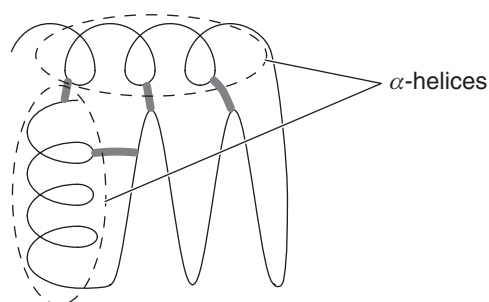


SECTION B – SHORT-ANSWER QUESTIONS**Question 1** (6 marks)

- a. i. protein (polypeptide) 1 mark
 ii. DNA (accept nucleic acid) 1 mark
- b. four 1 mark
- c. **biomacromolecule 1**



1 mark

Both α -helices must be labelled.

- d. carbon, hydrogen, oxygen, nitrogen and phosphorous 1 mark
All elements are required. Accept C, H, O, N and P.
- e. The disulphide bonds are covalent links within the polypeptide chain that hold the three-dimensional shape (tertiary structure) of the polypeptide together. 1 mark

Question 2 (7 marks)

- a. Both organelles are small packages of chemicals that maintain their shape within the cell. The cell's environment would have a certain concentration of solutes within it that is isotonic to the mitochondria or chloroplast. If the external environment was hypotonic (free of solutes), the mitochondria and chloroplast would gain water via osmosis and burst. 1 mark

b.

	Input(s)	Output(s)
Chloroplast	carbon dioxide, water, light energy	oxygen, glucose
Mitochondria	pyruvic acid, oxygen (ADP, Pi)	carbon dioxide, water (ATP)

4 marks

*1 mark for each box correctly filled in.**All inputs and/or outputs for each process should be included for each mark.**There is room to give a penalty, for example, if one input/output is missing from each section, students could achieve 2 marks.*