

FOUNDATION / HIGHER TIER

Question	Marking details	Marks Available
6/1 (a)	Respiration/ respire. NOT anaerobic respiration	1
(b) (i)	To kill or destroy bacteria / fungi / micro-organisms/ microbes/ to sterilise. NOT get rid of bacteria/ denature	1
(ii)	Weak disinfectant didn't kill <u>all</u> bacteria / fungi/ micro-organisms; Bacteria/ fungi/ micro-organisms grew/ reproduced/ multiplied; Respired producing heat	3
Question total		[5]

Question	Marking details	Marks Available
7/2 (a)	A Oesophagus/ gullet B Gall bladder	1 1
(b)	Indicative content: Food enters small intestine. Mixes with bile from gall bladder/ liver. Fat emulsified or description/ large globules to small globules (not molecules). Lipase from pancreas Lipase in small intestine. Breaks down/ digests/ hydrolyses fats. To fatty acids. And glycerol.	6

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 total [8]

Question	Marking details	Marks Available
8/3	(a) (i) Breathing is <u>faster</u> so <u>more smoke</u> will be taken in (OWTTE); Lungs are smaller so easily/ quickly fill with smoke (OWTTE); Lungs are still developing/ growing therefore easily damaged. Accept Lungs are smaller and still developing = 1 Accept Therefore they fill quickly with smoke or easily damaged =1	3
	(ii) Any two from: Some parents think that smoking in cars has no effect on children; How smoking in cars (greatly) concentrates cigarette smoke (OWTTE); Levels of smoke in cars can be 27 times greater than in the home.	2
	(b) Any two from: (Particles or soot in smoke) it clog up the mucus (making harder to move); (Heat from smoke)/ it dries up mucus (and cleaning mechanism fails) or it stops the airways being moist; (Chemicals in smoke) it paralysing/ anaesthetises/ stops cilia/ hair like structures so they stop working.	2
Question total		[7]

Question	Marking details	Marks Available
9/4 (a)	When the predatory mite reaches 500/ 1 week after introduction/ at week 5/ between weeks 5 and 6 ; It kills off/ causes a decline in the red spider mite.	2
(b)	Biological control accept biocontrol	1
(c)	It may start eating other (harmless/ non pest species/) insects/ species/ non target species (not enough to say it may become a pest itself). NOT start eating the fruit	1
Question total		[4]
TOTAL FOUNDATION TIER		[60]

HIGHER TIER

Question	Marking details	Marks Available
5. (a)	Diagram B (no mark) Any two from: Diaphragm has flattened/ contracted; Rib cage has moved up/ out/ up and out OR sternum has moved up/ out/ up and out; Thoracic volume (or description of) increased/ chest cavity expands; (Accept reverse argument.)	2
(b) (i)	Oxygen; <u>Diffusing</u> into <u>blood / capillary</u> . NOT moving or going in	2
(ii)	Any two from: Large surface area relating to <u>increased</u> gaseous exchange; Moist lining relating to gases <u>dissolving</u> and diffusing in solution; Rich blood supply relating to <u>more/ faster</u> gaseous exchange/ speed at which CO ₂ can be removed and/ or O ₂ can be supplied; Thin wall relating to ease at which gases can diffuse/ easier for gas exchange. NOT thin cell walls	2
Question total	[6]	

Question	Marking details	Marks Available
6. (a)	Any two from: No embryos used/ own stem cells; No animal use in experiments/ only tested on humans/ no animal rights issues; Not cruel (neutral) No Genetic Modification.	2
(b)	Mitosis. (Spelling must be correct)	1
(c) (i)	(Growing) TIP of stem / shoot/ root or meristem	1
(ii)	20	
Question total		[5]
7. (a) (i)	Any number between 5 and 10	1
(ii)	Any number between 15 and 20	1
(b)	30-33 minutes	1
(c)	More energy released/ More ATP produced (per glucose molecule) / Glucose <u>completely</u> used / oxidised. NOT more glucose is oxidised	1
(d)	Yeast produces ethanol / alcohol; Yeast produces carbon dioxide It = muscle	2
Question total		[6]

Question	Marking details	Marks Available
8.	(a) Bases.	1
	(b) Amino acids.	1
	(c) 7	2
	(d) Double helix.	1
	(e) Enzymes / hormones	1
	Question total	[5]
9.	(a) 25%	1
	(b) Osmosis; Water passes out; from a high water concentration to low concentration outside /down a gradient / from a low solute concentration to a high solute concentration (must indicate correct direction of movement); through SPM (selective / partial / semi).	4
	(c) (i) Active transport/ uptake.	1
	(ii) Oxygen; Glucose	2
	Question total	[8]

Question	Marking details	Marks Available
10.	<p>Indicative content</p> <p>A 1m² quadrat is thrown randomly and the number of living dandelions in the quadrat is counted. This is repeated at least twice (until the number in the quadrat is constant/ not increasing or a stated number of times). An average is calculated of the numbers counted. The number is multiplied to calculate the total number in the whole lawn. This is done before treatment and 1 week/ stated time after treatment</p> <p>5-6 marks</p> <p>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.</p> <p>3-4 marks</p> <p>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.</p> <p>1-2 marks</p> <p>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.</p> <p>0 marks</p> <p>The candidate does not make any attempt or give a relevant answer worthy of credit</p>	<p>Question total [6]</p> <p>TOTAL HIGHER TIER 60</p>