

- 6 Solution X was tested for the presence of non-reducing sugars. It did **not** contain reducing sugars.

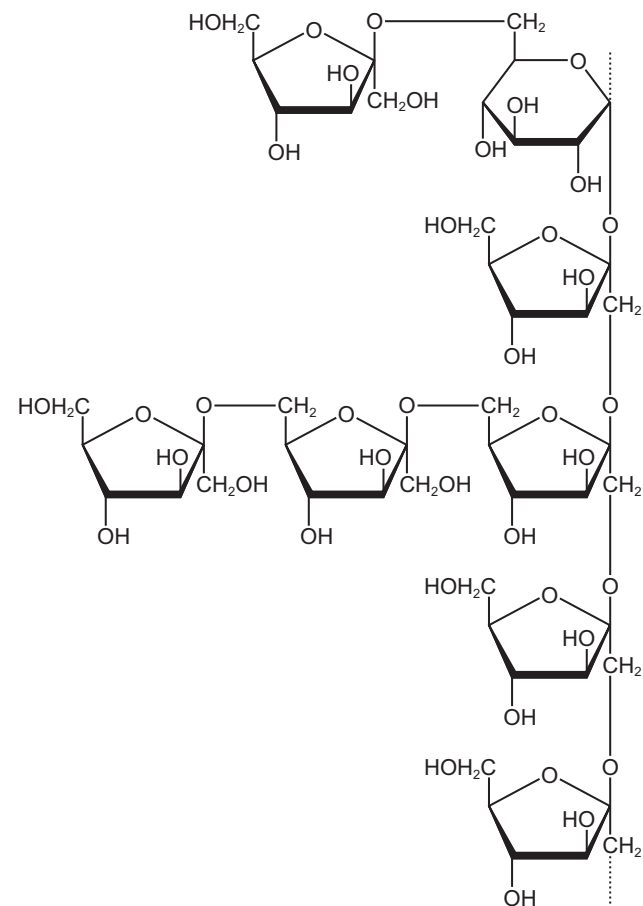
Some steps that can be used to test for the presence of biological molecules are listed.

- 1 Add Benedict's solution to the test-tube.
- 2 Add dilute hydrochloric acid to the test-tube.
- 3 Add sodium hydrogencarbonate to the test-tube.
- 4 Heat the test-tube in a water-bath.

Which order of steps to identify the presence of non-reducing sugars in solution X is correct?

- A** 1 → 4
B 2 → 3 → 1 → 4
C 2 → 4 → 3 → 1 → 4
D 3 → 2 → 4 → 1

- 7 The diagram shows the structure of part of a biological molecule.

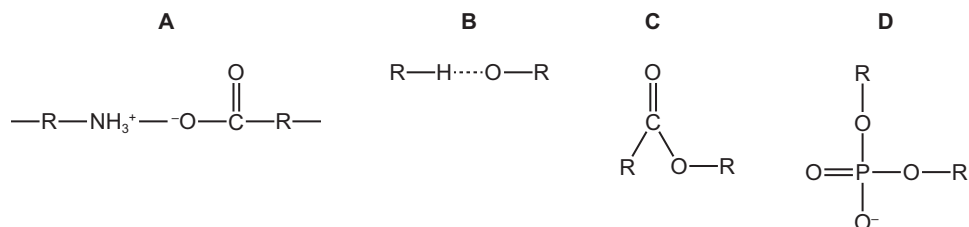


Which statements about this biological molecule are correct?

- 1 It has monomers joined by ester bonds.
- 2 It is a macromolecule.
- 3 It is a polysaccharide.

- A** 1, 2 and 3 **B** 1 and 2 only **C** 1 and 3 only **D** 2 and 3 only

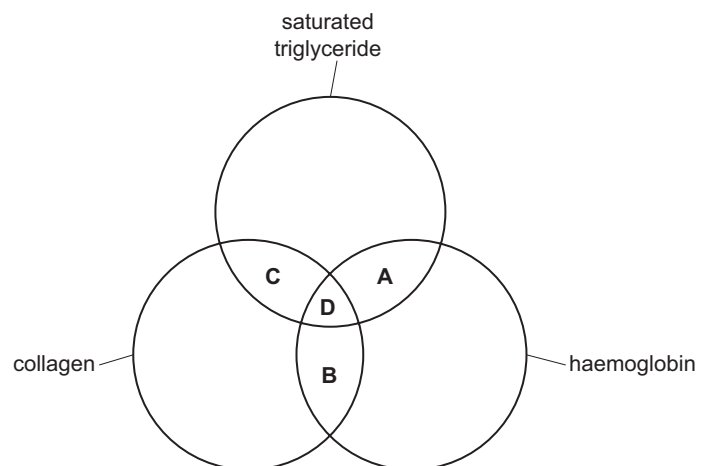
- 8 Which diagram has a covalent bond that joins monomers together to form a biological polymer in eukaryotes?



- 9 Which feature of storage polysaccharides means they do **not** change the water potential of cells?

- A** They are easily hydrolysed.
- B** They are compact.
- C** They are insoluble.
- D** They are branched molecules.

- 10 Which molecules contain at least four double bonds?



- 11 In some people a mutation can affect the beta chains in their haemoglobin molecules. As a result polar amino acids on the outer surfaces of the chains are replaced by non-polar amino acids.

What will be the effect on haemoglobin?

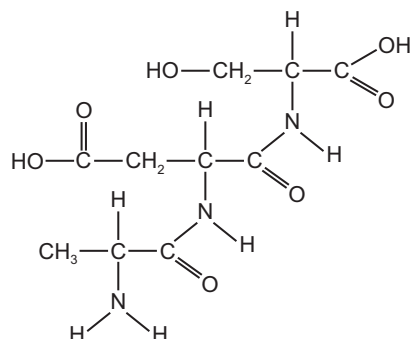
- A** Haemoglobin will become less soluble.
- B** Haemoglobin will become more soluble.
- C** Hydrophobic interactions between amino acids will decrease.
- D** More hydrogen bonds will form in the molecule.

6 A student carried out four tests for biological molecules. The observations are shown in the table.

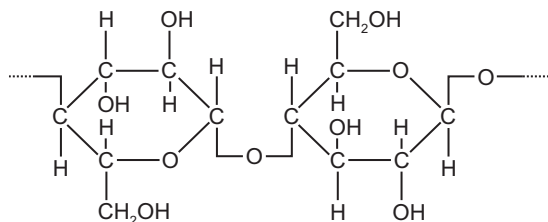
test	observations
iodine	orange
biuret	purple
Benedict's	orange
emulsion	clear

The diagrams show molecules or parts of molecules.

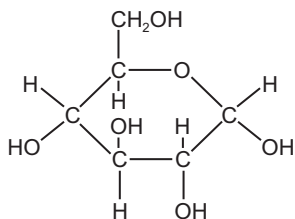
Which pair is present in the solution?



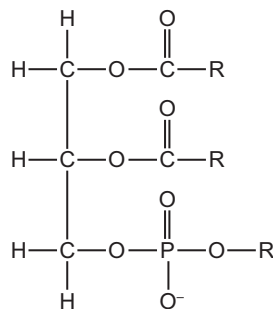
1



2



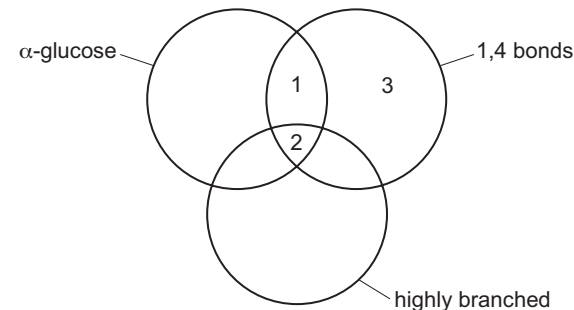
3



4

- A** 1 and 2 **B** 1 and 3 **C** 2 and 3 **D** 3 and 4

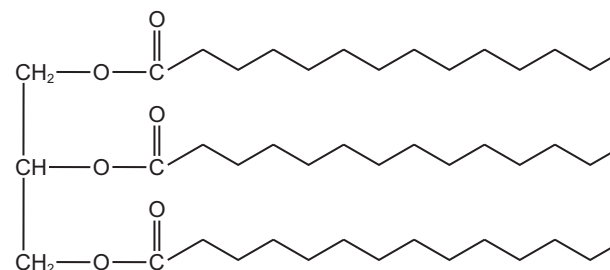
7 The diagram shows some relationships between features of carbohydrates.



Which row correctly matches the carbohydrate with some of its features?

	1	2	3
A	amylopectin	glycogen	amylose
B	amylose	amylopectin	cellulose
C	cellulose	glycogen	sucrose
D	glycogen	amylose	amylopectin

8 The diagram shows a triglyceride molecule.



Which statement is correct for the structure and function of this triglyceride?

- A** The glycerol head forms hydrogen bonds with water in cytoplasm to produce oil droplets.
B The hydrophobic fatty acids allow only small molecules to pass through the cell surface membrane.
C It packs closely with identical triglyceride molecules to form energy reserves in lysosomes.
D It has long hydrocarbon chains that release high energy output per unit mass when oxidised.

Name:

A-Level Biology: w25 12

10 Which bonds between amino acids hold the shape of the secondary structure and also the tertiary structure of proteins?

- A** peptide bonds
- B** disulfide bonds
- C** hydrogen bonds
- D** ionic bonds