7.3 Translation

Question Paper

Course	DP IB Biology
Section	7. Nucleic Acids (HL Only)
Topic	7.3 Translation
Difficulty	Easy

Time allowed: 10

Score: /5

Percentage: /100

Question 1

Which of the following will lead to the termination of translation?

A. Once the ribosome disassembles into the large and small subunit

B. When the ribosome encounters a stop codon

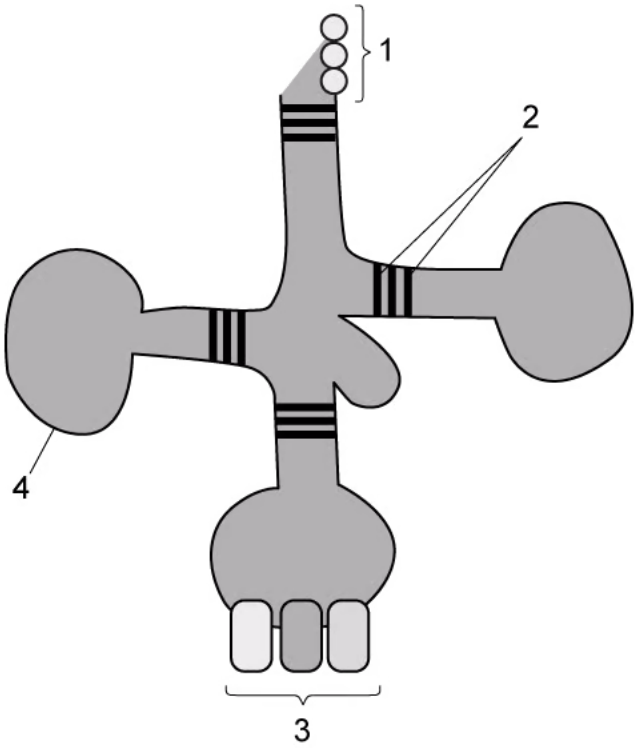
C. Releasing the free polypeptide from the last tRNA molecule

D. When the ribosome detaches from the mRNA molecule

[1 mark]

Question 2

The diagram below shows the structure of a tRNA molecule.



Which of the following correctly identifies the different parts of the tRNA molecule?

	1	2	3	4
A.	Amino acid binding site	Hydrogen bonds	Anticodon	Sugar-phosphate backbone
B.	Amino acids	Hydrogen bonds	Anticodon	Covalent bonds
C.	Amino acid binding site	Covalent bonds	Anticodon	Sugar-phosphate backbone
D.	Amino acids	Hydrogen bonds	Codon	Covalent bonds

[1 mark]

Question 3

Which of the following is involved in the secondary structure of a protein?

I. Double helix
II. β-pleated sheets
III. Hydrogen bonds
IV. Hydrophobic interactions

A. I. and II.

B. II. and III.

C. I., II. and III.

D. II., III. and IV.

[1 mark]

Question 4

Which of the following would apply to the polysomes of prokaryotes?

A. Polysomes, containing 80S ribosomes, will appear on the growing mRNA strand along the DNA molecule

B. Polysomes, containing 70S ribosomes, will appear on the growing mRNA strand in the absence of DNA

C. Polysomes, containing 80S ribosomes, will appear on the growing mRNA strand in the absence of DNA

D. Polysomes, containing 70S ribosomes, will appear on the growing mRNA strand along the DNA molecule

[1 mark]

Question 5

Bioinformatics involves the use of computers to generate and store large amounts of biological data.

Which of the following would **not** be an application of bioinformatics?

A. Comparing sequence similarities to determine if an unknown DNA sequence codes for a gene

B. Sequencing DNA to determine protein sequences

C. To determine the rate of aerobic respiration within the mitochondria of an organism

D. Comparing gene sequences between organisms to determine how closely related they are

[1 mark]