

Question 16 (Answer: **D**)

- An atrioventricular valve sits between an atrium and the ventricle below it.
- The right side of the heart is on the *left* of a conventional diagram.
- So find the valve between the right atrium and the right ventricle – the tricuspid.

4(a)(i)	J ; F ;																			
4(a)(ii)	<i>any two from:</i> 1 (left ventricle / H) contains more muscle ; ora 2 (muscle) contracts / pumps, with more force ; ora 3 (contraction) creates a high(er) pressure ; ora 4 blood (leaving the ventricle) is required to move further / out of the heart / to aorta / to the (whole) body / left atrium is only pushing blood to the ventricle ;																			
4(a)(iii)	<table><tr><th>description</th><th>sequence</th></tr><tr><td>blood enters C</td><td>4</td></tr><tr><td>blood enters E and then E contracts</td><td>6</td></tr><tr><td>blood enters M and then M contracts</td><td>1</td></tr><tr><td>blood travels to lungs</td><td>5</td></tr><tr><td>blood moves into G</td><td>7</td></tr><tr><td>blood moves into B</td><td>8</td></tr><tr><td>N opens</td><td>3</td></tr><tr><td>blood moves into K</td><td>2</td></tr></table>		description	sequence	blood enters C	4	blood enters E and then E contracts	6	blood enters M and then M contracts	1	blood travels to lungs	5	blood moves into G	7	blood moves into B	8	N opens	3	blood moves into K	2
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4(b)(i)	<i>any five from:</i> 1 (exercise can lead to release of) adrenaline that increases heart rate ; 2 (exercise results in) increased (rate of) blood (flow) to <u>muscle</u> (cells) ; 3 needed for (delivery of), oxygen / glucose OR removal of carbon dioxide ; 4 respiration releases energy ; 5 energy required for (muscle) <u>contraction</u> ; 6 (exercise can lead to) anaerobic respiration / production of, lactic acid / lactate ; 7 correct ref. to oxygen debt ; 8 (heart rate remains high after exercise) to remove, lactic acid / lactate (quickly) from muscles / to liver OR to continue supplying oxygen (to repay the oxygen debt) ; 9 lactic acid / lactate, broken down / (aerobically) respired / converted to glucose / carbon dioxide and water / oxidised, in <u>liver</u>; 10 AVP ;
4(b)(ii)	<i>any three from:</i> 1 <u>diet</u> OR a diet high in, salt / saturated fats / cholesterol ; 2 (uncontrolled) stress ; 3 smoking (tobacco) ; 4 genetic (predisposition) ; 5 (old) age ; 6 sex ; 7 and 8 AVP ;;

Question 17 (Answer: D)

- The septum is the wall of muscle dividing the left side of the heart from the right.
- The right side carries deoxygenated blood and the left carries oxygenated blood.
- The septum keeps them apart; the valves stop backflow but do not separate the two sides.

Question 15 (Answer: B)

- Blood leaves the heart through arteries – always.
- It is pumped out by the ventricles, which are the thick-walled lower chambers.
- The atria receive blood coming *in*, through veins.

Question 16 (Answer: C)

- A hole between the two sides of the heart lets oxygenated and deoxygenated blood mix.
- The blood pumped to the body then carries less oxygen than it should.
- Less oxygen reaching the tissues means less aerobic respiration, so the baby tires easily.