4. **Synovial fluid :** It contains hyaluronic acid which imparts viscosity and helps in the lubricating function of joints.

VISCOSITY

Liquid or fluid has a tendency to flow which is referred to as fluidity. The term viscosity may be defined as the ***internal resistance offered by a liquid or a gas to flow***. The property of viscosity is due to frictional forces between the layers while their movement occurs. Viscosity may be appropriately regarded as the internal friction of a liquid.

Liquids vary widely as regards their viscosity. For instance, ether has very low viscosity while honey and blood are highly viscous. Among the several factors that contribute to viscosity, density of the liquid, concentration of dissolved substances and their molecular weight and the molecular interactions are important. Increase in temperature decreases viscosity while increase in pressure increases viscosity to some extent.

Viscosity of colloidal solutions, particularly lyophilic colloids, is generally higher than true solutions.

Units of viscosity : The unit of viscosity is ***poise***, after the scientist Poiseuille, who first systematically studied the flow of liquids. A poise represents ***dynes/cm^2***.

Applications of viscosity

1. **Viscosity of blood :** Blood is about ***4 times more*** viscous than water. The viscosity of blood is mainly attributed to ***suspended blood cells*** and colloidal ***plasma proteins***. As the blood flows through capillaries the viscosity decreases to facilitate free flow of blood. Blood viscosity is increased in polycythemia (elevation of RBC), while it is reduced in anemia and nephritis. A more viscous blood increases cardiac work load. When dehydration occurs, the viscosity of the blood increases.

2. **Viscosity change in muscle :** Excitation of the muscle is associated with increase in the viscosity of the muscle fibres. This delays the change in the tension of the contracting muscle.

3. **Vitreous body :** This is an amorphous viscous body located in the posterior chamber of the eye. It is rich in albumin and hyaluronic acid.