6.1 Structure & Replication of DNA

Question Paper

Course	CIE A Level Biology
Section	6. Nucleic Acids & Protein Synthesis
Topic	6.1 Structure & Replication of DNA
Difficulty	Easy

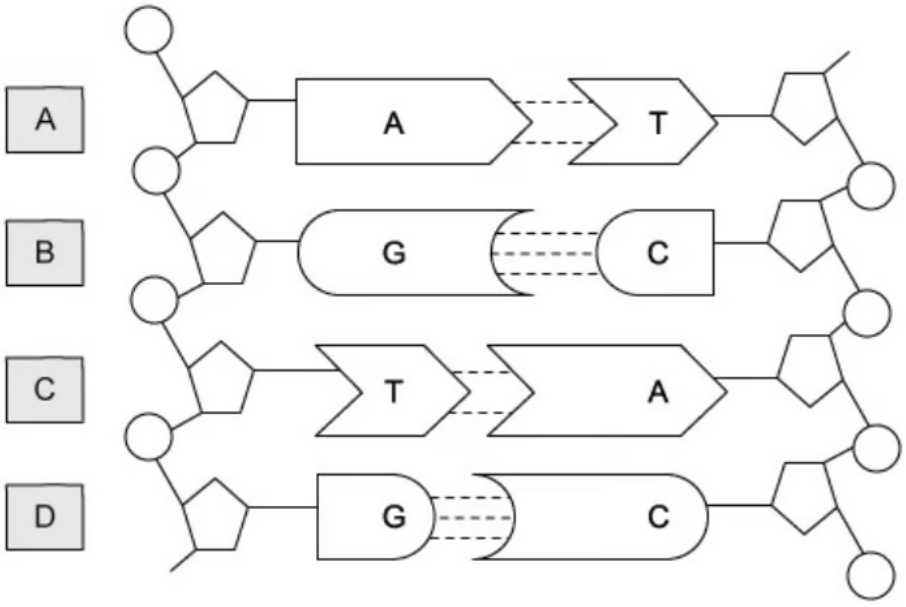
Time allowed: 20

Score: /10

Percentage: /100

Question 1

Which base pair has a mistake?



[1 mark]

Question 2

Which row correctly identifies the features of DNA and RNA molecules?

	DNA and RNA both contain a 5– carbon sugar	DNA and RNA contain both purine and pyrimidine bases	forms hydrogen bonds with bases in RNA molecules
A	✓	✓	✓
B	✓	X	✓
C	✓	✓	X
D	X	✓	X

key

✓= correct statement

X= incorrect statement

[1 mark]

Question 3

DNA was extracted from the pancreas of a walrus and a human liver cell.

In which way did the DNA molecules differ?

A. the ratio of guanine to cytosine

B. the type of pentose sugar

C. the types of nucleotides

D. the sequence of the nucleotides

[1 mark]

Question 4

Which row correctly describes guanine?

	ring structure	component on nucleotide strand it is attached to	complementary base
A	double	pentose sugar	cytosine
B	double	phosphate	cytosine
C	single	phosphate	cytosine
D	single	pentose sugar	thymine

[1 mark]

Question 5

What is the minimum number of hydrogen bonds in a length of DNA containing 900 base pairs?

A. 450

B. 900

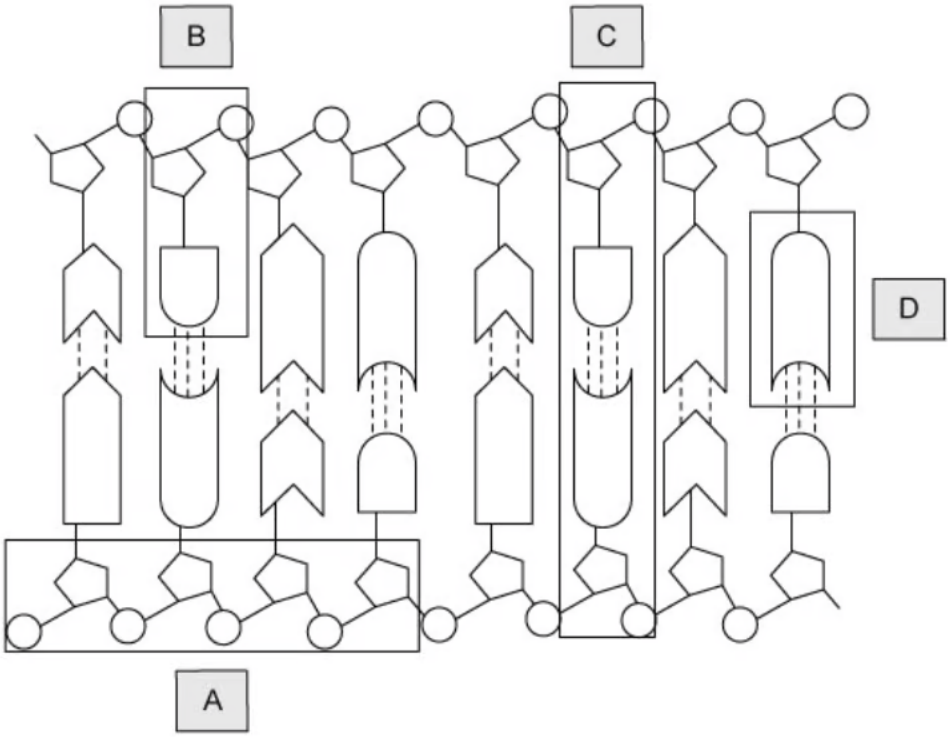
C. 1800

D. 2700

[1 mark]

Question 6

The diagram shows part of a DNA molecule

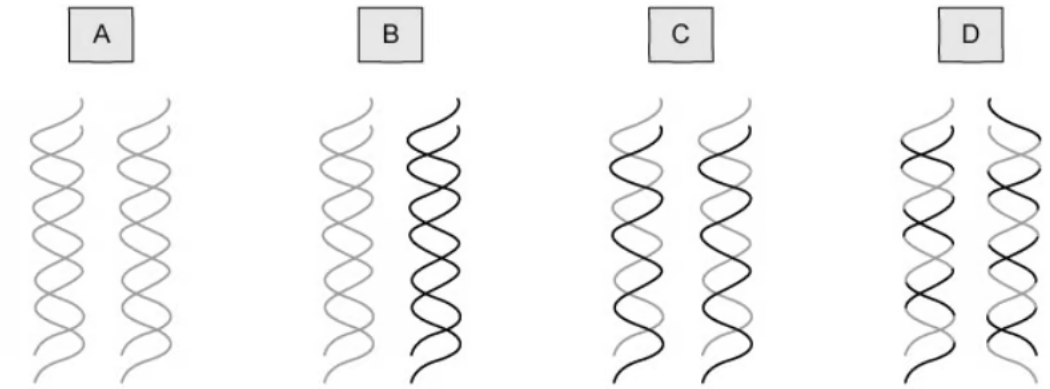


Which part is a nucleotide?

[1 mark]

Question 7

The diagram shows the outcomes from four different models of DNA reproduction after one nuclear division. The parent DNA is shown in black and the newly synthesized DNA is shown in grey.

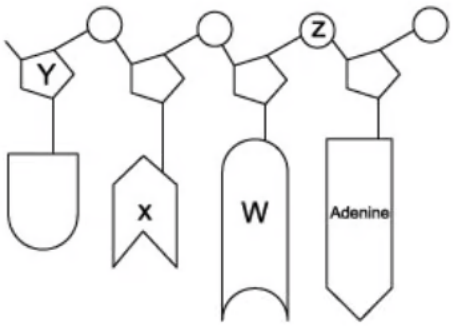


Which diagram shows conservative DNA replication?

[1 mark]

Question 8

This diagram shows a section of a DNA molecule.



What is part **X** on the diagram?

A. Cytosine

B. Uracil

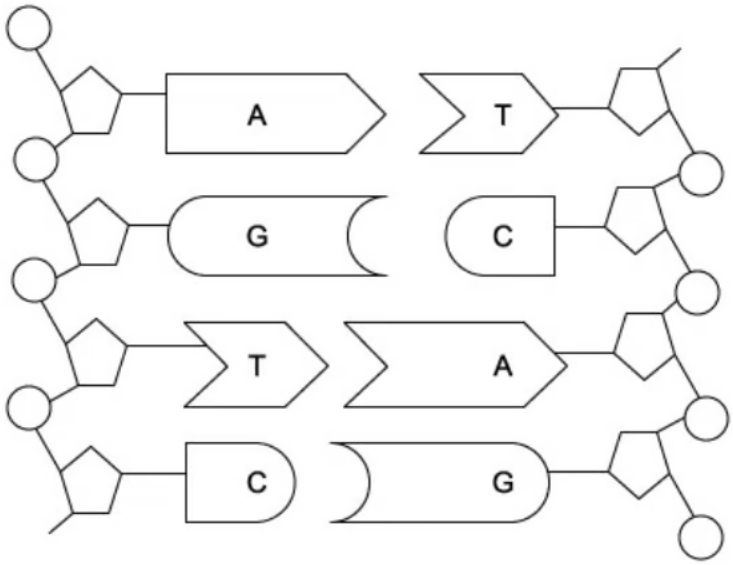
C. Thymine

D. Guanine

[1 mark]

Question 9

This diagram shows a section of DNA



How many hydrogen bonds would be involved in holding these two strands together?

A. 10

B. 11

C. 12

D. 14

[1 mark]

Question 10

Which row correctly describes adenine on a strand of DNA?

	purine or pyrimidine	component on nucleotide strand it is attached to	complementary base
A	purine	deoxyribose	uracil
B	purine	ribose	uracil
C	pyrimidine	deoxyribose	thymine
D	pyrimidine	ribose	thymine

[1 mark]