall be put into play by the non-offending
team from out-of-bounds on the side line nearest to the place of the foul. As soon as foul is called, the Referee signals the Scorer the number of the offender and then hands over the ball to the opponents for a throw-in from the side line. If the foul is committed on a player who is in the act of shooting and a goal is made, it shall count and no free throw shall be awarded. In case the goal is missed, two free throws are awarded.

There may occur what is called a double foul if two opponents commit fouls against each other at approximately the same time. In the case of a double foul no free throw shall be awarded but a personal foul is charged for both the players. The ball will later be put into play at the nearest circle by a jump-ball between the players involved. The free throw for a goal is made within 5 seconds after the ball is placed at the disposal of the free thrower at the free throw line. The player who attempts the free throw takes a position immediately behind the free throw line, and is free to use any system in throwing the ball but he should not touch the free throw line or the court beyond the line until the ball touches the ring. The other players should not obstruct the free thrower by any action. Neither the player nor the Referee should stand in the free throw area. When a player is attempting a free throw, the other players take the following positions. Two players from the opposing team take positions at two places nearer the basket. The other players of each team take alternative positions. The rest of the players may take any other positions. If the goal is missed, the ball shall continue in play until the last free
throw is executed in accordance with the foul. A player should not remain for more than three seconds in the opponents' restricted area, when the ball is in the control of his team. This three seconds restriction does not apply when the ball is in air on a try for a goal, or when it is rebounding from the backboard, or is dead. This is because in all these cases, the ball is not in control of either of the teams. When a team gains possession of the ball, a try for a goal must be made within 30 seconds. Failure to do so is a violation of this rule. If the ball goes out-of-bounds during 30 second period, and the ball is awarded to the same team, a new 30 second period is awarded. A player who has committed five fouls either personal or technical will be disallowed to play further and a substitute is made immediately. If a team commits ten fouls, either personal or technical in a half play, further player fouls are penalised by awarding two free throws to the opponent team.

The basketball will be spherical in shape and is made up of a rubber bladder covered with a case of leather, rubber or synthetic material. The circumference of the basketball will be more than 75 cms and less than 78 cms. The weight of the ball will be more than 600 g and less than 650 g and it will be inflated to an air pressure such that when it is dropped on to a solid wooden floor from a height of about 1.80 m rebounds to a height of not less than 1.20 m and not more than 1.40 m. To conduct the basketball play a Game watch and a Time-out watch are required. These two watches will be in possession of the Time-Keeper. The game watch will be placed on the table so
that both the Time-Keeper and the Scorer can see it. The Official Score Sheet is the one approved by International Amateur Basketball Federation, and the entries are made by the Scorer. There shall be suitable equipment for all signals. A Score Board will be on display visible to the players and the spectators.

Markers numbered 1 to 5 will be at the disposal of the Scorer. Whenever a player commits a foul the Scorer signals the corresponding marker. The markers are painted white with black numbers for 1 to 4 and red number for 5. The officiating team to conduct the basketball play consists a Referee, an Umpire, A Time-Keeper, a Scorer and a 30-second operator. The Referee has to inspect and approve all equipment, including all the signals used by the officials and their assistants. He has to designate the official time-piece and recognise its operator. He shall not permit any player to wear objects which in his judgement, be dangerous to the other players. The Referee shall toss the ball at the centre to start the game. He shall decide whether a goal shall count or not if the official disagrees. He shall have power to forefeit a game when conditions warrant. He shall decide matters upon which the Time-Keeper and Scorer disagree. At the end of each half and of each extra period he shall carefully examine the Score Sheet and approve the score. The Scorer keeps a chronological running summary of the points scored. He records the field goals made and free throws made or missed. He also records the personal and technical fouls called on each player and informs the Referee immediately when the fifth foul is called on any player. He records the time-outs charged to each team, and informs the coach through an official when he takes second time-out in each half. He also indicates the number of fouls committed by
each player by using the numbered markers. The Scorer also keeps a record of the names and numbers of players who are to start the game and of all substitutes who enter the game. When there is an infraction of the rules pertaining to submission of line-up, substitutes or number of players, he informs the nearer official immediately when the infraction is discovered. A signal from the Scorer will be made only when the ball is dead. The Time-Keeper shall note when each half is to start and shall notify the Referee more than three minutes before this time so that he may notify the teams to assemble for starting the play. The Time-Keeper also signals the Scorer two minutes before starting time. The Time-Keeper keeps a record of playing time and time of stoppage. For a charged time-out the Time-Keeper shall start a time-out watch and shall direct the Scorer to signal the Referee when it is time to resume the play. The Time-Keeper shall indicate each half or extra period. The signal terminates actual playing time in each period. When the Time-Keeper signal fails to sound, or when it is not heard, the Time-Keeper shall go on the court or use other means to notify the Referee immediately. In the meantime, if a goal has been made or a foul has occurred, the Referee shall consult the Time-Keeper and the Scorer. When they agree that the time was up before the ball was in the air on its way to the basket, or before the foul was committed, the Referee shall rule that the goal does not count or in case of a foul that it shall be disregarded.

Whenever a substitute is made during the play, the substitute before going upon the court has to report to the Scorer and
he must be ready to play immediately. The Scorer shall sound his signal immediately when the ball is dead and the game watch is stopped. The substitute shall remain outside the boundary until an official beckons him to enter, whereupon he shall report immediately to the nearer official telling his name and number and the name the number of the player whom he replaces. When a substitute enters at the beginning of the second half, he is not required to report to an official, but he must report to the Scorer. Substitution shall not take more than 20 seconds. When more time is taken, it shall count as a time-out and shall be charged against the offending team. A player involved in a jump-ball may not be substituted by another player. A team which scores more points than the other in the playing time will be declared as the winning team.