**1.** (a) State **four** functions of proteins, giving a **named** example of each.

(4)

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**2.** (a) (i) Explain the primary structure of proteins and secondary structure of proteins.

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(3)

 (Total 3 marks)

**3.** Which best describes the tertiary structure of a protein?

A. The interaction of polypeptide subunits and prosthetic groups

B. Interactions forming hydrogen bonds between the amino acids

C. The sequence of amino acids in the polypeptide chain

D. The structure formed from interactions between the amino acid side groups

(Total 1 mark)

**4.**

(c) Explain primary structures and tertiary structures of an enzyme.

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(3)

(Total 5 marks)

(b) Distinguish between the secondary structure and tertiary structure of proteins.

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(3)

(Total 3 marks)

**1.** Which structure represents an amino acid?



(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) Explain the significance of secondary structure to the structure of a protein.

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(3)

 (Total 3 marks)

**4.**

(b) Explain the significance of polar and non-polar amino acids within the cell.

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(3)

(Total 3 marks)