B2

Question			Marking details	Marks Available
1	*(a)*	(i)	Any two from Bacteria(l); Yeast; Alga(l);	max 2
		(ii)	1235; can be in any order 2345; can be in any order 1;	3
	(b)	(i)	<u>Protein</u> (coat);	1
		(ii)	By multiplying inside a host cell;	1
			Question 1 total	**[7]**

18

Question			Marking details	Marks Available
2	*(a)*		X - gall bladder; Y - stomach;	2
	(b)	(i)	Bile; Lipase; Glycerol;	3
		(ii)	carries bile (into small intestine)/bile {travels/passes/flows/ transported} through/bile flows through; NOT releases bile/this is the bile duct/connects gall bladder to intestine/carries bile to pancreas	1
			Question 2 total	**[6]**

Question			Marking details	Marks Available
3	*(a)*	(i)	Carbon dioxide CO_2; NOT Co Water/H_2O;	2
		(ii)	Chlorophyll;	1
	(b)	(i)	I suitable scale;	1
			II all plots correct; (tolerance +/- 0.5 small square) 1 error = 1 mark, 2 errors = 0 mark	2
			III line quality;	1
		(ii)	I rises/increases;	1
			II 22-25	1
		(iii)	Same plant/same time; NOT – ref to repeating/reliability	1
	(c)		Respiration/{release/ for}energy/cellulose/cell wall/(storage as) starch/ protein; NOT {create/produce/make} energy NOT food/growth (this could be neutral)	1
			Question 3 Total	**[11]**

Question			Marking details	Marks Available
4	*(a)*		Nucleus;	1
	(b)	(i)	Sugar and phosphate;	1
		(ii)	A with T **and** G with C;	1
		(iii)	Double helix;	1
	(c)		Amino acids **+** Proteins;	1
			Question 4 Total	**[5]**

Question			Marking details	Marks Available
5	*(a)*		Biological (control);	1
			Accept bio control	
	(b)	(i)	*No mites present* July 380; (reject 380**cm²**)	2
			With mites present June 200; (reject 200**cm²**)	
		(ii)	Reduces/decreases;	1
		(iii)	August – grea<u>test</u> difference in number/OWTTE;	1
	(c)	(i)	Check whether it {affects/causes} {disease/damage} to {<u>other organisms/ tomatoes</u>} / does not become a pest itself; NOT disease unqualified/causes disease to humans	1
		(ii)	Further work – need for repetition/check for repeatability/do it {again/ multiple times/three times}; NOT reproducibility *Q refers to same scientists*	1
			Question 5 Total	**[7]**

Question		Marking details	Marks Available
6/1	*(a)*	Meiosis (correct spelling required);	1
	(b)	STAGE 2 - 23, 23, 46, 46;	1
		STAGE 3 – 4 cells each containing 23;	1
	(c)	Gametes/sex cells/sperm/eggs/ova;	1
		NOT daughter cells	
	(d)	Different;	1
	(e)	Growth/cell replacement/repair (of damaged) {<u>tissues/cells</u>};	1
		NOT asexual reproduction/mitosis/bacterial reproduction/	
		replication/ cloning	
		Question 6/1 Total	**[6]**

Question	Marking details	Marks Available
7/2 *(a)*	4 3 1 2 3 or 4 correct = 3 marks 2 correct = 2 marks 1 correct = 1 mark	3
(b)	Make reference to {avoiding bias/validity}; NOT {fair test/reliability} (could be neutral)/ not to favour an area/give a true result	1
	Question 7 Total	**[4]**

Question	Marking details	Marks Available

8/3 *(a)*
- Amylase digested/ broke down/hydrolysed;   1
  NOT turn/change
- Starch to glucose;   1
- which {diffused/ passed/ small enough to go} through   1
  the {visking tubing/membrane} (into the water); *

*Only accessed if second marking point awarded

(b) Starch <u>molecule</u> <u>too big</u> to pass through {<u>visking tubing/</u>   1
<u>membrane</u>};

(c) Blood/blood stream;   1

(d) 1 mark for each correct row   2

Substance tested for	Reagent used	Colour of reagent	Colour with positive result
Starch	Iodine	**Yellow-brown/ Orange/orange- brown/ yellow- orange NOT red/ yellow**	blue- black
Glucose	**Benedict's**	blue	**green/yellow/ orange/ /brown/brick red NOT red**

Question 8/3 Total   **[7]**

Question		Marking details	Marks Available
9/4	*(a)*	Bronchiole	1
	(b)	**Indicative content:**	6

Air breathed in contains more oxygen than blood arriving at the alveolus. Oxygen dissolves in moisture (accept water) lining alveolus. Oxygen diffuses into blood through the thin alveolus wall. Blood in capillary arriving at alveolus contains more carbon dioxide than air in alveolus. Carbon dioxide diffuses into alveolus. Large surface area of alveolus means increased gas exchange.

5 – 6 marks
The candidate constructs an articulate, integrated account correctly linking relevant points, such as those in the indicative content, which shows sequential reasoning. The answer fully addresses the question with no irrelevant inclusions or significant omissions. The candidate uses appropriate scientific terminology and accurate spelling, punctuation and grammar.

3 – 4 marks
The candidate constructs an account correctly linking some relevant points, such as those in the indicative content, showing some reasoning. The answer addresses the question with some omissions. The candidate uses mainly appropriate scientific terminology and some accurate spelling, punctuation and grammar.

1 – 2 marks
The candidate makes some relevant points, such as those in the indicative content, showing limited reasoning. The answer addresses the question with significant omissions. The candidate uses limited scientific terminology and inaccuracies in spelling, punctuation and grammar.

0 marks
The candidate does not make any attempt or give a relevant answer worthy of credit.

Question 9/4 Total   **[7]**