

Q2 (PART B)

Carbohydrate:

These are the compounds which are made up of monomers. On the basis of chemical composition, they are made up of carbon, hydrogen and oxygen. They have hydrogen to oxygen molecular ratio of 2:1. The general formula for carbohydrates are $C_m(H_2O)_n$ where "m" and "n" can be different. There are different examples of carbohydrates such as glucose, fructose, galactose, sucrose etc.

Classification of Carbohydrates

There are three different classes of carbohydrates such as monosaccharides, polysaccharides, monosaccharide, polysaccharides and oligosaccharides.

a) Monosaccharides:

These are the simplest form of carbohydrates that cannot

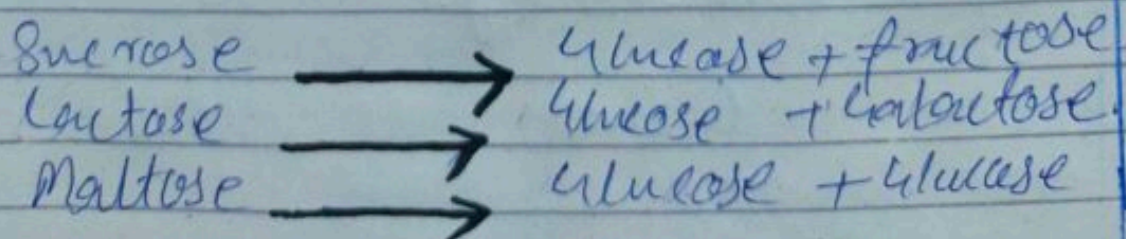
be hydrolyzed. They just have one molecule with the general formula of $C_n(H_2O)_n$. For example: Glucose, fructose etc.

Diglycerides:

These are the sugar molecules which releases 2-10 monomers on hydrolysis. The length of carbohydrates depend upon number of carbon present in it. The larger the number of carbon, the larger the molecule.

a) Disaccharides:

These are the molecules which releases two monomers under hydrolysis and have general formula $C_n(H_2O)_{n-1}$. For example sucrose, lactose and maltose.



b) Trisaccharides:

These molecules can release three monomers on

hydrolysis and have general formula $C_n(H_2O)_{n-2}$.

Polysaccharides:

These are the molecules which releases more than 10 monomers under hydrolysis. They have very long chains of carbon and have high melting and boiling points. The general formula for polysaccharides are $(C_2H_4O_5)_n$. For example starch and cellulose.

Conclusion:

These carbohydrates are the instant source of energy which give 3-9 calories/gram. Different types of carbohydrate are needed by the body for proper functioning.

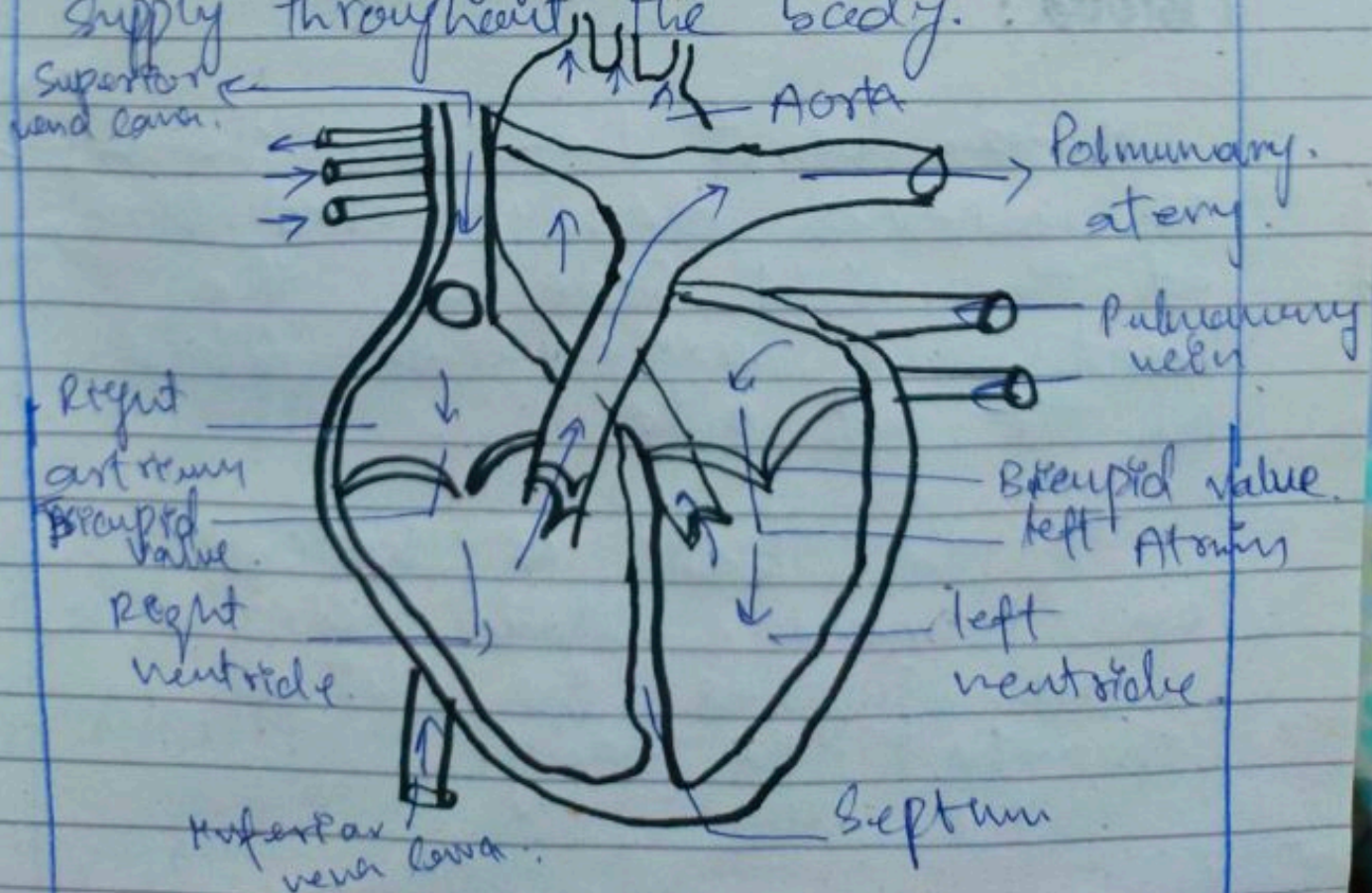
Q2 (PART A)

Circulatory system:

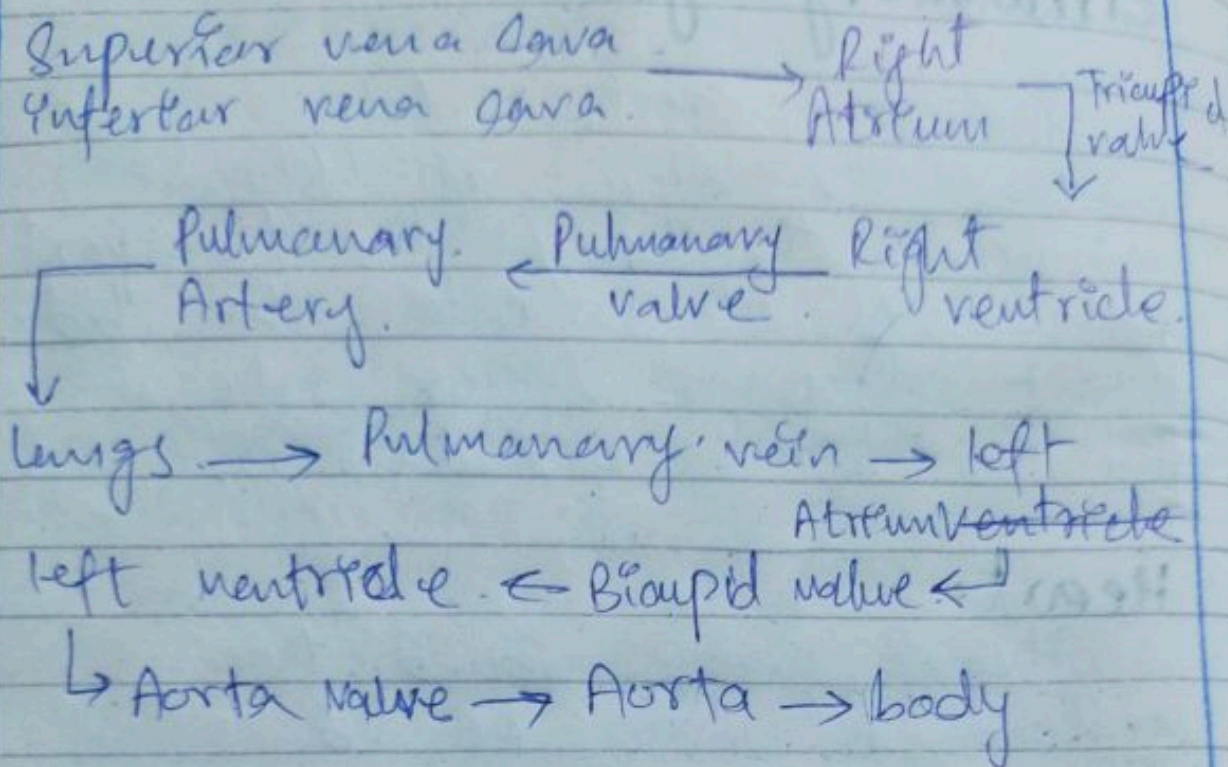
Circulatory system helps and control the flow of blood throughout the body to transport oxygenated blood into the body. Heart plays a major role in the blood circulation.

Heart:

Heart pumps around two gallons of blood per day in the body. It plays a major role in oxygenated blood supply throughout the body.



The pathway of blood circulation:



Oxygenated and deoxygenated blood:

Human heart have four chambers. It receives deoxygenated blood at the right side of the heart and oxygenated blood at the left side.

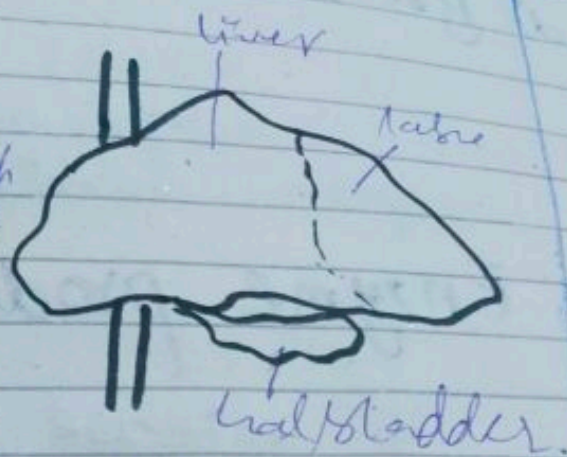
On the basis of systemic and pulmonary blood circulation, heart supplies the blood throughout the body.

Q 2 (d)

Liver:

Liver is reddish brown, 2nd largest internal organ in our body.

Human liver



consist of three lobes.

Pancreas release bile juice which is helpful in the food digestion.

Functions Of Liver:

a) Detoxification:

It can detoxify harmful chemicals which are present in our body.

b) Storage

It can store and convert glycogen (stored form of sugar in human body) in glucose.

c) Modification

Play a major role in the protein modification.

d) Breakdown.

It breaks lipid, proteins and carbohydrate into the simpler substance.

e) Enzyme production:

It release the enzyme into for the digestion into the stomach.