

Question	Answers	Extra information	Mark	AO / Specification reference
01.1	deforestation		1	AO1 4.7.3.4
01.2	agriculture / to grow crops / land for cattle / rearing animals		1	AO3 4.7.3.4
01.3	Less photosynthesis / Combustion / burning (to clear land) / Increased level of decay (of felled trees)		1	AO2 4.7.3.4
01.4	Removes shelter / habitat / food source for animal species so fewer species can survive there / biodiversity reduced		1 1	AO2 4.7.3.1 4.7.3.4
01.5	Peat used to increase food production/as a cheap fuel But reduces habitat area available/use as fuel releases CO ₂ into atmosphere This reduces biodiversity/CO ₂ emissions a cause of climate change Conclusion given on relative importance		1 1 1 1	AO3
02.1	Causes breathing difficulties / asthma / lung problems	Accept any other appropriate suggestions	1	AO1 4.7.3.2
02.2	Car exhausts		1	AO1 4.7.3.2

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02.3	109 ($\mu\text{g}/\text{m}^3$)		1	AO2 4.7.3.2 Ms 2b, 2f
02.4	Nitrogen oxide concentrations are highest during the working week / lowest at the weekends / lowest on a Sunday		1	AO3 4.7.3.2
02.5	More people travel (into the city) for work	Accept other reasonable suggestion	1	AO3 4.7.3.2
02.6	Ban cars from the city / promote sustainable transport / promote public transport / introduce charging to enter city centre as this will reduce the number of vehicles entering the city	Accept other reasonable suggestion	1 1	AO3 4.7.3.2
03.1	Variety of all the different species of organism within an ecosystem / area / on the Earth		1	AO1 4.7.3.1
03.2	Breeding programmes Reintroduction of hedgerows		1 1	AO2 4.7.3.1
03.3	If the one species of trees is destroyed/ killed by a pathogen there is no other food source / shelter to support other organisms in the ecosystem/woodland so their numbers will decrease	Accept reverse argument	1 1 1	AO2 4.7.3.1

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04.1	Any one from: <ul style="list-style-type: none"> • glass • tin • aluminium • paper • cardboard • (some) plastics 		1	AO1 4.7.3.6
04.2	Percentage of materials recycled increases over time		1	AO3 4.7.3.6
04.3	Any two from: <ul style="list-style-type: none"> • Less material is placed in landfill • Less raw materials need to be mined / used • Less energy is used to recycle materials (compared to manufacturing from raw materials) • Less CO₂ emissions 	Accept other reasonable benefits	2	AO1 4.7.3.6
04.4	Answer in the range 45–46%		1	AO3 4.7.3.3
05.1	thousands plant acidic without		1 1 1 1	AO1 4.7.3.3

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05.2	improve soil nutrient content as a fuel		1 1	AO1 4.7.3.3
05.3	removal of peat destroys habitats – decreases biodiversity burning peat releases carbon dioxide – contributes to global warming		1 1	AO1 4.7.3.3 4.7.3.5
06.1	biodiversity greater shelter		1 1 1	AO1 4.7.3.1
06.2	removing hedgerows – removes plants and reduces habitats using pesticides – kills useful insects such as bees using herbicides – kills unwanted plants that provide food for animals	1 mark for one correct 2 marks for all correct	2	AO2 4.7.3.1
06.3	reintroduce / plant hedgerows / field margins / use organic forms of pest control	Accept any other appropriate suggestion	1	AO2 4.7.3.1 4.7.3.6
07.1	carbon dioxide methane		1 1	AO1 4.7.3.5
07.2	deforestation / more combustion of fossil fuels / increasing cattle / rice production	Accept any other appropriate suggestion	1	AO1 4.7.3.5

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07.3	<p>rising sea level – low lying areas flood resulting in loss of habitat</p> <p>hotter or colder seasons – change in migration patterns</p> <p>less rainfall in areas – loss of plant species</p> <p>melting ice sheets – loss of habitats for polar bears</p>	<p>1 mark for one correct</p> <p>2 marks for two correct</p> <p>3 marks for all correct</p>	3	AO2 4.7.3.5
08.1	<p>More waste produced / more fuels burnt / more cars / greater energy consumption requiring more fossil fuels / increased extraction of raw materials</p>	Accept any other appropriate suggestion	1	AO1 4.7.3.2
08.2	<p>land pollution</p> <p>water pollution</p> <p>water pollution</p> <p>air pollution</p>		1 1 1 1	AO1 4.7.3.2
08.3	<p>sulfur dioxide</p> <p>dissolves</p> <p>acidic</p> <p>acid</p>		1 1 1 1	AO1 4.7.3.2

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09.1	Any two from: <ul style="list-style-type: none"> Improved farming / fishing ability / methods of food production ability to cure/ prevent diseases / better health care no natural predators ability to control environment by heating /light / better living accommodation 	Accept any other appropriate reasons	2	AO1 4.7.3.3
09.2	Any two from: <ul style="list-style-type: none"> building roads industry agriculture landfill quarries / mining 		2	AO1 4.7.3.3
09.3	Any two from: <ul style="list-style-type: none"> Sewage Fertiliser toxic chemicals (such as pesticides / herbicides) 		2	AO1 4.7.3.2
09.4	Any two from: <ul style="list-style-type: none"> Carbon dioxide – contributes to greenhouse effect Sulfur dioxide / nitrogen oxides – react with water vapour to form acid rain Particulates – cause respiratory problems in humans 	1 mark for gas 1 mark for description of effect	4	AO1 4.7.3.2

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10.1	flowers – to attract insects to pollinate them sharp spines – so herbivores do not eat the plant small leaves – reduce water loss		1 1 1	AO2 4.7.1.4
10.2	Branching shallow roots to gather any rainfall from a wide area OR Long / deep tap root to reach underground water / the water table		1 1	AO3 4.7.1.4
10.3	Any two from: <ul style="list-style-type: none"> • Light • Space • mineral ions 		2	AO1 4.7.1.1
10.4	Presence of new / increasing number of herbivores So more plants get eaten OR New pathogen which destroys plants by causing disease		1 1	AO2 4.7.1.3