(Q1) Write the function and Com[illegible]n of blood?

(Ans) Blood is a specialized body fluid. it has four main Components, plasma, red blood Cell, white blood Cell. Blood has many different fanctions:

Main function :- transporting oxygen

(i) and ~~nutriend~~ nutrients to lungs and [illegible]

(ii) forming blood Clots to prevent exuess blood loss.

(iii) Carrying Cell and antibodies That fight Infections.

(iv) bringing waste product to the kidneys and liver which filter and Clean the blood

(v) regulating body temprature.

Component of Blood :- plasma Red blood Cell. white blood Cell and Platlets.

Plasma

The liquid component of blood is called plasma a mixture of water, sugar, fat, protein and salt. The main job of plasma is to transport blood cell throughout your body along with nutrients.

Red Blood Cell

it is also called **erythrocytes** or RBCs. it is know for their bright red colour, red cells are must abundant cell in the body.

White Blood Cell

also called leakocytes. white blood cell protect the body from infection. they are much fewer in ~~to~~ number red blood cell, accounting 1 percent of our body.

Composition of blood :-

Percentage by body ~~with~~ weight

92 % other fluid and tissue and 8% blood

percentage by Volume

Plasma 55 %

formed elements 45 %

INhit blood Cell.

(i) Neutrophils 60 % — 70 %

(ii) Lymphocytes 20% — 25 %

(iii) Monocytes 3 — 8 %

Eosinophills 2 — 4 %

Basophills 0.5 — 1 %

Plasma

:- Liquid part of blood pale yellow made up of

* 92 % water
* Minerals Ions
* Glucose and nutrients
* Hormones
* Co_2
* protein

plasma protiens

* Albumin — regulating of PH
* Globulin — defense
* Fibrinigen — blood Clotting.

RBC or Erythrocytes

BiConCave in Shap
Diameter = 7.8 Micromenter
Thickness = 2.5
52,00000 / Cubic Millimeter of blood in males.
47,00,000 in females.

WBC

:- 7000 per microliter of blood

~~6 types of WBC~~

* ~~polymorphonuclear~~

platelets

:- 3000,000 per Microliter of blood.

(Q2) What is erythrocyte, erythropiesis, erythrocytosis and erythropenia?

(Ans 2) Erythrocyte:- A cell that contains hemoglobin and can carry oxygen to the body. Also called a red blood cell (RBC). The reddish color is due to the hemoglobin. Erythrocytes are biconcave in shape which increases the cell's surface area and facilitates the diffusion of oxygen and ~~or~~ Co_2

=> Erythropoiesis

The process which produces red blood cells, which is the development from ~~erythropoiesis~~ erythropoietic stem cell to mature red blood cell. It is stimulated by decreased O_2 in circulation which is detected by the kidneys which then secrete the hormone erythropoietin.

=> Erythrocytosis:- is defined as an increase in red blood cell (RBC) mass. Usually absolute, and is also associated with an increased hematocrit (HCT) and hemoglobin concentration. Although some use

The term Polycythemia interchangeably with erythrocytosis.

=) **Erythropenia:-**

A decrease in the number of erythrocytes. associated with anemia.

(Q3) What is platelets and write about clotting mechanism and its all steps?

=) **Platelets:-** or Thrombocytes are small, colorless cell fragments in our blood that form clots and stop or prevent bleeding. platelets are made in our bone marrow, the sponge-like tissue inside our bone. Bone marrow contains stem cells that develop into red blood cells, white blood cells, and platelets.

=) **Clotting mechanism:-**

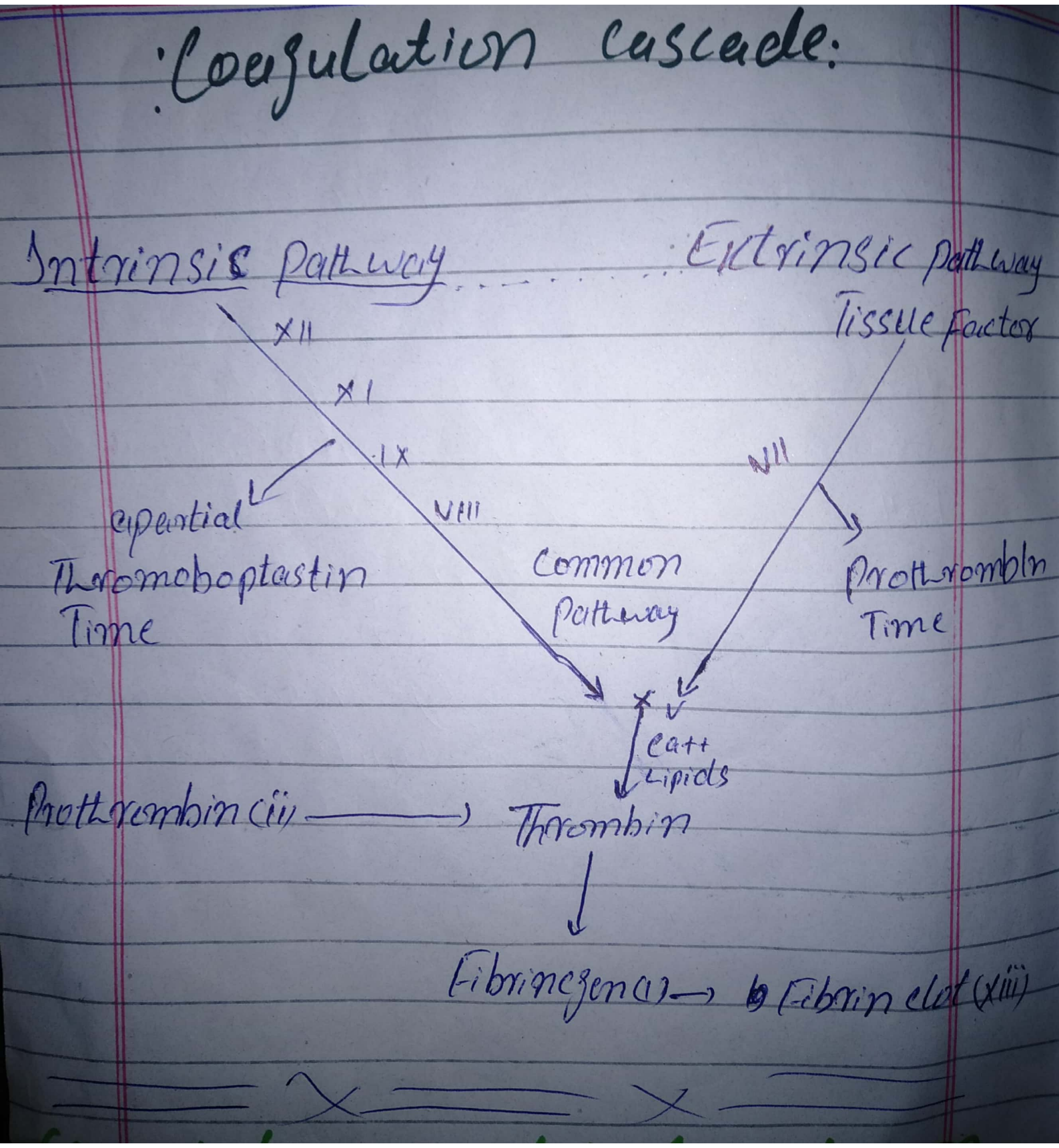
Coagulation also known as clotting is the process by which blood changes from

A liquid to a gel forming a blood clot. It potentially results in hemostasis, the cessation clot it potentially results in hemostasis the cessation of blood loss from a damaged vessel, following by repair. The mechanism of coagulation involves activation, adhesion and aggregation of platelets as well as deposition and maturation of fibrin. Coagulation begins almost instantly after an injury to the blood vessel. Exposure of blood to the subendothelial tissue factors to plasma factor VII, which ~~unit~~ ultimetely leads to cross linked fibrin formation, platelets immediatly form a plug at the site of injury: this is called primary hemostasis. Secondary hemostasis occurs simultaneously: additional coagulation (clotting) factors beyond factor VII (listed below) respond ~~in strengthen~~ ~~the the pla~~ in a cascade to form fibrin strands which strengthen the platelet plug (1)

Disorders of coagulation are disease states which can result in hemorrhage, bruising or thrombosis[2]

Coagulation is highly conserved throughout biology. In all mamals, coagulation involves both a cellular (platelet) and a protein (coagulation factor) component the system in humans has been the most extensively researched and is the best understood[4]

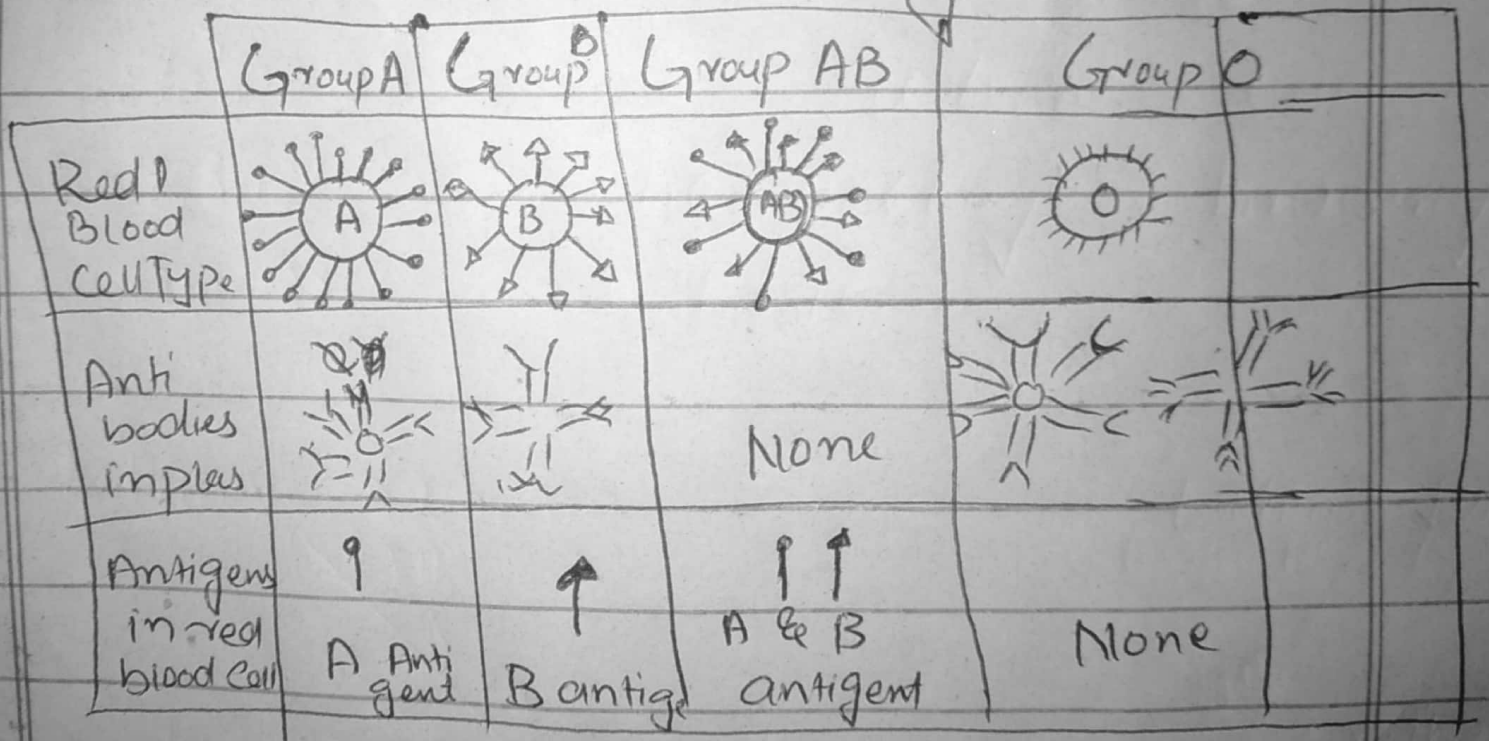
Coagulation cascade:



Q4 write a detail note on ABO System?

Ans = The ABO system is used to denote the presence of one, both, or neither of the A and B antigens on erythrocytes. In human blood transfusions it is the most important of the 36 different blood type (or group) classification system currently recognized. A mismatch (very rare in modern medicine) in this, or any other serotype, can cause a potentially fatal adverse reaction after a transfusion, or an unwanted immune response to an organ transplant. The associated anti-A and anti B antibodies are usually IgM antibodies, produced in the first years of life by sensitization to environmental substances such as food, bacteria and viruses.

The ABO blood types were discovered by Karl Landsteiner in 1901; he received the Nobel Prize in physiology or Medicine in 1930 for this discovery. ABO blood types are also present in other primates such as apes and old world monkeys.



Q5 (i) A person fell down from a tree and become unconscious, with bleeding from head, what will you do as a first aid?

Ans keep the injured person ~~be~~ lying down and quiet, with head and Shoulders slightly elevated. ~~Dond~~ Don't move the person unless necessary, and avoid moving the person's Apply firm pressure to the wound with sterile guaze or a clean cloth. But don't apply direct pressure to the wound if you suspect a skull fracture. Maintain ABC of the patient Airway breathing circulation. Then take the person to hospital.

ii) You have to meet with your friend and you come to know he is covid positive. what precautionary

Measure will you have take?

Ans When I came to know that the friend I am meeting with is a covid positive. Firstly ~~I don't~~ it is not important to meet that friend but if this is necessary then i will take the following precautions.

1) Wear ~~Face~~ Face Mask and Gloves and ~~the~~ It will also necessary for that friend to wear face mask and Gloves.
2) Keep distance of al least 2 meter.
3) And When came back to home a change the cloth i wear and also waste the gloves and Mask and wash the clothes and hand or take a bath with dettol if possible.

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