

Circulatory System 3 MS

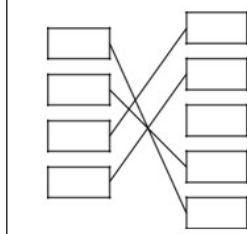
QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	being overweight	do not accept fat unqualified allow BMI over 25	1
b)i)	rose by 8% / from 16% to 24% / by 50% / rapidly then more slowly		1 1
b)ii)	any two reasonable suggestions e.g. less active more food / take-aways / fast food	accept e.g.s like fewer jobs / more cars / less physically demanding employment OWTTE	1 1
c)i)	high (blood) cholesterol	do not accept combination of 2 labels ignore references to LDL and HDL	1
c)ii)	answer in range 8-17 inclusive		1
c)iii)	some deaths related to more than one factor		1
Total marks			8

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	liver		1
a)ii)	heart	accept brain / blood vessels	1
a)iii)	heredity / genes / exercise / metabolism / HDL LDL balance / ratio	stress is neutral	1
b)	any two from: ✘ increases metabolic rate or increased respiration ✘ decreases blood pressure ✘ decreases obesity / decreased cholesterol / burns off fat ✘ lowers risk of heart disease ✘ lowers risk of arthritis or worn joints ✘ lowers risk of diabetes	references to stress are neutral allow keeps heart healthy	2
Total marks			5

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	<p>leads to increased blood pressure in 30 % of the population</p> <p>reduces the amount of oxygen carried by the blood</p> <p>'good' cholesterol</p> <p>increases blood cholesterol levels</p>	<p>mark from the left hand box</p> <p>two lines from left hand box disqualifies</p> 	
Total marks			4

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	<p>rate of (chemical) reactions / rate of energy release / rate of respiration</p> <p>in cells / tissues / organs</p>	ignore references to digestion	1
b)	<p>any three from:</p> <ul style="list-style-type: none"> LDL 'bad' cholesterol or LDL causes heart / blood vessel disease amplification eg reference to LDL depositing fat / lipid in blood vessels or LDL causes narrowness of arteries HDL 'good' cholesterol / helps to prevent heart / blood vessel disease amplification eg HDL lowers blood cholesterol balance important (for good heart health) / high HDL and low LDL desirable 	<p>must have at least one LDL point and one HDL point for all 3 marks</p> <p>allow deposits of cholesterol in blood vessels</p>	3
Total marks			5

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: diet heredity / genes / genetic makeup reference to cholesterol production by liver	ignore exercise accept any reasonable reference to diet do not accept salt / blood pressure ignore age / gender / HDL / LDL	2
b)i)	Blood cholesterol concentration is only one of several factors affecting death from all causes		1
b)ii)	170 - 210	accept 210 - 170	1
Total marks			4

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	argued evaluation any six from: statin can damage / muscles / kidneys / organs but cholesterol blockers don't statins can cause death but cholesterol blockers don't cholesterol blockers can interfere with action of other drugs but statins don't statins are for a life time but cholesterol blockers are not statins (might) reduce cholesterol to zero but cholesterol blockers only reduce it or statins reduce cholesterol more statins better for people with inherited high cholesterol cholesterol blockers better for people with dietary cholesterol problems taking/using statins/cholesterol blockers is	comparison can be written anywhere in evaluation allow use of 'only' for implied comparison for each point eg only statins damage muscles / kidneys / organs ignore liver if neither of the first 2 points are given accept for 1 mark statins are more dangerous than cholesterol blockers or statins have more side effects allow statins (might) stop membrane / hormone production but cholesterol blockers don't	6

	better than dying from heart attack or build up of fat in blood vessels or reduced blood flow		
Total marks			6

QUESTION 7

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: <input type="radio"/> arthritis <input type="radio"/> diabetes <input type="radio"/> high blood pressure <input type="radio"/> strokes <input type="radio"/> allow breathing difficulties	allow damaged joints accept high blood sugar allow blocked blood vessels / thrombosis ignore cancer ignore high cholesterol	2
b)i)	any two from: Lower number of women deaths up to age of 75-80 <input type="radio"/> higher number of women deaths after 80 <input type="radio"/> men's peak higher <input type="radio"/> men's peak at an earlier age <input type="radio"/> men's death start earlier than women <input type="radio"/> more men than women die of heart disease	to gain marks there must be a comparison ignore comparison at single age ignore women die older or men die younger	2
b)ii)	any two from: <input type="radio"/> men smoke more (cigarettes) <input type="radio"/> more men smoke <input type="radio"/> men under more stress <input type="radio"/> men less active <input type="radio"/> more men overweight / eat more / less diet conscious or different fat distribution <input type="radio"/> genetic factors <input type="radio"/> men might have lower metabolic rate <input type="radio"/> men less likely to visit doctor even though they have symptoms	ignore alcohol ignore reference to body size ignore references to hormones	2
c)	laboratory tests / tests on tissues or tests on animals or tests for toxicity	points can be in any order ignore computer simulations	1

	tests for side effects on volunteers / healthy people / small numbers widespread testing or testing for optimum dose or test on patients / sick people or test to see if it is effective		1
		accept use of placebo	1
Total marks			9