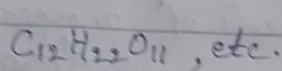
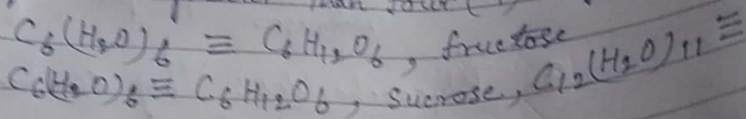
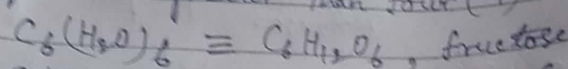


B.Sc. Part II (Hons.)
Organic Chemistry
Group "B"

Carbohydrates

Qn. What are Carbohydrates? 10 Imp.

Ans. The term Carbohydrates means the hydrate of Carbon $C_n(H_2O)_m$, where m and n are equal or greater than four (4) e.g., glucose

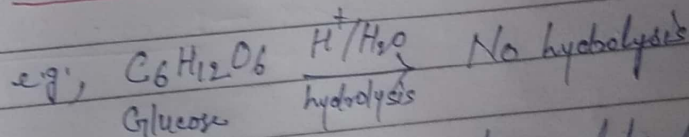


Methanol, Ethanoic acid etc. have the general formula of carbohydrates but do not show any resemblance with carbohydrates. Hence, Carbohydrates are optically active polyhydroxy aldehydes and ketones and compounds convertible into these aldehydes and ketones by hydrolysis. Carbohydrates are ~~also~~ also called as saccharides.

Qn. How are Carbohydrates classified? 10 Imp.

Ans. Carbohydrates are at best classified on the basis of their hydrolysis into following classes:

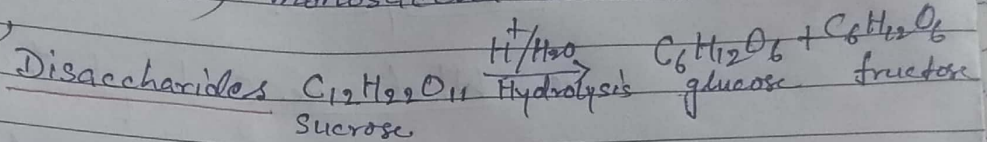
1. Monosaccharides: They do not hydrolyse.



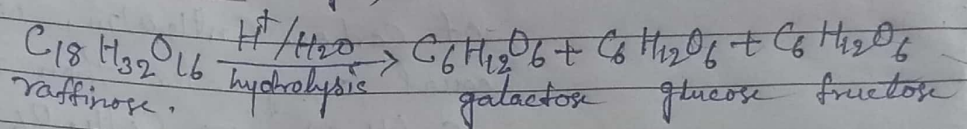
They may be aldoses or ketoses depending upon whether they have an aldehyde or a keto gr. free or potential. They can be further subdivided into triose, tetrose, depending on the number of C-atoms. which they have e.g.,

2. Oligosaccharides: They can be hydrolysed into a few (2 to 10) monosaccharide units.

e.g.,

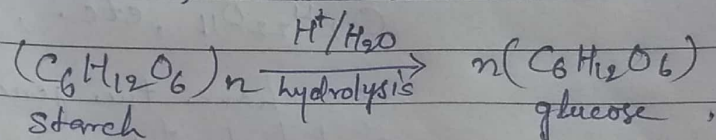


Trisaccharides e.g.,



3. Polysaccharides: They can be hydrolysed into hundreds of monosaccharides units.

e.g.,



They are also further subdivided into homo and heteropolysaccharides.

4. Glycosides: Upon hydrolysis, they give a non-

carbohydrate unit besides the carbohydrate fragment (glycone) e.g.,

