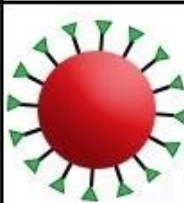
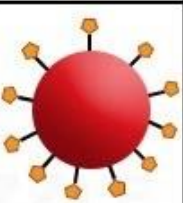
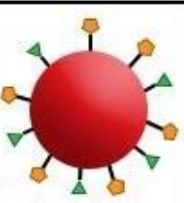
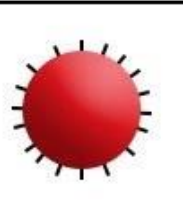








Name of the student: Date: 10/10/2020

Blood Group:

Blood group is the classification of blood, based on the presence and absence of antibodies and inherited antigenic substances on the substances on the surface of red blood cells (RBCs).

- Scientist **Karl Landsteiner**, an Austrian scientist in **1901** for the first time classified and named human blood and placed it into A, B, AB and O four groups.
 1. **Blood Group A**– Presence of antigen **A** on the RBCs and antibody **B** in the plasma.
 2. **Blood group B**–Presence of antigen **B** on the RBCs and **A** antibody in the plasma.
 3. **Blood group AB**–Presence of both antigens **A** and **B** on the red blood cells and lacks the antibody.
 4. **Blood group O**–Absence of both antigens **A** and **B** on the red blood cells and presence of both the antibodies A and B in the plasma.
- The blood group of a person remains same and unchanged throughout the whole life.

	Group A	Group B	Group AB	Group O
Red blood cell type				
Antibodies in Plasma	 Anti-B	 Anti-A	None	 Anti-B and Anti-A
Antigens in Red Blood Cell	 A antigen	 B antigen	 A and B antigens	None

- An **antibody**, also known as an immunoglobulin, is a large, Y-shaped protein produced mainly by plasma cells that is used by the immune system to neutralize pathogens such as pathogenic bacteria and viruses.
- An **antigen** is any substance that causes our immune system to produce antibodies against it. An antigen may be a substance from the environment, such as chemicals, bacteria, viruses, or pollen. An antigen may also form inside the body.

- **Plasma cells** develop from B lymphocytes (B cells), a type of white blood cell that is made in the bone marrow.

Q. Why is AB blood group called universe receiver?

.....

.....

.....

Q. Why is O blood group called universe donor?

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.....

Some interesting facts about blood groups:

There are numerous interesting facts about blood groups which we are not aware of. Some facts about the blood groups are listed in the points below.

Fact-No-1

A newborn baby has only one cup of blood in the whole body, whereas, the healthy adult has about 1.3 to 1.6 gallons or 4.0 to 5.0 litres of blood circulating inside their body

Fact-No-2

Blood type influences one's personality, which can also affect your fertility and belly fat. Women with blood type O are more likely to deal with fertility issues.

Fact-No-3

The Red blood cells that do not contain either A or B antigens on their surface are normally found in the person with blood type O.

Fact-No-4

Anybody with good health, healthy weight and around the age of 17 years old can donate blood every 3 to 4 months.

Fact-No-5

More than 4.5 million lives are saved every year by blood transfusion.

Fact-No-6

No one can get AIDS or any other infectious disease by donating blood and donating blood takes less than 15 minutes.

Fact-No-7

Human blood has no other substitute and it makes 7 to 8 per cent of total body weight.

Fact-No-8

Transfusion with a blood group different from yours can lead to complications.

Fact-No-9

In ABO blood type, a transfusion of AB blood group can be given to a person who has blood type A, B and AB.

Fact-No-10

AB blood type is known to be the “universal recipient” because AB+ people can accept blood from any other blood type. AB- is the least common blood type, which is less than 1% of the population. An individual with AB- blood type can receive blood from all three negative blood types.

Fact-No-11

O blood type is called to be the “universal donor” because O+ is the most frequently occurring blood group in the ABO type. About 37 to 40 per cent of the entire population are found with this blood type. O- is the rare blood group as it is found in 6 to 7 per cent of the total population.

Fact-No-12

A+ is the third most frequently occurring blood type in the ABO system. Thirty of every hundred people have A+ blood type. A- is the rare blood type, which is less than 10 to 15 per cent of the population has this blood type.

Fact-No-13

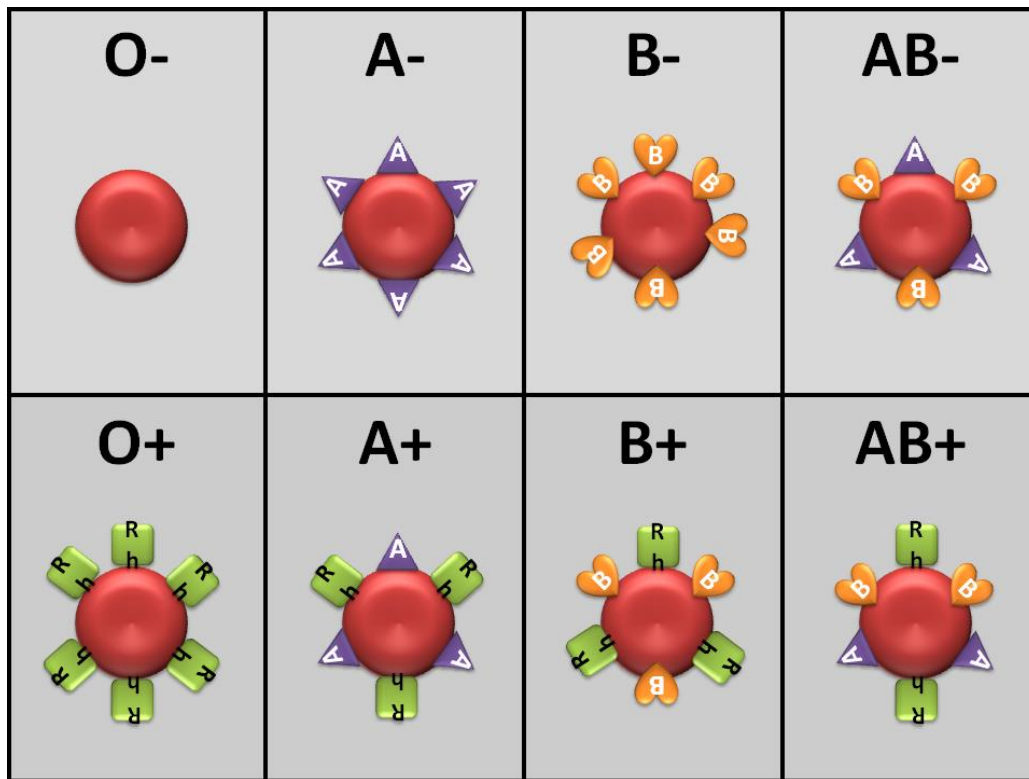
Both B+ and B- are rare blood types and less than 10 per cent of the population has this blood type.

Fact-No-14

Like hair colour, texture, and eye colour, blood type is also inherited or passed genetically from our parents. Therefore, our blood group is based on the blood types of either mother or father.

Rh factor:

Rh factor, also called Rhesus factor, is a type of protein found on the outside of red blood cells. The protein is genetically inherited. Anyone having this protein is Rh-positive and doesn't having this protein is Rh-negative. The majority of people, about 85%, are Rh-positive.

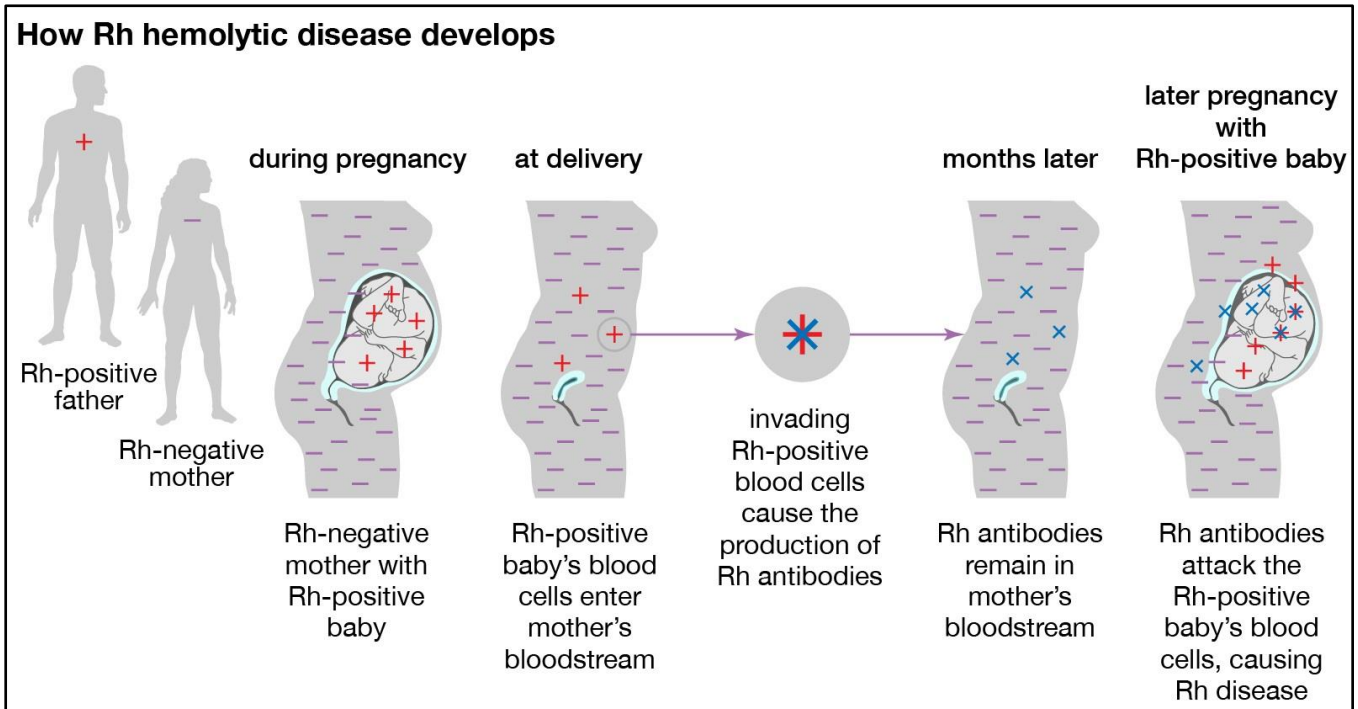


- The term "Rh" was originally an abbreviation of "Rhesus factor."
- It was discovered in 1937 by Karl Landsteiner and Alexander S. Wiener, who, at the time, believed it to be a similar antigen found in rhesus macaque (*Macaca mulatta* is a species of Old World monkey) red blood cells.

Rh incompatibility (inconsistency):

- A difference in blood type between a pregnant woman and her child causes Rh incompatibility.
- Children may be Rh-positive if they inherit the protein from their father, even if their mother is Rh-negative.
- A woman who is Rh-negative is at risk for Rh incompatibility when she becomes pregnant.
- Rh incompatibility happens only when the father of the baby is Rh-positive.
- Rh incompatibility occurs when a woman who is Rh-negative becomes pregnant with a baby with Rh-positive blood.

- With Rh incompatibility, the woman's immune system reacts and creates Rh antibodies. These antibodies help drive an immune system attack against the baby, which the mother's body views as a foreign object.
 - ✓ Early pregnancy complications such as miscarriages, ectopic (in an abnormal place or position) pregnancies, or terminations
 - ✓ Injury to the stomach area during pregnancy
 - ✓ Bleeding during pregnancy



Q. Complete the following table.

Blood type	Receive Blood From	Donate Blood to
A+		
B+		
AB+		
O+		
A-		
B-		
AB-		
O-		

Q. Write down three differences between AB and O blood group.

AB blood group	O blood group

SKK