

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)	<p>The only correct answer is D</p> <p><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></p>		(1)
17(a)(ii)	<p>C is from {carbon dioxide / CO₂}</p> <p>H is from {water / H₂O}</p> <p>O is from {carbon dioxide / CO₂}</p>	<p>One or two correct = 1 mark All three correct = 2 marks</p> <p>DO NOT ACCEPT any other molecule or incorrect formula</p> <p>DO NOT ACCEPT any other molecule or incorrect formula</p> <p>DO NOT ACCEPT any other molecule or incorrect formula</p>	(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) 	<p>6 and {21.5 / 22}</p> <p>DO NOT ACCEPT with units IGNORE a.u.</p> <p>Bald answer of 4 = 2 marks Bald answer between 3.583 and 3.667 = 1 mark</p>	(2)

18(a)(i)	<p>The only correct answer is D.</p> <p><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></p>		(1)
18(a)(iii)	<p>An answer that includes two of the following points:</p> <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) 	<p>ACCEPT bushes become established and shade the grass</p> <p>ACCEPT bushes become established and take up the {mineral ions / water}</p>	(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)	<p>The only correct answer is B.</p> <p><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></p>		(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}</p> <p>CE from mp 1</p>	(2)
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20(a)	<ul style="list-style-type: none"> 3.2×10^7 / 3.18×10^7 (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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