

## Question 2

Question	Answers	Extra information	Mark	AO / Spec Ref.
02.1	A		1	AO1 4.2.2.2

Question	Answers	Extra information	Mark	AO / Spec Ref.
02.2	C		1	AO1 4.2.2.2

Question	Answers	Extra information	Mark	AO / Spec Ref.
02.3	right atrium		1	AO1 4.2.2.2

Question	Answers	Extra information	Mark	AO / Spec Ref.
02.4	<p>any <b>two</b> from:</p> <ul style="list-style-type: none"> <li>• (artery) has a thicker muscle (tissue)</li> <li>• (artery) has a thicker elastic (tissue)</li> <li>• (artery) has a narrower lumen</li> <li>• (artery) does not contain valves</li> </ul>	<p>allow converse if clearly referring to a vein</p> <p>} if neither mark awarded allow <b>1</b> mark for artery has a thicker wall</p> <p>allow description of lumen</p>	2	AO1 4.2.2.2

Question	Answers	Extra information	Mark	AO / Spec Ref.
<b>02.5</b>	as the percentage of the (coronary) artery that is blocked increases, blood flow decreases	allow converse allow the greater the blockage, the less blood flows allow negative correlation <b>or</b> inversely proportional allow as one increases, the other decreases	1	AO2 4.2.2.2

Question	Answers	Extra information	Mark	AO / Spec Ref.
<b>02.6</b>	scale on y-axis	must take up at least 50% of axis	1	AO2 4.2.2.2
	all points plotted	allow 3 or 4 correct plots for <b>1</b> mark allow a tolerance of $\pm \frac{1}{2}$ small square	2	
	correct curved line of best fit	ignore line joined point to point with straight lines ignore extrapolation	1	

Question	Answers	Extra information	Mark	AO / Spec Ref.
<b>02.7</b>	correct answer from student's line in <b>Figure 3</b>	allow a tolerance of $\pm \frac{1}{2}$ small square if no line drawn on <b>Figure 3</b> , allow a value from 18 to 24 (cm <sup>3</sup> /minute)	1	AO3 4.2.2.2

Question	Answers	Mark	AO / Spec Ref.
02.8	<b>Level 3:</b> Relevant points (reasons / causes) are identified, given in detail and logically linked to form a clear account.	5-6	AO1 AO2
	<b>Level 2:</b> Relevant points (reasons / causes) are identified, and there are attempts at logical linking. The resulting account is not fully clear.	3-4	4.2.2.2 4.2.2.4 4.4.2.1 4.4.2.2
	<b>Level 1:</b> Points are identified and stated simply, but their relevance is not clear and there is no attempt at logical linking.	1-2	
	<b>No relevant content.</b>	0	
	<b>Indicative content:</b> <ul style="list-style-type: none"> <li>• reduced blood flow to heart (muscle / tissue / cells)</li> <li>• (so) less oxygen to heart (muscle / tissue / cells)</li> <li>• (so) less glucose to heart (muscle / tissue / cells)</li> <li>• (so) less (aerobic) respiration (in heart / body cells)</li> <li>• (more) anaerobic respiration</li> <li>• (so) less energy (released)</li> <li>• (so) less muscle contraction</li> <li>• (so) less blood / oxygen / glucose around the body (from heart) <b>or</b> slower flow of blood / oxygen / glucose to body (from heart)</li> <li>• less carbon dioxide removed from body (muscle / tissue / cells)</li> <li>• (resulting in) breathlessness</li> <li>• (resulting in) tiredness</li> <li>• (anaerobic respiration causes) production of lactic acid</li> <li>• (build-up of lactic acid) causes muscle fatigue / pain <b>or</b> chest pain</li> </ul> <p>For <b>Level 3</b>, students must explain the effect of reduced oxygen / glucose on respiration <b>or</b> energy release and its consequence</p>		

Question	Answers	Extra information	Mark	AO / Spec Ref.
<b>02.9</b>	any <b>one</b> pair from:	mark as a pair		AO1 4.2.2.4
	• (insert) stent(s)	allow description	1	
	(to) open (coronary) artery	ignore unblock (coronary) artery	1	
	• (prescribe) statins (1)			
	(to) reduce (blood) cholesterol (1)	allow to slow down the rate of fatty material deposit		
	• heart (and lung) transplant (1)			
	(to) replace the diseased heart with a healthy heart (1)			
	• use an artificial heart (1)			
	(to) keep the patient alive while waiting for a transplant (1)	allow (artificial heart) pumps blood around the body in place of the heart		
	• (artery / heart) bypass (1)	allow description		
	(to) divert blood around the blockage (1)			

<b>Total Question 2</b>	<b>19</b>
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