

Revision Sheet

IGCSE Biology · Unit 4 Biological molecules

8 vocabulary items · 14 marks of exam questions (14 questions)

Part 1 · Vocabulary review (8 items). The terms this unit is examined on most. Mark it yourself from the answer key.

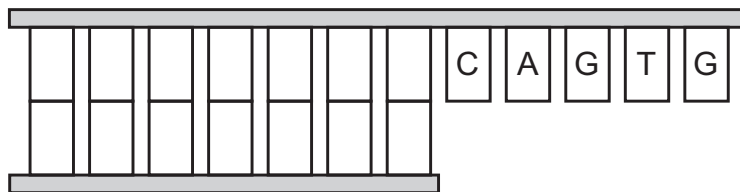
Section A · Chinese to English

Write the English word.

- | | | |
|----|-------|-----|
| 1. | <hr/> | [1] |
| 2. | <hr/> | [1] |
| 3. | <hr/> | [1] |
| 4. | <hr/> | [1] |
| 5. | <hr/> | [1] |
| 6. | <hr/> | [1] |
| 7. | <hr/> | [1] |
| 8. | <hr/> | [1] |

Part 2 · Exam questions (14 marks, 14 questions) begins on the next page. They are ordered easy to difficult and none of them has been set before.

- 9** The diagram shows the sticky end of the DNA of a plasmid that has been cut by a restriction enzyme. The unpaired bases are labelled.



What is the correct sequence of the missing bases?

- A** CAGTG **B** GTGAC **C** GTCAC **D** CACTG

- 10** A test was performed on a food substance. A positive result was shown by a colour change to blue-black.



What solution was used for the test?

- A** biuret solution
B DCPIP solution
C iodine solution
D Benedict's solution

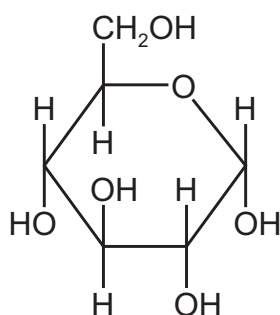
- 11** The diagrams show four molecules.



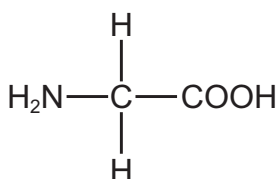
C represents carbon, H represents hydrogen, O represents oxygen and N represents nitrogen.

Which structure is an amino acid?

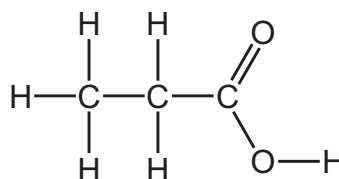
A



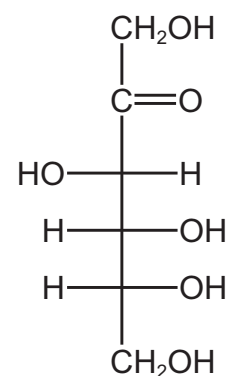
B



C



D



12 Which row shows the elements that make up a carbohydrate molecule?

☐

	carbon	hydrogen	nitrogen	oxygen
A	no	no	yes	yes
B	no	yes	no	yes
C	yes	yes	no	yes
D	yes	yes	yes	no

13 Large molecules are made from smaller molecules.

☐

Which row names the large molecule and the small molecules it is made from?

	large molecule	small molecules
A	cellulose	glucose
B	fat	glycogen
C	glycogen	fatty acid
D	starch	amino acid

14 Which row identifies the chemical elements in proteins?

☐

	carbon	hydrogen	oxygen	nitrogen
A	✓	✓	✓	✓
B	✓	x	✓	x
C	x	✓	✓	✓
D	✓	✓	x	x

key

✓ = present

x = absent

15 The table shows some large biological molecules and some small biological molecules.

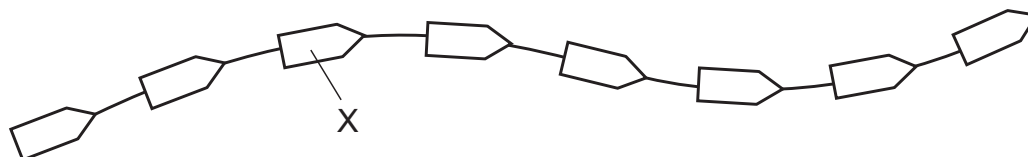
☐

	large biological molecules	small biological molecules
1	cellulose	glucose
2	oil	amino acids
3	glycogen	glucose
4	protein	ethanol

Which rows correctly pair large molecules with the smaller molecules used to make them?

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

16 The diagram shows part of a protein molecule.

☐

What does X represent?

- A** amino acid
B fatty acid
C glycerol
D sugar

17 The structure of DNA involves two strands coiled together to form a double helix.

☐

Which pairing of bases between the two strands is correct?

- A** A and G **B** A and T **C** C and A **D** C and T

18 The table shows the results of food tests carried out on a fruit.

☐

test	Benedict's solution	biuret	ethanol emulsion	iodine solution
result	positive	positive	negative	negative

What did the fruit contain?

- A** fat and reducing sugar
- B** fat and starch
- C** protein and reducing sugar
- D** protein and starch

19 What describes the structure of DNA?

- ☐ **A** Each strand contains chemicals called fatty acids.
- B** Each strand contains a sequence of amino acids.
- C** Each strand contains mRNA.
- D** Two strands coil to form a double helix.

20 Which substance is used to test a food for vitamin C?

- ☐ **A** Benedict's solution
- B** DCPIP
- C** ethanol
- D** iodine solution

21 In DNA, what is the correct base pairing?

- ☐ **A** T with C **B** T with T **C** T with G **D** T with A

22 DNA is a molecule consisting of two linked strands.

☐ Part of a single strand of DNA has the sequence of bases shown.

ACCGTTGAA

What is the sequence of bases in the second strand?

- A** ACCGTTGAA
- B** GTTACCAGG
- C** TGGCAACTT
- D** CAATGGTCC