

AQA, OCR, Edexcel

A Level

A Level Biology

Carbohydrates Questions

Name:

M M E

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Total Marks: /33

Carbohydrates

1. Carbohydrates exist in body as both monomers and polymers and carry out a number of essential functions.

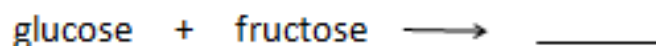
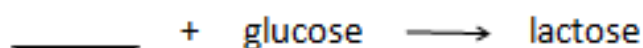
a. Identify three uses of carbohydrates in organisms. (3 marks)

b. What is the scientific term for a carbohydrate monomer? (1 mark)

c. What is a condensation reaction? (1 mark)

i) What bond is formed between two monosaccharides in a condensation reaction? (1 mark)

ii) Fill in the gaps to complete what is happening in the reactions below. (3 marks)



2. Carbohydrate polymers can be found in different forms throughout the plant and animal kingdoms.

a) Cellulose is a polysaccharide found in plants cells;

i) Name the monomer that makes up Cellulose? (1 mark)

ii) Draw the structure of this monomer? (2 marks)

iii) How is the structure of cellulose related to its function? (3 marks)

b. Glucose is the most common monosaccharide in organisms.

i) Where and how is glucose stored in the human body? (2 marks)

c. Starch and glycogen are also two common polysaccharides found in nature.

i) Identify two similarities between starch and glycogen. (2 marks)

ii) Starch is made up of two different polysaccharide chains, what are they called and how is their structure adapted to the function of starch? (6 marks)

3. Reducing sugars are classified as such based on their ability to act as reducing agent when tested.

a. What is the test for reducing sugars called? (1 mark)

b. Outline how the above test is carried out and what the expected result would be if a reducing sugar was present? (4 marks)

c. Identify two examples of carbohydrates that are reducing sugars (2 marks)

d. Identify a non-reducing sugar. (1 mark)