

Question number	Answer	Notes	Marks
1 (a)	1. housing / building / construction / eq; 2. agriculture / farming / farming cattle / palm oil plantations / eq; 3. transport / roads / railways / eq; 4. making furniture / making paper; 5. for fuel / cooking / charcoal / to burn / eq;	ignore for logs / wood / employment	2
(b) (i)	1. less oxygen / more carbon dioxide / eq; 2. (less) photosynthesis; 3. fire burning;		2
(ii)	1. soil erosion / less roots to hold soil in place / loose soil; 2. leaching / loss of minerals / loss of nutrients / loss of fertility / eq;		2

(c)	1. laws to protect / prevent / limit deforestation / make deforestation illegal / eq;  2. replant / replace each tree felled / plant more trees / use sustainable wood sources / eq;		2
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Total 8 marks



Question number	Answer	Notes	Marks
2 (a)	1. lower production / fewer fruit / less growth / eq; 2. (fewer) chloroplasts / less chlorophyll; 3. (less) photosynthesis; 4. (less) carbohydrate / glucose / starch;		3
(b) (i)	1. variation; 2. mutation; 3. rare / random; 4. survive / not killed; 5. reproduce / mates; 6. pass on <u>gene</u> / <u>allele</u> / eq;	4. Ignore resist 6. Ignore characteristic	4
(ii)	inside leaf / not reach all parts / eq;		1
(c)	<u>biological</u> ;		1
(d)	1. no sperm / less reproduction / less breeding / eq; 2. fewer eggs/females fertilised / fewer larvae; 3. s rile male compete for resources / mates;		2



Question number	Answer	Notes	Marks
(e)	C plus pheromone/smell and minus pheromone/smell / traps in field / no traps / eq; O same species of insect/males (trapped) / same species/size of crop / eq; R several traps / repeat / many fields; M1 count number trapped / measure damage / measure yield / eq; M2 time period <u>stated</u> ; S1 and S2 same temperature / light / water / time of year / location/size of field / number of plants / size of trap / eq;;		6

**Total 17 marks**



Question number	Answer	Notes	Marks																		
3 (a) (i)	removal/loss/cutting down of trees/ forest / eq;		1																		
(ii)	idea of more CO <sub>2</sub> / eq; (less) photosynthesis; idea of less O <sub>2</sub> / eq;		3																		
(b)	<table border="1"><thead><tr><th>Gas</th><th>Source</th><th>Effect on the environment</th></tr></thead><tbody><tr><td>methane</td><td>(cattle farming)</td><td>greenhouse effect / global warming / eq;</td></tr><tr><td>(water vapour)</td><td>(combustion)</td><td>se effect / global warming / eq;</td></tr><tr><td>sulphur dioxide / nitrogen oxides;</td><td>(burning fossil fuels)</td><td>(causes acid rain)</td></tr><tr><td>carbon monoxide;</td><td>(incomplete combustion)</td><td>(affects transport of oxygen in blood)</td></tr><tr><td>(CFC)</td><td>(refrigerators and air conditioning units)</td><td>affect ozone layer / greenhouse effect / global warming / eq;</td></tr></tbody></table>	Gas	Source	Effect on the environment	methane	(cattle farming)	greenhouse effect / global warming / eq;	(water vapour)	(combustion)	se effect / global warming / eq;	sulphur dioxide / nitrogen oxides;	(burning fossil fuels)	(causes acid rain)	carbon monoxide;	(incomplete combustion)	(affects transport of oxygen in blood)	(CFC)	(refrigerators and air conditioning units)	affect ozone layer / greenhouse effect / global warming / eq;	Allow increase in temperature  Ignore rain  Ignore carbon dioxide	5 max
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(CFC)	(refrigerators and air conditioning units)	affect ozone layer / greenhouse effect / global warming / eq;																			
<b>For more help please visit our website <a href="http://www.exampaperspractice.co.uk">www.exampaperspractice.co.uk</a></b>			Total 9 marks																		

Question number	Answer	Notes	Marks
4 (a) (i)	burning fossil fuels / biomass / plants / wood or factories / industry / power stations or exhaust fumes / car/petrol/diesel engines or fertiliser / denitrification / decomposition of manure / sewage treatment;		Max 1
(ii)	water <u>vapour</u> / CFCs / Ozone ;		1

(b)(i)	$94.3 \div 590.3 = 16.0 / 15.97;;$ ignore negative sign	allow one mark for $15.975 / 15.9749 /$ $15.97493 /$ $15.974928$	2
(ii)	<ol style="list-style-type: none"> <li>1. planting of trees / less deforestation / eq;</li> <li>2. less burning of fossil fuels / eq;</li> <li>3. fewer cars / public transport / more efficient cars / hybrid cars / electric cars / cycling / walk more / eq;</li> <li>4. legislation;</li> <li>5. renewable energy / wind farms / wave energy / solar energy / low power lighting / nuclear fuels / eq;</li> </ol>	allow one mark for $94.3$ or $\div 590.3$ in working (15.9 Not correct but look for working mark)  <ol style="list-style-type: none"> <li>3. ignore catalytic converters / carbon neutral</li> <li>4. eg congestion charge</li> <li>5. ignore ess electricity / less energy</li> </ol>	Max 3



<p>(iii)</p>	<p>1. decreased by 2.5 (million tonnes) / decrease is more than half / 2.1 is less than half / decreased from 4.6 to 2.1 / eq;</p> <p>2. large decrease between 1990 and 2005 / eq;</p> <p>3. small decrease between 2005 and 2010 / eq;</p>		<p>Max 2</p>
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Question number	Answer	Notes	Marks
(c)	1. reduce <u>greenhouse effect</u> / less heat reflected / less heat re-radiated / less heat trapped;  2. less global warming / less temperature rise;  3. less ice caps melt / rise in sea level / flooding;  4. less habitat destruction / less coral destruction / eq;  5. less death / extinction / affect food chain;  6. less migration / change in distribution;  7. less climate change / less extreme weather / less desertification / drought / soil erosion / eq;	4. ignore loss of home	Max 5

Total 14 mark