

Q What are carbohydrates? Describe its classification along with examples.

### Carbohydrates

are one of the major components of balanced diet. They are necessary for providing energy to human body and maintaining brain function. They provide 3.9 calories to body if one gram of them is taken through food. The deficiency of carbohydrates results in less supply of energy to the body and bad functioning of human brain. The excessive intake of carbohydrates causes diabetes and it also causes fatness.

### Classification of Carbohydrates along with examples

The carbohydrates are classified into 3 categories:

Monosaccharides

Oligosaccharides

Polysaccharides

## Monosaccharides

The first category of carbohydrates is Monosaccharides which are known as "Simple Sugar". They are simple sugar and cannot be hydrolysed. They are subdivided into trioses, tetroses, pentoses, and hexoses. Examples of these are following:

Glucose

Galactose

Fructose

• Draw the structure as well

## Oligosaccharides

are known "Compound Sugar" and that are yielded 2 to 10 molecules of monosaccharides on hydrolysis. The yielding of two molecules of monosaccharides is known as "disaccharides" while yielding of 3 or more molecules is referred as "trisaccharides".

Both are linked together. Examples of this category are as follows:

Sucrose

Lactose

Maltose

Structure?

# Polysaccharide

are compound sugars that yield more than ten molecules of monosaccharide on hydrolysis. They are further subdivided into homosaccharide and Hetero polysaccharide. Example of homosaccharide are:

Starch, -glycogen

Examples of Hetero polysaccharide are:

- Hyaluronic Acid

Chondrotin

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