

# Mark Schemes Summer 2008

IGCSE

IGCSE Biology (4325)

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Summer 2008

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## IGCSE BIOLOGY 4325-1F MARK SCHEME

### Key

; indicates separate mark points

/ indicates alternatives

eq allow for correct equivalent

— word underlined means no alternatives allowed

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1 (a)	C;			1
(b)	B;			1
(c)	B;			1
(d)	A;			1
(e)	B;			1
(f)	D;			1
(g)	C;			1
(h)	D;			1
(i)	B;			1
(j)	C;			1
				(10)

(Total 10 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (a)	A cornea;			1
	B lens;			1
	C iris;			1
	D retina;			1
				(4)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (b)(i)	C / iris;			1
				(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (b)(ii)	D / retina;			1
				(1)

(Total 6 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (a)	three boxes, one on top of the other, getting smaller nearer the top;			1
	boxes labelled in correct order;			1
				(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (b)(i)	Decrease / die;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (b)(ii)	less food (for the big fish);			1 (1)

(Total 4 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (a)	A condensation; B precipitation; C evaporation;			1 1 1 (3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (b)	roots absorb; osmosis; leaves lose; transpiration / evaporation / diffusion;			Max (2)

(Total 5 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (a)	line to trachea (below larynx);  Accept T			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (b)	cartilage; ribs; alveoli / air sacs / lungs;			1 1 1 (3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (c)	muscle; contract; flattens / moves down / eq; volume (of thorax) increases; pressure (inside the thorax) decreases;			Max 3

(Total 7 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
6 (a)	beaker B;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
6 (b)	C;  less gas / less photosynthesis / slower enzyme activity / eq;			1  1 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
6 (c)	type of plant / species of plant / eq; size / mass / amount / surface area of plant / eq; type of water; pH of water / eq; CO <sub>2</sub> in water / eq; amount of chlorophyll / eq; time;			Max 2       (2)

(Total 5 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7 (a)	prevent <i>Lactobacillus</i> being killed/prevent <i>Lactobacillus</i> enzymes being denatured / <i>Lactobacillus</i> can work;			1   (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7 (b)(i)	pH decreases / eq;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7 (b)(ii)	pH (continues to) decrease; acid / lactic acid formed; lactose / sugar; <i>Lactobacillus</i> increase / eq; texture change / coagulate protein / thicken / eq; taste change / goes sour / eq;			Max 3       (3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7 (c)	(other) bacteria not killed; (other) substances made / eq; sour / bad ; <i>Lactobacillus</i> can't work / eq;			Max 2

(Total 7 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8 (a)	urea /water / salts;  Accept urine			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8 (b)	large (molecule); qualified e.g. long chains / not filtered / does not pass through membrane;			2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8 (c)	reabsorbed; into blood; active uptake; correct description of diabetes;;			Max 2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8 (d)	more concentrated;			1 (1)

(Total 6 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark															
9	<table border="1"> <thead> <tr> <th>Type of organism</th> <th>Example</th> <th>Multicellular</th> </tr> </thead> <tbody> <tr> <td>plants</td> <td>maize / eq;</td> <td>YES</td> </tr> <tr> <td>animals</td> <td>human / eq;</td> <td>YES;</td> </tr> <tr> <td>bacteria</td> <td><i>Lactobacillus</i></td> <td>NO;</td> </tr> <tr> <td>viruses</td> <td>influenza / HIV / AIDS / TMV / eq;</td> <td>NO</td> </tr> </tbody> </table>	Type of organism	Example	Multicellular	plants	maize / eq;	YES	animals	human / eq;	YES;	bacteria	<i>Lactobacillus</i>	NO;	viruses	influenza / HIV / AIDS / TMV / eq;	NO			(5)
Type of organism	Example	Multicellular																	
plants	maize / eq;	YES																	
animals	human / eq;	YES;																	
bacteria	<i>Lactobacillus</i>	NO;																	
viruses	influenza / HIV / AIDS / TMV / eq;	NO																	

(Total 5 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
10 (a)	<p>access / transport / travel / communication;</p> <p>trees for a purpose / construction / manufacture / logging / eq;</p> <p>trees for fuel;</p> <p>farming / mining;</p>			Max 2  (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
10 (b)	<p>loss of habitat / food;</p> <p>loss of numbers / death / extinction / loss of genes / migration / loss of species / eq;</p> <p>less photosynthesis;</p> <p>global warming / greenhouse effect / ref to CO<sub>2</sub> in air;</p> <p>soil erosion idea / <u>leaching</u>;</p> <p>flooding / eutrophication / desertification / lack of minerals / eq;</p> <p>less transpiration;</p> <p>less rainfall;</p>			Max 4  (4)

(Total 6 marks)



Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (a)(i)	anther / stamen / pollen sac;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (a)(ii)	drawn to anther only (not to filament);			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (a)(iii)	pollen; from <u>anther/P</u> to <u>stigma</u> ;			2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (b)	light / gravity;	sun / sunlight;	phototropism / geotropism	1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (c)(i)	carbon dioxide + water; (or opposite) glucose + oxygen; (or opposite) Ignore light / chlorophyll	chemical symbols;;		2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (c)(ii)	thin; large surface area; stomata; air spaces / spongy (mesophyll);		pores / guard cells	Max 2 (2)

(Total 9 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
12 (a)	heart rate increases; until 50 mins / 124; then levels off / falls;			Max 2  (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
12 (b)	adrenaline;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
12 (c)	higher heart rate / higher rate sooner / eq; nicotine / narrows arteries / releases adrenaline / raises blood pressure;			2  (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
12 (d)	breathing / respiratory / nervous / reproductive / digestive / endocrine;			1 (1)

(Total 6 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
13	mouth / saliva; mechanical digestion / chewing / mastication / eq; amylase; ONCE Ignore carbohydrase (starch to) maltose;  pancreas / pancreatic juice / eq; small intestine / duodenum / ileum; starch/maltose to glucose; maltase;			Max 6      (6)

(Total 6 marks)



Question Number	Correct Answer	Acceptable Answers	Reject	Mark
16 (a)	magnesium;	Mg;		1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
16 (b)	$3.6 / 5.4 \times 100 = 66.7$ ; Accept $66.67 / 66.6666$ etc one for 3.6	66 and two thirds;		2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
16 (c)	all / extra / increase / more mineral ions / more named mineral / correct amount / eq;  use or purpose;	nutrients		2 (2)

(Total 5 marks)

PAPER TOTAL 100 MARKS

## BIOLOGY 4325-2H MARK SCHEME

### Key

; indicates separate mark points

/ indicates alternatives

eq allow for correct equivalent

— word underlined means no alternatives allowed

Question Number	Correct Answer	Acceptable Answers	Reject	Mark															
1	<table border="1"> <thead> <tr> <th>Type of organism</th> <th>Example</th> <th>Multicellular</th> </tr> </thead> <tbody> <tr> <td>plants</td> <td>maize / eq;</td> <td>YES</td> </tr> <tr> <td>animals</td> <td>human / eq;</td> <td>YES;</td> </tr> <tr> <td>bacteria</td> <td><i>Lactobacillus</i></td> <td>NO;</td> </tr> <tr> <td>viruses</td> <td>influenza / HIV / AIDS / TMV / eq;</td> <td>NO</td> </tr> </tbody> </table>	Type of organism	Example	Multicellular	plants	maize / eq;	YES	animals	human / eq;	YES;	bacteria	<i>Lactobacillus</i>	NO;	viruses	influenza / HIV / AIDS / TMV / eq;	NO			(5)
Type of organism	Example	Multicellular																	
plants	maize / eq;	YES																	
animals	human / eq;	YES;																	
bacteria	<i>Lactobacillus</i>	NO;																	
viruses	influenza / HIV / AIDS / TMV / eq;	NO																	

(Total 5 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (a)	<p>access / transport / travel / communication;</p> <p>trees for a purpose / construction / manufacture / logging / eq;</p> <p>trees for fuel;</p> <p>farming / mining;</p>			Max 2  (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (b)	<p>loss of habitat / food;</p> <p>loss of numbers / death / extinction / loss of genes / migration / loss of species / eq;</p> <p>less photosynthesis;</p> <p>global warming / greenhouse effect / ref to CO<sub>2</sub> in air;</p> <p>soil erosion idea / <u>leaching</u>;</p> <p>flooding / eutrophication / desertification / lack of minerals / eq;</p> <p>less transpiration;</p> <p>less rainfall;</p>			Max 4          (4)

(Total 6 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (a)(i)	anther / stamen / pollen sac;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (a)(ii)	drawn to anther only (not to filament);			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (a)(iii)	pollen; from <u>anther/P</u> to <u>stigma</u> ;			2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (b)	light / gravity;	sun / sunlight;	phototropism / geotropism	1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (c)(i)	carbon dioxide + water; (or opposite) glucose + oxygen; (or opposite) Ignore light / chlorophyll	chemical symbols;;		2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (c)(ii)	thin; large surface area; stomata; air spaces / spongy (mesophyll);		pores / guard cells	Max 2 (2)

(Total 9 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (a)	heart rate increases; until 50 mins / 124; then levels off / falls;			Max 2  (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (b)	adrenaline;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (c)	higher heart rate / higher rate sooner / eq; nicotine / narrows arteries / releases adrenaline / raises blood pressure;			2  (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (d)	breathing / respiratory / nervous / reproductive / digestive / endocrine;			1 (1)

(Total 6 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5	mouth / saliva; mechanical digestion / chewing / mastication / eq; amylase; ONCE Ignore carbohydrase (starch to) maltose;  pancreas / pancreatic juice / eq; small intestine / duodenum / ileum; starch/maltose to glucose; maltase;			Max 6      (6)

(Total 6 marks)





Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8 (a)	magnesium;	Mg;		1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8 (b)	3.6 / 5.4 x 100 = 66.7;; Accept 66.67 / 66.6666etc one for 3.6	66 and two thirds;		2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8 (c)	all / extra / increase / more mineral ions / more named mineral / correct amount / eq;  use or purpose;	nutrients		2 (2)

(Total 5 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
9 (a)(i)	X = cell body / nucleus / eq; Y = myelin / sheath / fat / fatty sheath / axon / cell membrane / Schwann cell;			2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
9 (a)(ii)	B / sensory / eq;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
9 (a)(iii)	A / relay / eq;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
9 (b)(i)	axis correct; axes labelled speed and diameter;			2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
9 (b)(ii)	as diameter increases speed of impulse increases / linear / proportional / eq;	proportional;		1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
9 (b)(iii)	34 /read from graph;			1 (1)

(Total 8 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
10 (a)(i)	Dd and Dd; DD, Dd, Dd, and dd; (any order)			2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
10 (a)(ii)	3:1 / 75:25 / 75% to 25% / 3 quarters to 1 quarter / eq;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
10 (a)(iii)	zero; both parents must be DD / dd parents are sterile / neither parent has d/recessive allele; Ignore term gene			2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
10 (b)	bigger surface area to volume ratio; lack insulation/fat; lose (more) heat; maintain body temperature; respiration;			Max 2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark												
10 (c)	<table border="1"> <thead> <tr> <th>Hormone</th> <th>Endocrine gland</th> <th>Target organ</th> <th>Effect</th> </tr> </thead> <tbody> <tr> <td>(adrenaline)</td> <td>(adrenal)</td> <td>(heart)</td> <td>increase rate / eq;</td> </tr> <tr> <td>(oestrogen)</td> <td>ovary;</td> <td>uterus / womb;</td> <td>(repair lining)</td> </tr> </tbody> </table>	Hormone	Endocrine gland	Target organ	Effect	(adrenaline)	(adrenal)	(heart)	increase rate / eq;	(oestrogen)	ovary;	uterus / womb;	(repair lining)			(3)
Hormone	Endocrine gland	Target organ	Effect													
(adrenaline)	(adrenal)	(heart)	increase rate / eq;													
(oestrogen)	ovary;	uterus / womb;	(repair lining)													

(Total 10 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (a)	glucose / C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> ; carbon dioxide/CO <sub>2</sub> ; ethanol/alcohol/ C <sub>2</sub> H <sub>5</sub> OH; Ignore energy	chemical symbols		2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (b)(i)	gene / DNA / allele (for enzyme); cut; restriction / endonuclease; plasmid / vector / gene gun / phage; ligase; gene / DNA / allele <u>into yeast</u> ;			Max 4 (4)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
11 (b)(ii)	enzyme / amylase; digests starch / less starch / starch to sugar;			2 (2)

(Total 8 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark										
12	<table border="1"> <thead> <tr> <th>Process</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>decomposition</td> <td>bacteria / microorganisms / fungi / saprobionts / eq;  breakdown/digest dead organisms / organic matter / waste / eq;</td> </tr> <tr> <td>transpiration</td> <td>evaporation / diffusion / loss of water;  from plant / leaf / stomata;</td> </tr> <tr> <td>nitrification</td> <td>bacteria / named bacteria;  ammonia/ammonium (cpds) to nitrite/nitrate / nitrite to nitrate;</td> </tr> <tr> <td>vasodilation</td> <td>widening / eq;   dilation  blood vessels / arteries / arterioles;   capillaries</td> </tr> </tbody> </table>	Process	Description	decomposition	bacteria / microorganisms / fungi / saprobionts / eq;  breakdown/digest dead organisms / organic matter / waste / eq;	transpiration	evaporation / diffusion / loss of water;  from plant / leaf / stomata;	nitrification	bacteria / named bacteria;  ammonia/ammonium (cpds) to nitrite/nitrate / nitrite to nitrate;	vasodilation	widening / eq;   dilation  blood vessels / arteries / arterioles;   capillaries			(8)
	Process	Description												
	decomposition	bacteria / microorganisms / fungi / saprobionts / eq;  breakdown/digest dead organisms / organic matter / waste / eq;												
	transpiration	evaporation / diffusion / loss of water;  from plant / leaf / stomata;												
nitrification	bacteria / named bacteria;  ammonia/ammonium (cpds) to nitrite/nitrate / nitrite to nitrate;													
vasodilation	widening / eq;   dilation  blood vessels / arteries / arterioles;   capillaries													
			veins											

(Total 8 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
13 (a)(i)	energy / insulation / cell membranes / neurones / growth / making new cells /eq;	keep warm / eq		1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
13 (a)(ii)	bones / teeth / skeleton;			1 (1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
13 (b)	respiration / heat / excretion / egestion / movement / uneaten / indigestible;;			Max 2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
13 (c)	nitrates / mineral ion(s) / named mineral ion(s) / eq; growth of plants / algal bloom; <u>eutrophication</u> ; light blocked / less photosynthesis; death of organisms (plant/fish); bacteria / microorganisms / eq; oxygen depletion /eq; respiration;			Max 5 (5)

(Total 9 marks)





Question Number	Correct Answer	Acceptable Answers	Reject	Mark
15 (c)(i)	less pressure / flow speed; larger lumen / eq; closer to surface / easier to see / eq; thinner wall / easier to penetrate;	converse		Max 2  (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
15 (c)(ii)	diffusion; high conc. to low conc. / conc.gradient;			2  (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
15 (c)(iii)	urea; carbon dioxide; water;		toxins / hormones / glucose / lactic acid	Max 2  (2)

(Total 17 marks)

PAPER TOTAL 120 MARKS

## BIOLOGY 4325-03 MARK SCHEME

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### Key

; indicates separate mark points

/ indicates alternatives

eq allow for correct equivalent

— word underlined means no alternatives allowed

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1	Benedict's; and bunsen; (or opposite) iodine; and spotting tile; (or opposite)			(4)

(Total 4 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (a)	increases; 30 °C / fastest at 30 °C / optimum; decreases / slows down / stops;			Max 2 (2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2 (b)	ref. movement of molecules / (kinetic) energy; more/faster collisions; optimum; denature / destroy enzyme/active site;			Max 3 (3)

(Total 5 marks)



Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (a)(i)	(3)      14;      11;			(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (a)(ii)	scale linear + minimum of half axis; plot;; axis - number + plants 1, 2 and 3; key - smooth and wrinkled;			(5)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3 (b)	smooth dominant / wrinkled recessive; parent plants are heterozygous / Ss and Ss / carriers; genotype of offspring SS Ss Ss and ss; phenotypes correct / 3:1 / 1 in 4 / 25% / eq;			Max 3  (3)

(Total 10 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (a)(i)	use ruler / graph paper / eq;  qualified - use as template / cut all together / line up together / use straight edge / set square / method to ensure cut is perpendicular / eq;			(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (a)(ii)	temperature / volume of solution / light / eq;  incubator / measuring cylinder / keep in dark / eq;  same potato = max 1			(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (b)(i)	9.6 9.7 9.7; (any order)  (3 correct = 2 marks, 2 or 1 correct = 1 mark)			(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (b)(ii)	-0.4 -0.3 -0.3; (from student answer) allow transfer error			(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (b)(iii)	water out (of potato); osmosis; dilute solution to stronger solution / eq;			(3)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (c)	increase in length; water enters (potato);			(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (d)(i)	repeat / use more cylinders / use more potatoes;			(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4 (d)(ii)	weigh potato / measure in mm/decimal places / use vernier callipers / eq;			(1)

(Total 14 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (a)	(top/chemical/mass/digital) balance / scales / any weighing machine / eq;			(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (b)	reliability / average / less chance of anomalous/rogue result affecting average / eq;			(1)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (c)	light; use bulb / same time of day / eq;  wind / air speed; shelter from drafts / use fan / eq;  humidity / eq; dry room / enclose in plastic bag / silica gel / eq;  leaves of same species / type / age; same plant /eq;  Ignore temperature / size of leaf			Max 4         (4)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (d)	<u>mass</u> loss reduces /eq;  (less) evaporation / diffusion / transpiration / molecular movement / eq;  Reject photosynthesis			(2)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5 (e)	cover idea; vaseline / petroleum jelly / use of cobalt chloride / eq; US / LS;			(3)

(Total 11 marks)

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
6	<p>C two / several temperatures / eq;</p> <p>O same person / mass / gender / body fat / age / fitness / eq;</p> <p>R repeat / eq;</p> <p>M 1 how collected / eq; 2 ref to time;</p> <p>S 1 + 2level of exercise / clothing / humidity / time of day / eq;;</p>			(6)

(Total 6 marks)

PAPER TOTAL 50 MARKS

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