

IGCSE Double Award Science (Biology) 4437/1F

Mark Scheme (Results)

November 2008

IGCSE

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The following acronyms are used

owtte	or words to that effect
ecf	error carried forward
dop	dependent on previous
nwn	no working necessary

Question Number	Correct Answer	Notes	Mark
1	(a) B		1
	(b) B		1
	(c) A		1
	(d) B		1
	(e) D		1
	(f) A		1
	(g) D		1
			(7)

(Total 7 marks)

Question Number	Correct Answer	Notes	Mark
2 (a) (i)	oxygen; carbon dioxide; water vapour; nitrogen / other correctly named gas;		Max (2)

Question Number	Correct Answer	Notes	Mark
2 (a) (ii)	bronchus; alveolus;		(2)

Question Number	Correct Answer	Notes	Mark
2 (b) (i)	peristalsis; muscles; contract / squeeze / eq;		Max (2)

Question Number	Correct Answer	Notes	Mark
2 (b) (ii)	stomach;		(1)

(Total 7 marks)

Question Number	Correct Answer		Notes	Mark
3	Function of organ	Name of organ		
	Removes carbon dioxide from the body	lung;		
	Stores urine	bladder;		
	Removes urea from blood	kidney;		
	Releases sweat from the body	skin;		
				(4)

(Total 4 marks)

Question Number	Correct Answer	Notes	Mark
4 (a)	line showing positive correlation;		(1)

Question Number	Correct Answer	Notes	Mark
4 (b) (i)	as pH increases, number of birds increases / eq;		(1)

Question Number	Correct Answer	Notes	Mark
4 (b) (ii)	low ph decreases insects/food; less birds; OR high ph increases insects/food; more birds;		(2)

Question Number	Correct Answer	Notes	Mark
4 (c)	sulphur dioxide / nitrous oxide / carbon dioxide;		(1)

(Total 5 marks)

Question Number	Correct Answer	Notes	Mark
5	fungi; Accept decomposers ONCE bacteria; increases / eq; oxygen; gasp / die / eq;		(5)

(Total 5 marks)

Question Number	Correct Answer		Notes	Mark
6 (a)	Body part harmed by cancer	Section		(4)
	Pancreas	(B)		
	Mouth	A;		
	Stomach	B;		
	Lung	B;		
	Testis	D;		

Question Number	Correct Answer	Notes	Mark
6 (b) (i)	all correct = 2 / two or one correct = 1;;		(2)

Question Number	Correct Answer	Notes	Mark
6 (b) (ii)	group 1 / non smoker who does not work with asbestos;		(1)

Question Number	Correct Answer	Notes	Mark
6 (b) (iii)	increases risk; 5times;		(2)

Question Number	Correct Answer	Notes	Mark
6 (b) (iv)	smoker versus non smoker has increased risk;		(1)

(Total 10 marks)

Question Number	Correct Answer	Notes	Mark
7 (a)	amylase / carbohydrase; amino acids / polypeptides / peptides; lipase;		(3)

Question Number	Correct Answer	Notes	Mark
7 (b)	digestion / breakdown / decay / eq; nitrate / phosphate / other named mineral ion; carbon dioxide; respiration; photosynthesis;		(5)

(Total 8 marks)

Question Number	Correct Answer	Notes	Mark
8 (a) (i)	plasma;		(1)

Question Number	Correct Answer	Notes	Mark
8 (a) (ii)	transport cells / salts / vitamins / hormones / carbon dioxide / urea / digested food / maintain blood volume / pressure / eq;		Max (1)

Question Number	Correct Answer	Notes	Mark
8 (b) (i)	white blood cells / leucocytes / phagocytes / lymphocytes;		(1)

Question Number	Correct Answer	Notes	Mark
8 (b) (ii)	engulf / eq; produce antibodies; destroy/kill/digest pathogens/bacteria / eq;		Max (2)

Question Number	Correct Answer	Notes	Mark
8 (c)	red cells / erythrocytes;		(1)

Question Number	Correct Answer	Notes	Mark
8 (d)	lack of oxygen; lack of glucose; respiration; to brain / heart / other named organ / cells; low blood pressure; <i>Ignore lungs/body</i>		Max (2)

(Total 8 marks)

Question Number	Correct Answer	Notes	Mark
9 (a) (i)	aphids in middle; arrows correct;		(2)

Question Number	Correct Answer	Notes	Mark
9 (a) (ii)	reduce (yield) /less tomatoes; eat/feed on leaves/plants / sugars; less photosynthesis;		Max (2)

Question Number	Correct Answer	Notes	Mark
9 (a) (iii)	biological control;		(1)

Question Number	Correct Answer	Notes	Mark
9 (b)	affects <u>other</u> species / not specific; affects humans/ poisonous to humans / affects taste; bioaccumulation; food chain disruption; pollution; needs reapplication; resistance; Ignore immune		Max (3)

(Total 8 marks)

Question Number	Correct Answer	Notes	Mark
10	enucleated egg cell / egg nucleus removed / empty egg cell; nucleus; from skin / from father's cell; electric treatment / stimulation of cell division; in vitro/eq; mitosis; <u>embryo</u> ; uterus / womb; surrogate (mother);		(5)

(Total 5 marks)

Question Number	Correct Answer	Notes	Mark
11 (a)	two / both / same; h / hh / not dominant / not showing;		(2)

Question Number	Correct Answer	Notes	Mark
11 (b)	hh and Hh; h and H and h; Hh and hh; Huntington and normal;		(4)

Question Number	Correct Answer	Notes	Mark
11 (c)	neurones / nerve <u>cells</u> / sensory; electrical / impulses; synapses;		Max (2)

(Total 8 marks)