

7.1 DNA Structure & Replication

Question Paper

Course	DP IB Biology
Section	7. Nucleic Acids (HL Only)
Topic	7.1 DNA Structure & Replication
Difficulty	Easy

Time allowed: 10
Score: /5
Percentage: /100

Question 1

Which of the following statements correctly describes a nucleosome?

- A. A strand of DNA coiled around a central core of eight histone proteins.
- B. A strand of DNA wrapped around a central core of four histone proteins.
- C. A section of supercoiled DNA.
- D. A strand of DNA wrapped around a central core of eight chromatin proteins.

[1 mark]

Question 2

Which of the following is **not** a conclusion relating to the structure of DNA drawn by Rosalind Franklin from her X-ray diffraction results?

- A. DNA is a double helix.
- B. DNA contains a repeating structure.
- C. Bases pair up according to the rules of complementary base pairing.
- D. The turns of the DNA spiral are approximately 3.5 nm apart.

[1 mark]

Question 3

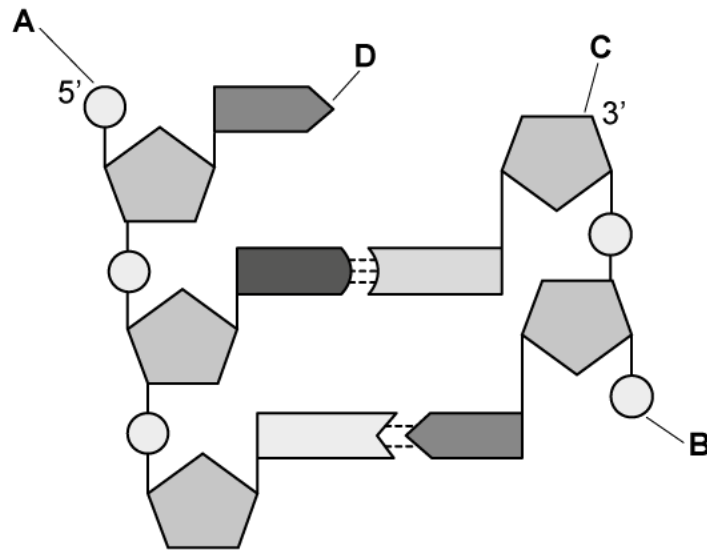
Which of the following correctly identifies the role of DNA polymerase in DNA replication?

- A. Forms hydrogen bonds between the bases of the new nucleotides and the template strand.
- B. Unwinds the DNA double helix at the replication fork.
- C. Covalently bonds new DNA nucleotides together.
- D. Joins up the Okazaki fragments on the lagging strand.

[1 mark]

Question 4

To which part of the DNA molecule will new nucleotides be **covalently bonded** during DNA replication?



[1 mark]

Question 5

Which of the statements about non-coding DNA is correct?

- A. Non coding sequences code for polypeptides and functional RNA such as tRNA.
- B. Non coding sequences do not code for polypeptides but can code for functional RNA such as tRNA.
- C. Non-coding DNA is only found in between genes.
- D. Telomeres are a type of non-coding DNA that regulate gene expression.

[1 mark]