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Blood:- Blood is the homogeneous fluid which continues circulating in the body. It is composed of a large variety of dissolved and suspended inorganic and organic substances as well as 3 kinds of cells.

In man, the normal adult contains 5-6 litres blood. The osmotic pressure of human blood averages about 5900 mm, Hg or 7.8 atmospheres. The osmotic pressure is mainly due to the various salts, waste products, sugar and other substances dissolved in plasma.

The viscosity is about five times greater than that of water.

The sp. gravity of blood is in the range of 1.035 – 1.075.

When freshly drawn blood, to which an anticoagulating agent is added and placed stationary for some time, the erythrocytes start sedimenting. The rate at which these cells sediment is known as erythrocyte sedimentation rate (E.S.R) The ESR is ~~expected~~ expressed in mm/hr and normally it varies from 4–10 mm/hr. During transfusion it is essential to prevent coagulation by some substances. There are certain substances or processes, which can prevent the blood coagulation. These are—

(a) Heparin:- Best and powerful anticoagulant.
(b) Anti-thromboplastin
(c) Anti thrombic activity
(d) Oxalates and citrates
(e) Defibrination

Rhesus System: Landsteiner and weiner (1940) found certain specific antigens in RBCs of ... Rhesus monkey. The name was given to this antigen as rhesus factor (RH factor). Later on it was shown that most human beings 85% also have this factor and said to be Rh positive while only 15% are Rh negative. 93% Indian population is RH+, while the rest 7% is RH-, and Rh- bloods are incompatible

and cannot be mixed, thus they cannot to a patient having different RH factor.

Significance of Blood group

1. It is very important in blood transfusion.
2. It helps in solving the disputed parentage problem in medico-legal cases.
3. It furnishes the best example of multiple alleles.
4. Haemolytic disease of the new born.
5. study of physical anthropology.
6. Relationships of blood groups and susceptibility to various diseases.

TRANSCRIPTION:- The process of copying genetic information from one strand of the DNA into RNA is termed as transcription. In transcription only a segment only a segment of DNA and only one of the strands is copied into RNA. This necessitates defining the boundaries that would demarcate the region and the strand of DNA that would be transcribed.

SATELLITE DNA:- The bulk DNA forms a major peak and other small peaks are referred to as satellite DNA. Depending on base composition (A:T rich) G:C rich), length of of segement and another number of repetitive units,