

Question	Part	Step	Answer	Mark scheme
1	a	4th	pollen	1 mark
	b	5th	D	1 mark
		6th	Any one from: <ul style="list-style-type: none"> • feathery stigma • long anthers/anthers hanging out of flower • small/inconspicuous petals [Ignore references to nectar or smell as not visible on diagram]	1 mark
	c	5th	cross-pollination – (transfer of) pollen to another flower self-pollination – (transfer of) pollen to same flower	1 mark – Both points for 1 mark
	d	5th 5th 5th	Any three from: <ul style="list-style-type: none"> • pollen tube grows • male gamete goes down pollen tube • fertilisation/fusion • correct reference to pollen tube grows down <i>style</i> • correct reference to female gamete/egg cell in ovule/ovary 	3 marks
2	ai	3rd	C seeds are formed	1 mark
	aii	3rd	D seed dispersal	1 mark
	bi	7th	[LHS]	2 marks – 1 for LHS, 1 for RHS
		7th	carbon dioxide + water (either order) [RHS] glucose + oxygen (either order)	
bii	4th	Any one from: <ul style="list-style-type: none"> • provides warmth/warmer than outside • protects from wind/frost [not rain] • helps to keep pests away/under control • humidity can be controlled • additional carbon dioxide can be added 	1 mark	
3	a	4th	A = food store/cotyledon	3 marks – 1 for A, 1 for B, 1 for C
		4th	B = young shoot/plumule	
		4th	C = young root/radicle	
	bi	4th	19 (mm)	1 mark – credit answer if written on table
bii	5th	rapid increase then slower	1 mark	
c	7th 7th	[LHS] glucose + oxygen (either order) [RHS] carbon dioxide + water (either order) ignore references to ATP/energy	2 marks – 1 for LHS, 1 for RHS	

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4	ai	4th 4th	proteins fats/lipids [either order for these two answers]	2 marks – 1 for each point
	aii	4th	D fibre	1 mark
	bi	4th 4th	starvation = lack of food/not enough food malnutrition = wrong balance of food/unbalanced diet/not enough of specific nutrients	2 marks – 1 for definition of starvation, 1 for definition of malnutrition
	bii	5th 5th	One deficiency disease correctly matched to its cause: <ul style="list-style-type: none"> kwashiorkor and lack of protein scurvy and lack of vitamin C rickets and lack of vitamin D/calcium night blindness and lack of vitamin A anaemia and lack of iron 	2 marks – 1 for deficiency disease, 1 for its cause
5	a	4th	B destructor	1 mark
	bi	5th	A June	1 mark
	bii	7th 7th	level/slight decrease (until April) (then/from April) rapid/exponential [Award total of 1 mark only if no time reference is given for changed rate.]	2 marks – 1 for period up to April, 1 for period from April
	biii	8th 8th	fewer bees/bees dead less food for mites <i>or</i> (too) many mites overcrowding/not enough food/too much waste	2 marks – 1 for each point
6	ai	6th	A bacterium	1 mark
	aii	5th	flagellum (accept flagella) spins	2 marks – 1 for each point
	b	6th	cool/cold [If temperature given instead, allow range of 3–5 °C.]	1 mark
		7th	slows growth/reproduction [Do not accept kills.]	1 mark
7	ai	7th	A	1 mark
	aii	7th	B	1 mark
	b	5th	decomposers/bacteria/fungi/saprotrophs	1 mark
		7th 7th	Any two of: <ul style="list-style-type: none"> use/secrete enzymes break down the dead matter (products of digestion) absorbed 	2 marks – 1 for each point

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8	a	4th	ingestion/eating	1 mark											
		5th	large food molecules broken down to small(er) food molecules	1 mark											
		4th	absorption	1 mark											
		4th	egestion/defecation/elimination [Do not credit excretion.]	1 mark											
	b	9th 9th 9th	Any three from: <ul style="list-style-type: none"> (enzymes) speed up reactions speed up the breaking down of large molecules into smaller molecules used in <i>digestion</i> correct reference to catalyst/biological catalyst enzyme is unchanged [Accept 'enzymes are proteins' as an alternative to any one of the above points.]	3 marks – 1 for each point											
9	a	4th	fungi	1 mark											
	b	5th 5th	<table border="0" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">Kingdom</th> <th style="width: 50%;">Characteristics</th> </tr> </thead> <tbody> <tr> <td>animals</td> <td>cell walls made of cellulose make their own food</td> </tr> <tr> <td></td> <td>mostly unicellular</td> </tr> <tr> <td>protocists</td> <td>no cell walls feed on other organisms</td> </tr> <tr> <td>plants</td> <td>cell walls contain chitin live on dead organisms</td> </tr> <tr> <td>prokaryotes</td> <td>unicellular cells have no nucleus</td> </tr> </tbody> </table>	Kingdom	Characteristics	animals	cell walls made of cellulose make their own food		mostly unicellular	protocists	no cell walls feed on other organisms	plants	cell walls contain chitin live on dead organisms	prokaryotes	unicellular cells have no nucleus
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10	a	7th 7th	Any two from: <ul style="list-style-type: none"> (exhaled air) contains less oxygen contains more carbon dioxide contains more water vapour is warmer [Accept reverse of each point for inhaled air.]	2 marks – 1 for each point											
	b	6th 6th 6th	<ul style="list-style-type: none"> diffusion (once) red blood cells haemoglobin [Accept oxyhaemoglobin as an alternative to any one of the above three points.]	3 marks – 1 for each point											

Question	Part	Step	Answer	Mark scheme
	c	7th 7th 7th	<ul style="list-style-type: none"> • mucus produced/mucus-producing cells • (mucus) traps bacteria • cilia waft/move mucus [Accept 'ciliated cells'.]	3 marks – 1 for each point

Final Step Calculation

Marks	Step
1–8	Below 3rd
9–14	3rd
15–24	4th
25–33	5th
34–42	6th
43–50	7th
51–54	8th
55–60	9th