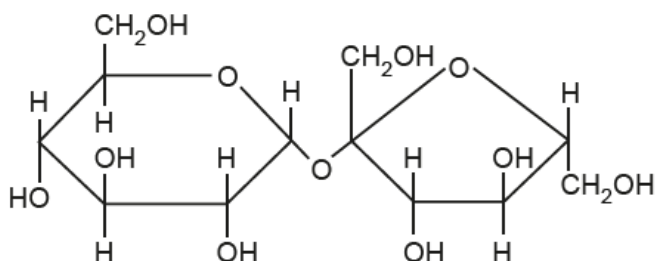


Biological Molecules – 2021/20 GCE AS Biology A**1. Nov/2021/Paper-H020/01/No.8**

The molecule below is the disaccharide sucrose.



Which row, **A** to **D**, shows the type of reaction that occurs in the breakdown of sucrose and the monosaccharides produced by the reaction?

	Type of reaction	Monosaccharides	
A	condensation	α glucose	α glucose
B	condensation	α glucose	fructose
C	hydrolysis	α glucose	α glucose
D	hydrolysis	α glucose	fructose

Your answer

[1]

2. Nov/2020/Paper-H020/01/No.15

Which of the rows, **A** to **D**, contains the correct elements that are found in proteins?

	carbon	hydrogen	oxygen	phosphorus	nitrogen	sulphur
A	✓	✓	✓			
B	✓	✓	✓	✓	✓	
C	✓	✓	✓		✓	✓
D	✓	✓	✓	✓	✓	✓

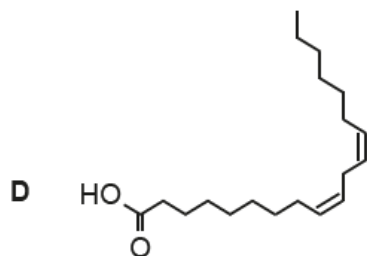
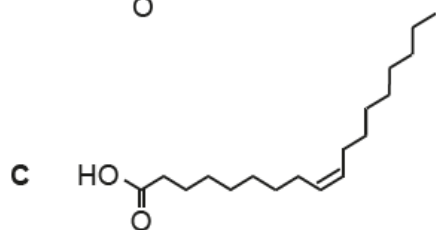
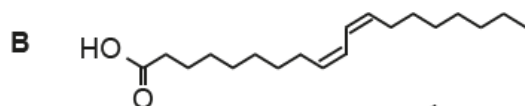
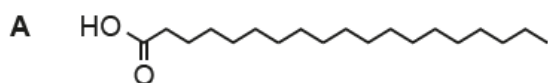
Your answer

[1]

3. Nov/2020/Paper-H020/01/No.16

Oleic acid is a monounsaturated fatty acid found in vegetable oil.

Which of the following, **A** to **D**, is the correct structure for oleic acid?



Your answer

☐

[1]

4. Nov/2020/Paper-H020/01/No.18

Human pancreatic lipase breaks the bonds between fatty acids and glycerol.

What name is given to this reaction?

A condensation

B esterification

C hydration

D hydrolysis

Your answer

☐

[1]

5. Nov/2020/Paper-H020/01/No.19

A conjugated protein is held together by many different types of bond.

Which bond is **not** formed when a conjugated protein folds into its quaternary structure?

A disulphide

B hydrogen

C ionic

D peptide

Your answer

[1]

6. Nov/2020/Paper-H020/01/No.22

Collagen is a protein found in arterial walls. A collagen molecule has three polypeptide chains, each with 1050 amino acids, wrapped into a triple helix. A repeating sequence of the amino acids glycine and proline occur in each polypeptide chain. These amino acids have non-polar side chains.

(a) (i) Describe and explain why collagen is a fibrous protein.

.....

.....

.....

.....

.....

.....

.....

..... [3]

(ii) Suggest why collagen is such a strong molecule.

.....

..... [1]

(b) Outline the method of chromatography that will separate the main amino acids in collagen.

.....

.....

.....

.....

.....

.....

.....

..... [3]