

* Derivatives of Monosaccharides :->

① GLYCOSIDES :- when hemiacetals react with alcohols, it forms acetals and if hemiacetal of the sugar reacts with an alcohol to form an ~~acetal~~ acetal, it is known as glycosides.

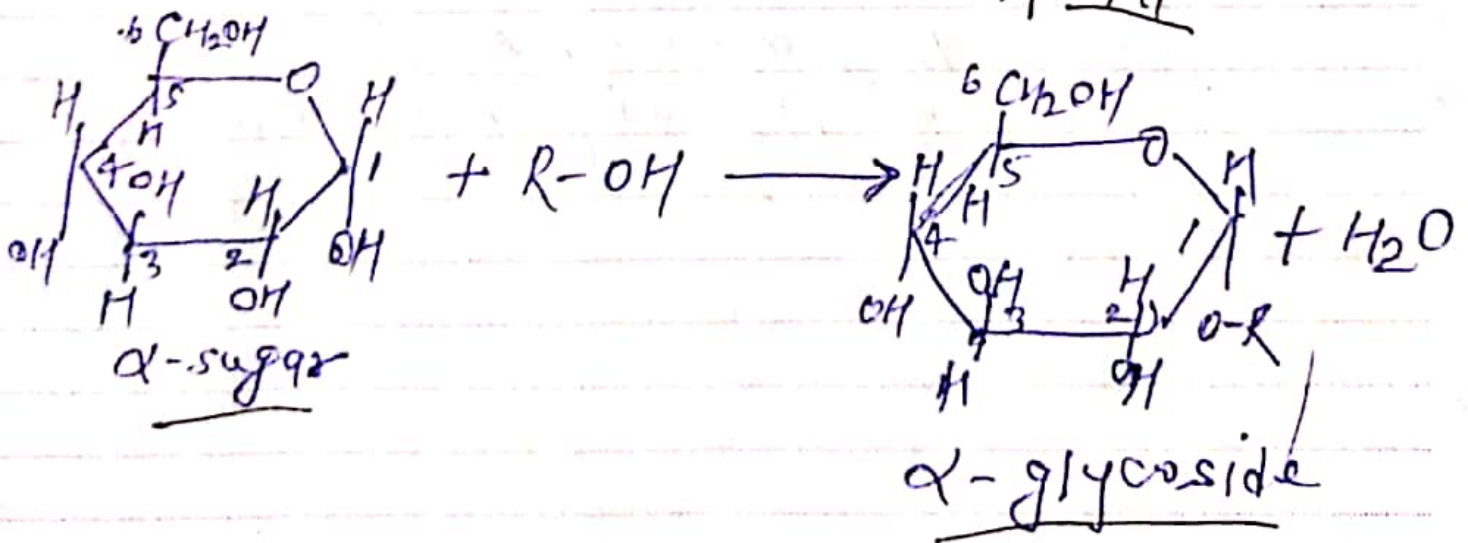
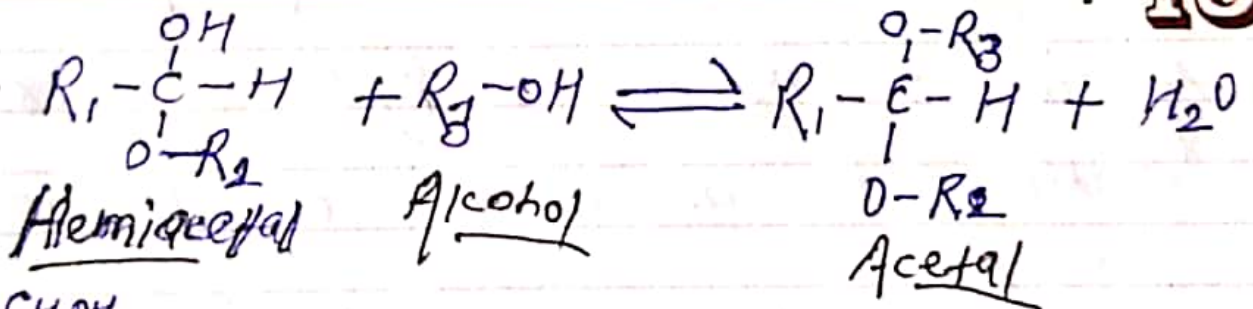
• Glycosides are formed by condensation between the hydroxyl group of the anomeric

Carbon of a monosaccharide, and a second compound they may or may not be another monosaccharide.

• If the hemiacetal position is glucose the resulting compound is glucoside, if galactose a galactoside, and so on. glycosides are widely distributed in nature.

• A very common glycoside is ouabain which inhibits the action of enzymes that pump Na^+ and K^+ ions across cell membranes. Other glycosides include antibiotics such as Streptomycin.

Friday **18**



11) sugar acids \Rightarrow e.g. - Ascorbic acid, (vit. c)

Aldohyde grp in Aldoses oxidised to produce a monocarboxylic acid called Aldonic acid (e.g. for glucose called gluconic acid)

14) sugar alcohols \Rightarrow carbonyl grp of Aldose and ketoses can be reduced to form sugar alcohols or sugar alditols. These are linear molecules.

e.g. - Carbonyl grp of glucose & xylose produces a sugar alcohol (polyhydroxy) called sorbitol & xylitol

1) Amino sugars:- A hydroxyl group is replaced by an amino or an acetyl amino group.

e.g. - D-glucosamine & D-Acetylglucosamine