3.Law of reaction: According to this law ' For every action there is an equal and opposite reaction.' There are so many examples in sports where this law is applied. e.g., In swimming a swimmer pushes the water backwards (action) and the water pushes the swimmer forward (reaction) with the same force. In swimming, a swimmer pushes the water backwards(action). The water pushes the swimmer forward(reaction) with the same force.

Aerodynamics is the study of properties of moving air and the interaction between the air and solid bodies moving between it.

The basic forces of aerodynamics are stated below:

Lift: lift is the force that pushes the object to move upward. It is the force that is the opposite of weight.

Weight: Weight is the force generated by the gravitational force of the earth. The weight of an object controls how strong the push has to be. A shot of 16 pounds requires more force (push) than a javelin.

Drag: Drag is a force that tries to slow the object down. It makes hard for an object to move. It is harder to walk through the water than through the air. It is because water causes more drag than air.

Thrust: Thrust is a force that is the opposite of drag. Thrust is the push that moves some objects forward.

Friction and its types

The force acting along two surfaces in contact which oppose\ the motion of one body over the other is called the force of friction. It is very important in sports. That · lagged the area of contact between the surfaces, the greater is the force of friction. When both the surfaces are smooth, the force of friction reduces to almost zero.

Three types of friction are

(i) Static Friction The opposing force that comes into plc when one body tends to move over the another surface but the actual motion has not yet red

(ii) Limiting Friction Limiting friction is the maximum of thing force that comes into play when one body is just on the verge of moving over the surface of another body.
iii) Kinetic Friction Kinetic friction is the opposing force at comes into play when one body is actually moving over the surface of another body.

Axes & Plane

Plane is an imaginary, flat surface passing through the body organ or plane is the surface on which the movement occurs.

There are following types of planes:

a) Sagittal or Medial plane: The sagittal plane is a vertical plane passing from the rear to the fronty, dividing the body into left and right halves. It is also known as anteroposterior plane. Most of the sports and exercise movements that are two dimensional, such as running, long jumping and somersault take place in this plane.

b) Frontal or Coronal plane: the frontal plane is also vertical and passes from left to right dividing the body into posterior to anterior halves. It is also known as coronal plane. Frontal plane cuts the body into front and back.Mvements along the frontal plane can include cartwheel and star jumps.

c) Transverse or Horizontal plane: The transverse plane divides the body into top and bottom halves. In fact, it divides the body into upper and lower sections. This plane lies horizontally that why it is also called horizontal plane. Movements along this plane can include an ice-skating spin or rotation to play a tennis shot.

An axis is a straight line around which an object rotates. Movements at the joints of human muscoskeletal system are mainly rotational and take place about a line perpendicular to the plane in which they occur. This line is known as axis of rotation.

There are following types of axes of rotation:

a) Sagittal axis: The sagittal axis passes horizontally from posterior to anterior. It is formed by the intersection of the sagittal and transverse plane. Sagittal axis passes from front to back.

b) Frontal axis: The frontal axis passes horizontally from left to right. It is formed by the