

QUESTION

Which of the following carbohydrates are branched polymer of glucose?

This question has multiple correct options

A Amylose

B Amylopectin

C Cellulose

D Glycogen

ANSWER:

Solution

Correct options are B) and D)

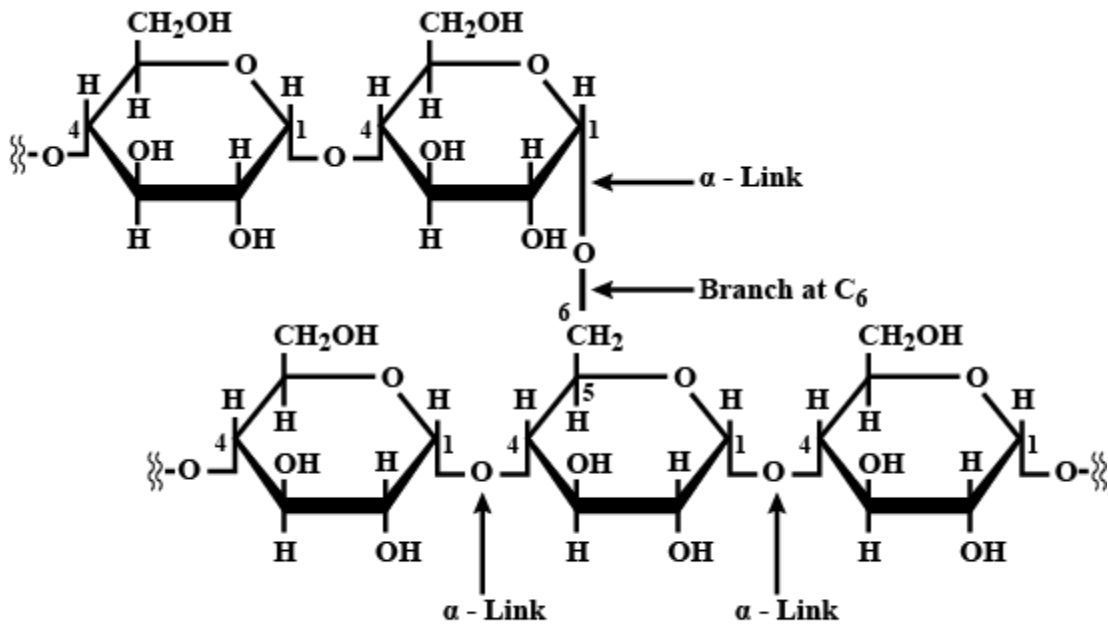
Explanations of the correct options

Option (ii):

Amylopectin is a highly branched polymer of α -D-glucose units found in plants and they are water soluble polysaccharide. In the structure of amylopectin C1 is linked with C4 in straight chain linkage whereas C1 and C6 show branching linkage.

Option (iv):

Glycogen has a multibranched polysaccharide of glucose which serves as a form of energy storage in animals, fungi and bacteria.

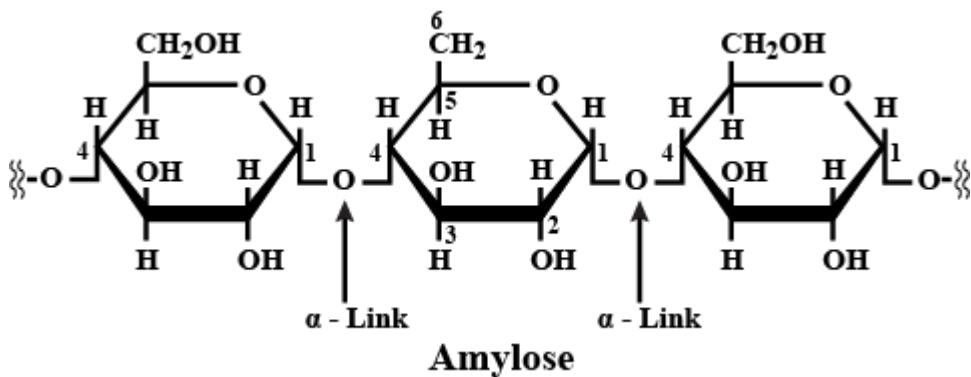


Structures of glycogen are similar to amylopectin.

Explanations of the incorrect options

Option (i):

Amylose has a straight chain of glucose. As each unit of amylose is made up of α -D-glucose. This is bonded with each other through α (1 \rightarrow 4) glycosidic bonds.



Option (iii):

Cellulose has a straight chain of glucose and each unit of cellulose is made up of β -D-glucose.

