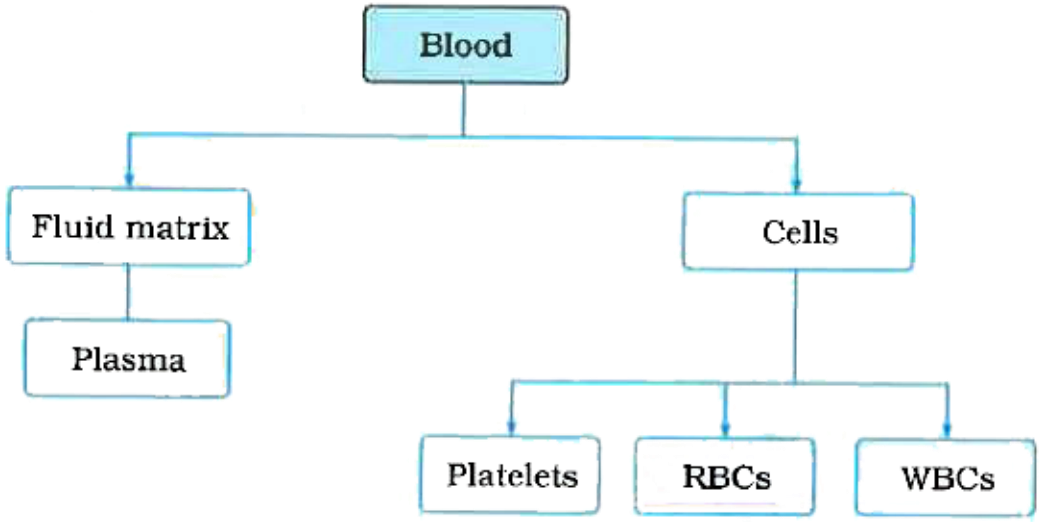
Lab 6

Blood

Whole blood is a tissue with several cellular and non-cellular components. The major components of blood are cells, plasma, and platelets (cellular fragments involved in clotting). Blood consists of two types of cells i.e., red blood cells (erythrocytes), and white blood cells (leukocytes).



Blood cold chain

The blood cold chain is a system for storing and transporting blood and blood products, within the correct temperature range and conditions

Blood collected at body temperature, i.e. +37 °C. But in order to maintain its vital properties, it must be cooled to below +10 °C to be transported, and stored at refrigeration temperatures of around +4 °C until use.

Blood separation techniques

Blood is usually separated from plasma through centrifugation. The physical force

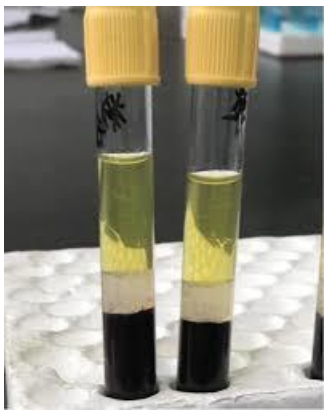
from continuous revolutions pushes the denser, heavier particles to the outer edges of the sample resulting in three layers of different densities: RBCs, a mixture of WBCs and platelets, and plasma.

Centrifuge Time

Centrifuge specimens for 15 minutes at 3400 rpm unless specified otherwise

Gel Separator Tubes

Serum Separator Tubes (SST) and Plasma Separator Tubes (PST) contain separator gel additives. During centrifugation, the gel moves to create a physical barrier between the cellular elements and the serum/plasma.



Whole blood:

After centrifugation, remove the serum and place it into a polypropylene micro-centrifuge tube serum samples should be stored at -20 degrees centigrade in a non-frost free freezer until shipping

Plasma:

After centrifugation, and separated, the plasma is flash-frozen at -30 C in a process taking several hours. The rapid freezing keeps the clotting agents in the plasma from breaking down and when the plasma is thawed for transfusion, the clotting agents become active again.