

Answers to examination-style questions

Answers	Marks	Examiner's tips
<p>1 a) i) change in community over time; <i>either</i> due to environmental / abiotic factors / named abiotic factor; <i>or</i> conditions change due to species present</p>	2	Candidates often obtain the first mark but do not appreciate that the species present alter the environmental conditions so that other species can colonise the area.
<p>ii) stable community / no further succession / final community</p>	1	
<p>b) increased interspecific competition; for light / nutrients / named nutrient / water</p>	2	Note, <i>interspecific</i> not <i>intraspecific</i> competition.
<p>c) fewer / lower surface area / shading of leaves; less photosynthesis to produce new biomass / glucose / growth; ratio of leaves to woody parts and roots decreases; so higher respiration relative to photosynthesis / less net productivity; competition with other species for nitrates / named nutrient; reduced synthesis of protein or named compound</p>	3 max.	An understanding of net productivity (Chapter 5) helps to answer this question. The diagram clearly shows a decrease in the number of leaves and therefore a decrease in photosynthesis. However, respiratory demand in the plant remains high. This results in less net productivity. Interspecific competition for nutrients could also reduce increase in biomass.
<p>2 a) <b>two</b> suitable examples, for example reduction in insect predators from ponds, because ponds kept shallow; reduction in animals that are adapted to living at pH outside 5–7, because lime added; reduction in species that feed on / live on trees / shrubs, because these are removed, eaten by sheep / rabbits</p>	2 max.	The explanation must clearly show how the population of animals would be reduced by the suggested recommendation.
<p>b) conservation measures tend to stop this; keep communities the same; adding lime stops abiotic change / pH change; no climax community / community of trees and shrubs; sheep / rabbits prevent growth of shrubs / trees</p>	3 max.	This is an example of conserving habitats by managing succession. Succession would lead to a change in abiotic factors leading to a change in the community and a reduction in the number of natterjack toads.