

**JUNE 2002**

**GCE Advanced Subsidiary Level**

**MARK SCHEME**

**MAXIMUM MARK : 25**

**SYLLABUS/COMPONENT :9700 /3**

**BIOLOGY  
(PRACTICAL (AS))**

Page 1	Mark Scheme	Syllabus	Paper
	AS Level Examinations – June 2002	9700	3

Qn	G	Expected Answers	Marks	Additional Guidance
1 a i		Any four from: + & - readings; All five averages in correct relative order ie W2 W4 W5 W1 W3 (longest to shortest); Units in mm in all cells of left column; 3 out of 5 mean lengths calculated correctly; 3 out of 5 mean change in lengths correct.	max 4	
1 a ii		W4 to left of W2 } W5 to left of W4 } max 3 marks W1 to left of W5 } W3 to left of W1 } -1 mark for each error (max3)	max 3	
1 a iii		Any three from: Axis correct orientation; scale and labels correct; Plotting correct; Line of best fit ie straight line close to plots.	max 3	} } Based on candidates results. }
1 a iv		Correct reading from graph & units correct	1	Allow extrapolation.
1 a v		Water entering equals water leaving / no net movement.	1	OWTTE
1 b		Any three from: Ensure widths of strips are all same / SA; Use bigger range of solutions (between 0-1 unless all + then allow >1); Larger number of strips / repeat expt; Temperature control; Even drying with paper towel; All strips from same potato; Leave > 20 min; Leave for same time; Increase length of each strip; Cover Petri dish; Weigh.	max 3	
		<b>Total</b>	<b>15</b>	
2 a		Quality of diagram ie 3 concentric ellipses. Outer only can be broken. No cells, shading or stiples. Allow fat line. Ignore blood contents; 2 layers of comparable thickness; wall width : overall width 1:4 – 1:8 Tunica media / elastic, labelled; Tunica adventia / connective, labelled;	max 4	Allow fat label
2 b		Diameter of aorta 1 – 5 mm divided into diagram size; Calculation correct;	1 1	Accept cm if used for both. Accept written explanation of method. Bold answer allowed if within parameters.
2 c		Four from Wall is thick; To withstand pressure; Wall crinkled / elastic tissue in wall; To stretch / recoil Inner lining crinkled;	Max 4	Accept prevents bursting  OWTTE
		<b>Total</b>	<b>10</b>	