

Question 02

QUESTION	ANSWERS	EXTRA INFORMATION	MARK	AO / SPEC. REF.
02.1	Amino acids		1	AO1/1 4.2.2.1
02.2	To keep the pH constant	accept to keep pH 7	1	AO1/1 4.2.2.1
02.3	Use a thermometer in the water bath to record temperature		1	AO2/2 4.2.2.1
02.4	°C 205.0	accept 205	1 1	AO1/1 4.2.2.1
02.5	More kinetic energy so more collisions		1	AO3/1a 4.2.2.1
02.6	Do the experiment at 35 °C, 40 °C and 45 °C		1	AO3/3b 4.2.2.1
02.7	Level 2: A detailed and coherent plan covering all the major steps is provided. The method is set out logically taking into account control variable and appropriate measurements. The plan could be repeated by another person to determine the effect of pH on breakdown of casein in skimmed milk by the enzyme trypsin.		3–4	AO1/1 4.2.2.1
	Level 1: Simple statements relating to relevant apparatus or steps are made but they may not be in a logical order. The plan would not allow another person to determine the effect of pH on breakdown of casein in skimmed milk by the enzyme trypsin.		1–2	
	No relevant content.		0	
	Indicative content <ul style="list-style-type: none"> • range of at least 3 pH values / use of buffer solutions • control variables / keep volume of skimmed milk and trypsin the same • keep temperature the same using water bath • time how long it takes for milk to go clear at each pH • do repeats at each pH 			
TOTAL			11	