

Revision Sheet

Pearson Edexcel · International A-Level · Biology · Unit 4 Energy, Environment,
Microbiology and Immunity

16 vocabulary items · 34 marks of exam questions (4 questions)

Part 1 · Vocabulary review answer key. Section A wants the exact English spelling.

Question	Answer	Marks
1	active	1
2	antibodies	1
3	bactericidal	1
4	Bacteriostatic	1
5	capsid	1
6	death	1
7	dilution plating	1
8	ecosystem	1
9	Gel electrophoresis	1
10	habitat	1
11	HIV	1
12	light-dependent reactions	1
13	light-independent reactions	1
14	passive	1
15	population	1
16	Succession	1

17(a)(i)	The only correct answer is D <i>A is incorrect because NADP is not oxidised</i> <i>B is incorrect because reduced NADP is not produced in cyclic photophosphorylation</i> <i>C is incorrect because the NADP is not oxidised</i>		(1)
17(a)(ii)	C is from {carbon dioxide / CO ₂ } H is from {water / H ₂ O} O is from {carbon dioxide / CO ₂ }	One or two correct = 1 mark All three correct = 2 marks DO NOT ACCEPT any other molecule or incorrect formula DO NOT ACCEPT any other molecule or incorrect formula DO NOT ACCEPT any other molecule or incorrect formula	(2)
17(b)(ii)	<ul style="list-style-type: none"> values for R₂₀ and R₁₀ read from the graph (1) Q₁₀ given as 4 (1) 	6 and {21.5 / 22} DO NOT ACCEPT with units IGNORE a.u. Bald answer of 4 = 2 marks Bald answer between 3.583 and 3.667 = 1 mark	(2)

18(a)(i)	The only correct answer is D . <i>A is incorrect because cutting grass is biotic and competition is biotic</i> <i>B is incorrect because cutting grass is a biotic factor</i> <i>C is incorrect because cutting grass is biotic</i>		(1)
18(a)(iii)	An answer that includes two of the following points: <ul style="list-style-type: none"> in the cut field the grass is faster growing reducing the light available to other plants (1) in the cut field the grass is faster growing and absorbing {water / mineral ions / named mineral ion} (1) bushes are slower growing so have not got time to grow before they are cut back (1) bushes damaged during the cutting process (1) 	ACCEPT bushes become established and shade the grass ACCEPT bushes become established and take up the {mineral ions / water}	(2)
18(b)(ii)	<ul style="list-style-type: none"> 2 		(1)

19(a)(i)	<ul style="list-style-type: none"> 1.27 / 1.33 (1) 	DO NOT ACCEPT 1.33 recurring	(1)
19(b)(i)	The only correct answer is B . <i>A is incorrect because S is the oldest ring</i> <i>C is incorrect because P is the newest ring and S is the oldest ring</i> <i>D is incorrect because P is the newest ring and S is the oldest ring</i>		(1)

19(b)(iii)	<p>A description that includes the following points:</p> <ul style="list-style-type: none"> measure the height (of the whole tree) (1) height divided by the {(total) number of rings / age} (1) 	<p>ACCEPT length for height measure {radius / diameter / total width of rings} at bottom (of tree)</p> <p>ACCEPT {radius / diameter} at bottom of tree divided by {number of rings / age} CE from mp 1</p>	(2)
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20(a)	<ul style="list-style-type: none"> $3.2 \times 10^7 / 3.18 \times 10^7$ (1) 		(1)
20(b)(i)	<p>The only correct answer is A</p> <p><i>B is incorrect because glycosidic bonds are in carbohydrate molecules</i> <i>C is incorrect because hydrogen bonds are between water molecules</i> <i>D is incorrect because there are no ionic bonds in water</i></p>		(1)

c)	<p>Indicative content:</p> <p>Diagram 1:</p> <ul style="list-style-type: none"> seaweed taking up space of other organisms {fish / sea mammals} could get caught up in wires could prevent {fishing / water sports / water activities / shipping} <p>Diagram 2:</p> <ul style="list-style-type: none"> seaweed could reduce {food / habitat} of water animals seaweed could compete with other (wild) aquatic plants for light could provide labour for local population increasing the economy of the area increase in carbon dioxide removed from {atmosphere / water} / reduces greenhouse effect machinery used to {grow / harvest} seaweed might disturb other organisms causing them to {move away / be stressed} interrupting food chain presence of seaweed might provide {food source / habitat} for different species which would compete with current species interrupting food chain increase biodiversity machinery used to {transport / process} seaweed will burn fossil fuels <p>Other ideas:</p> <ul style="list-style-type: none"> maybe other organisms brought into area on the seaweed which would compete with other species for {food / habitat} could bring in diseases that could weaken or kill other species will Europe have high enough {temperature / light levels} to sustain growth 	<p>Level 1: Simple comments about aspects</p> <p>1 mark = one relevant comment</p> <p>2 marks = simple comments relating to at least three aspects</p> <p>Level 2: discussion about aspects linked to at least one diagram / idea</p> <p>3 marks = at least one aspect discussed in more detail</p> <p>4 marks = at least two aspects discussed in more detail</p> <p>Level 3: detailed discussion about aspects from both diagrams</p> <p>5 marks = at least three aspects discussed in more detail</p> <p>6 marks = at least four aspects discussed in more detail which includes an idea not included in the diagram</p>	(6)
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