

# Biodiversity and Effect of humans on Ecosystem MS

## QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)		1 mark for each correct line extra line from box in left hand column cancels mark	4
b)	any two from: <ul style="list-style-type: none"> <li>• climate change</li> <li>• more extreme weather / changes to weather (patterns) / described</li> <li>• rise in sea level</li> <li>• melting of ice caps</li> <li>• reduced biodiversity</li> <li>• changes to migration patterns</li> <li>• changes in distribution of species</li> </ul>	ignore 'Earth warmer' accept faster plant growth / tropical species can be grown in UK  accept tropical diseases  /example spread to temperate regions	2
Total marks			6

## QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any one from: increased pollution dumping waste	allow described consequence eg vermin accept (increased) landfill accept (increased) fly tipping	1
b)i	(mass of SO <sub>2</sub> ) decreases and then levels off / plateaus		1 1
b)ii)	800	clear evidence of calculating 700 (000) = 1 mark	2
b)iii)	any one from: <ul style="list-style-type: none"> <li>• acid rain</li> <li>• erosion of statues / buildings</li> <li>• destruction of habitats</li> </ul>		1

	<ul style="list-style-type: none"> <li>reduction in biodiversity</li> <li>damage to lichen</li> <li>breathing problems</li> </ul>		
c)	Carbon dioxide being absorbed in oceans and lakes Photosynthesis by trees		1 1
Total marks			8

### QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	(rapid) growth in population (size)  increase in the standard of living	accept description of increased standard of living, eg more packaging, more food thrown away or overbuying resources	1 1
b)i)	41.5	allow 1 mark for $9733 \div 23454$ or allow 1 mark for 0.415 or allow 1 mark for 41.49 or 41 or 41.4	2
b)ii)	any four from: arguments for: <ul style="list-style-type: none"> <li>there has been a reduction in total waste</li> <li>there has been an increase in (total mass of) recycling</li> <li>there has been an increase in the percentage of waste recycled</li> </ul> arguments against: <ul style="list-style-type: none"> <li>it (may) not be possible to achieve zero waste</li> <li>there is still a lot of waste (not recycled)</li> <li>there has only been a small reduction in total waste</li> <li>there was one year (2006) where total waste went up</li> <li>the rate of increase of percentage recycled is slowing down</li> <li>no information on materials reused</li> <li>no information on waste from factories / industry</li> </ul>	max 3 marks for a one sided argument  allow as reason against if clear  allow still more than half or 56.8% of waste (not recycled)	4

c)i)	any two from: <ul style="list-style-type: none"> <li>•reduce biodiversity or extinction</li> <li>• change in migration patterns</li> <li>•change in species distribution</li> <li>•change in climate</li> </ul>	ignore rise in sea levels ignore temperature change  accept correct examples of climate change eg storms, flooding, drought references to weather changing is insufficient allow ice caps melting or habitat destruction	2
c)ii)	any one from: <ul style="list-style-type: none"> <li>•absorbed by oceans / ponds/ lakes</li> <li>•peat bogs</li> </ul>	allow used for skeletons / shells of sea creatures  allow in fossil fuels / limestone	1
Total marks			11

#### QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	saves trees / woods / forests	allow reference to litter / waste tips allow more energy efficient	1
a)ii)	fewer quarries / mines	allow saves resources / raw materials allow reference to litter / waste tips allow more energy efficient	1
b)i)	eg less pollution from power stations	allow saves electricity allow uses renewable energy source owtte allow saves fuel ignore uses energy from sun	1
b)ii)	eg less need for reservoirs	allow uses of water / reuse of water accept conserves water / less mains water ignore stores water	1
b)iii)	eg less pollution in rivers	allow uses of fertiliser accept reduces the amount of sewage / pollution ignore turned into fertiliser	1
Total marks			5

**QUESTION 5**

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: <ul style="list-style-type: none"> <li>• area of bed sampled</li> <li>• sampling time</li> <li>• size of net</li> <li>• kicking action</li> <li>• net position</li> </ul>	control variables from information given	2
b)	any two from: <ul style="list-style-type: none"> <li>• some animals not dislodged</li> <li>• some animals missed / through / escaped net</li> <li>• invertebrates difficult to identify</li> <li>• invertebrates from outside area</li> </ul>	must be ideas related to a sample ignore reliability etc	2
c)	10 to 99 or 10–99 or 99 to 10 or 99–10		2
d)	any two from: <ul style="list-style-type: none"> <li>• increased / goes up</li> <li>• 0 at sample 4</li> <li>• to (more than) 100</li> </ul>	allow increase implied from all data described	2
e)	mayfly because not found downstream of point where sewage enters stream or only in the unpolluted water		1 1
Total marks			9