

Deforestation MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION				MARKS
a)i)		0 marks No relevant content	Level 1 (1–2 marks) There is at least one reason for deforestation or an attempt at a description of at least one way deforestation is affecting the atmosphere.	Level 2 (3–4 marks) There is at least one reason for deforestation and a description of the way deforestation is affecting one gas in the atmosphere or the process that causes an effect.	Level 3 (5–6 marks) There are reasons for deforestation and a clear description of the way deforestation is affecting one gas in the atmosphere and the process that causes this.	
a)ii)	<p>Reasons for deforestation</p> <ul style="list-style-type: none"> • timber for construction / furniture / boat building / paper production • growing plants for biofuels for motor fuel / aviation / lawnmowers • use of wood as a fuel • land for building or agriculture to provide food, such as rice fields and cattle ranching <p>Effects of deforestation</p> <ul style="list-style-type: none"> • increase in carbon dioxide in atmosphere <ul style="list-style-type: none"> o due to burning o due to activities of microbes o less carbon dioxide taken in / locked up (by trees) o less photosynthesis • increase in methane in atmosphere <ul style="list-style-type: none"> o due to rice production / cattle 	ignore references to oxygen	accept explanations of the effect of water (vapour)			
Total marks						6

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: <ul style="list-style-type: none"> • (volume of) peat compost has been steady and then declined or volume of peat compost has declined since 2005 	allow 2007 instead of 2005 allow 2007	2

	<ul style="list-style-type: none"> • (volume of) peat-free compost has increased (since 1999) • (volume of) peat is higher than peat-free until 2005, then peat-free compost is higher (than peat) • total volume of peat and peat-free compost has increased 		
b)	increases carbon dioxide (in the atmosphere)	ignore methane	1
c)	any one from: <ul style="list-style-type: none"> •reduces biodiversity •destruction of habitats • disruption of food chains 		1
Total marks			4

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: <ul style="list-style-type: none"> ✗ burning ✗ activity of microbes / microbial respiration ✗ less photosynthesis Or trees take in CO2 or less CO2 locked up in wood ✗ CO2 given off by clearing machinery	ignore CO2 release unqualified do not accept CO2 taken in for respiration	2
b)i)	range of different species	accept idea of variety of organisms or plants or animals	1
b)ii)	any one from: <ul style="list-style-type: none"> ✗ organisms may produce substances useful to humans ✗ duty to preserve for future generations ✗ effect on other organisms e.g. foodchain effects ✗ loss of environmental indicators 	do not accept if food is only example ignore effect on human food supply	1

Total marks			4
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QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	fuel / houses / paper farming / agriculture / replanting carbon dioxide / greenhouse gas / pollution or relative named pollutant warming / temperature increase	allow any object made from wood allow roads / homes / factories	1 1 1 1
b)i)	none of species left / died out		1
b)ii)	may have products useful to humans /examples	allow preserve for future generations or 'still there to look at' allow affect food chains / cycles or extinction of other species allow non human reasons eg loss of habitat ignore environmental effects	1
Total marks			6

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: • burning • activity of microbes / microbial respiration • less photosynthesis or trees take in CO ₂ or less CO ₂ locked up in wood • CO ₂ given off by clearing machinery	ignore CO ₂ release unqualified do not accept CO ₂ taken in for respiration	2
b)i)	range of different species	accept idea of variety of organisms or plants or animals	1
b)ii)	any two from: • organisms may produce substances useful to humans • duty to preserve for future generations • effect on other organisms, eg food chain effects • loss of environmental indicators	do not accept if food is only example ignore effect on human food supply	2
Total marks			5

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	40	accept -40 or +40	1
a)ii)	Step 1 92 Step 2 18 Step 3 74	correct subtraction of answer in step 2 from answer in step 1 gains 1 mark correct answer 74 with no working gains 3 marks ignore sign	1 1 1
b)i)	both animals and plants		1
b)ii)	microorganisms		1
b)iii)	carbon dioxide		1
Total marks			7

QUESTION 47

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	860	correct answer gains 2 marks if answer incorrect evidence of $(6100 - 1800) \div 5$ or $4300 \div 5$ or $(900 + 600 + 1000 + 700 + 1100) \div 5$ gains 1 mark allow ecf from 1 incorrect graph reading	2
b)	Effects of deforestation deforestation increases the amount of carbon dioxide in the atmosphere any two from: due to less photosynthesis or less carbon dioxide taken in or carbon dioxide not locked up in (forest) trees due to burning of forest / from machinery due to activity of microorganisms / decay Effects of growing palm for fuel carbon dioxide released when palm oil used as fuel (eventually) CO ₂ intake and output might balance out or burning palm oil carbon neutral	ignore references to oxygen / sulfur dioxide / nitrogen oxides / acid rain ignore global warming award this point only if linked to deforestation accept less carbon dioxide than from burning fossil fuels	1 2 1 1

Total marks			7
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