**1.** Which diagram correctly illustrates a dipeptide?



(Total 1 mark)

**2.** The complex structure of proteins can be explained in terms of four levels of structure, primary, secondary, tertiary and quaternary.

(a) Primary structure involves the sequence of amino acids that are bonded together to form a polypeptide. State the name of the linkage that bonds the amino acids together.

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(1)

(b) Beta pleated sheets are an example of secondary structure. State **one** other example.

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(1)

(c) Tertiary structure in globular proteins involves the folding of polypeptides. State **one** type of bond that stabilizes the tertiary structure.

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(1)

(d) Outline the quaternary structure of proteins.

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(2)

(Total 5 marks)

**3.** (a) State **one** type of secondary structure of a protein.

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(1)

(b) Outline the differences between globular and fibrous proteins, giving a named example of each.

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(3)

(c) Explain the significance of polar amino acids for membrane proteins.

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(2)

(Total 6 marks)

**4.** Outline the role of condensation and hydrolysis in the relationship between amino acids and dipeptides.

(Total 4 marks)

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