Question number	Answer	Notes	Marks
1 (a)	1. housi / building / construction / eq; 2. agriculture / farming / farming cattle / palm oil plantations / eq; 3. tr sport / roads / railways / eq; 4. king furniture / making paper; 5. r 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. re burning;		2
(ii)	1. il erosion / less roots to hold soil in place / loose soil; 2. leaching / loss o 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

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 stated; 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

<table>
<tr><th>Question number</th><th>Answer</th><th>Notes</th><th>Marks</th></tr>
<tr><td>3 (a) (i)</td><td>removal/loss/cutting down of trees/ forest / eq;</td><td></td><td>1</td></tr>
<tr><td>(ii)</td><td>idea of more CO_2 / eq;
(less) photosynthesis;
idea of less O_2 / eq;</td><td></td><td>3</td></tr>
<tr><td>(b)</td><td>
<table>
<tr><th>Gas</th><th>Source</th><th>Effect on the environment</th></tr>
<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>
</table>
</td><td>Allow increase in temperature

Ignore rain

Ignore carbon dioxide</td><td>5 max</td></tr>
<tr><td></td><td></td><td></td><td>Total 9 marks</td></tr>
</table>

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 ÷ 590.3 = 16.0 / 15.97;; ignore negative sign	allow one mark for 15.975 / 15.9749 / 15.97493 / 15.974928 allow one mark for 94.3 or ÷ 590.3 in working (15.9 Not correct but look for working mark)	2
(ii)	1. planting of trees / less deforestation / eq; 2. less burning of fossil fuels / eq; 3. fewer cars / public transport / more efficient cars / hybrid cars / electric cars / cycling / walk more / eq; 4. legislation; 5. renewable energy / wind farms / wave energy / solar energy / low power lighting / nuclear fuels / eq;	3. ignore catalytic converters / carbon neutral 4. eg congestion charge 5. ignore ess electricity / less energy	Max 3

(iii)	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; 2. large decrease between 1990 and 2005 / eq; 3. small decrease between 2005 and 2010 / eq;		Max 2

Question number	Answer	Notes	Marks
(c)	1. reduce greenhouse effect / 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 abitat destruction / less coral destruction / eq; 5. less eath / 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