Total marks	14
Time allowed	Approximately 25 minutes
Instructions	Answer ALL questions. Write answers in the spaces provided.

Question 1

Each food sample was tested using four different reagents. The results are recorded below.

Food sample	Benedict's test	Iodine test	Biuret test	Ethanol emulsion test
A	Blue (no change)	Blue-black	Blue (no change)	Clear
B	Brick red	Orange-brown	Purple	Milky white
C	Blue (no change)	Orange-brown	Purple	Clear
D	Blue (no change)	Orange-brown	Blue (no change)	Milky white

A student tests four unknown food samples (A, B, C, D) for the presence of starch, glucose, protein and lipid. The table shows the results.

[0 marks]

Question 2

Using the results table, identify which food molecules are present in sample B.

[3 marks]

Question 3

A student says: "Sample A must contain only starch." Evaluate this claim.

[3 marks]

Question 4

Describe how the student would carry out the Benedict's test for glucose. Include what a positive result looks like.

[4 marks]

Question 5

Explain why the Benedict's test must be heated but the iodine test does not require heating.

[2 marks]

★ **Higher Tier**

Question 6

A student adds the biuret reagents in the wrong order — copper sulfate first, then NaOH. Explain why this might give an inaccurate result.

[2 marks]

END OF QUESTIONS — Total: 14 marks