Gr 10 Transport in mammals

1. A natural pacemaker of the heart is the... *

- ◯ Sympathetic nerve
- ◯ Parasympathetic nerve
- ◯ Sinoatrial (SA) node
- ◯ Atrioventricular (AV) node

2. Which medical procedure is most suitable to treat cardiovascular disease caused by cholesterol deposits blocking the blood vessels. *

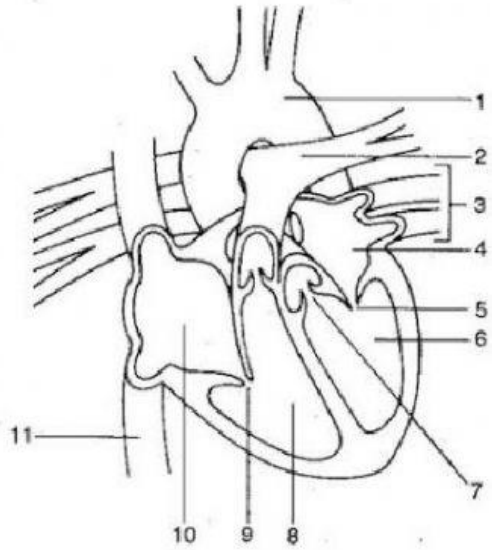
- ◯ Heart transplant
- ◯ Bypass surgery
- ◯ Inserting a stent
- ◯ Valve replacement

3. Which of the following is not a function of the lymphatic system? *

- ◯ Helps the circulation of fluid to the heart
- ◯ Aids the absorption and transport of fat around the body, via the lacteal
- ◯ Plays a role in immunity response
- ◯ Transport blood between the heart and the body

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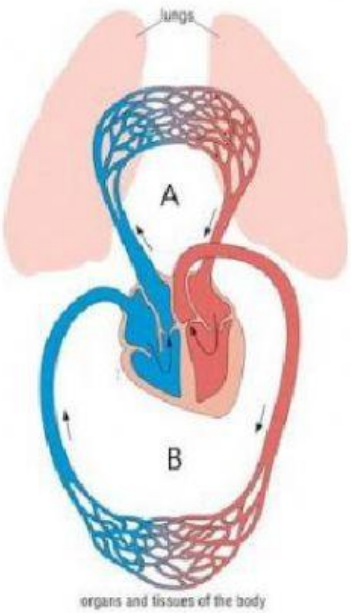
4. Refer to the diagram of a mammalian heart below. The correct labels for 1, 2, 6, 10 and 11 respectively are... *



- ◯ Aorta; pulmonary vein; left ventricle; right atrium; vena cava
- ◯ Aorta; pulmonary artery; left ventricle; right atrium; inferior vena cava
- ◯ Aorta; vena cava; left atrium; left atrium; superior vena cava
- ◯ Aorta; pulmonary artery; right ventricle; left atrium; inferior vena cava

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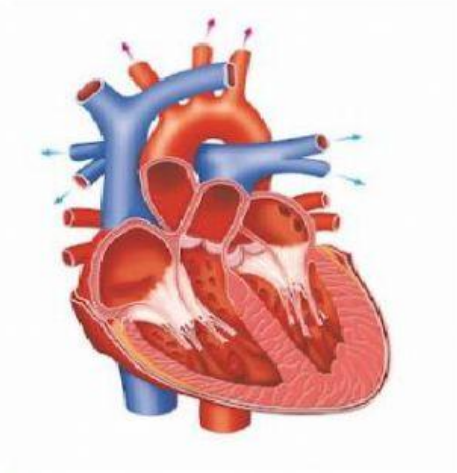
5. Refer to the representation of the human circulatory system below. The correct labels for A and B respectively are... *



- ◯ Loop 1; Loop 2
- ◯ Pulmonary circulatory system; Systemic circulatory system
- ◯ Lung circulation; Body circulation
- ◯ Pulmonary circuit; Somatic circuit

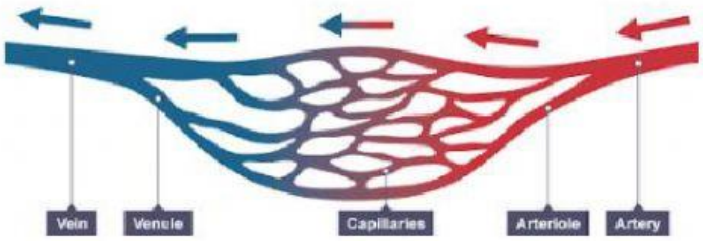
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6. In the below image, the movement of blood is indicated with arrows. Which statement is most correct? *



- ◯ The red arrows indicate flow of oxygenated blood from heart to body via the Aorta; blue arrows indicate flow of deoxygenated blood from heart to lungs via pulmonary arteries
- ◯ The red arrows indicate flow of deoxygenated blood from heart to body via the Aorta; blue arrows indicate flow of oxygenated blood from heart to lungs via pulmonary arteries
- ◯ The red arrows indicate flow of oxygenated blood from heart to lungs via the Aorta; blue arrows indicate flow of deoxygenated blood from heart to body via vena cava
- ◯ The red arrows indicate flow of oxygenated blood from heart to body via veins; blue arrows indicate flow of deoxygenated blood from heart to lungs via pulmonary arteries

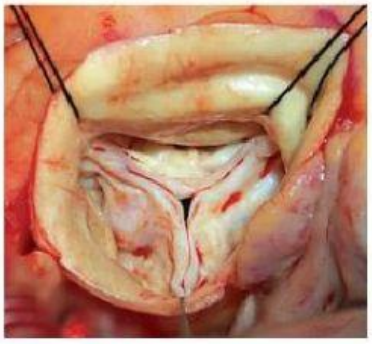
7. Consider the different blood vessels. Which statement(s) is/are TRUE? *



- ◯ Arteries flow from the heart; Veins flow towards the heart
- ◯ Cappillaries are microscopically small; and veins have a larger lumen than arteries
- ◯ Blood flows through arteries with a higher pressure than through veins
- ◯ All of the above
- ◯ Only options 1 and 3 are correct

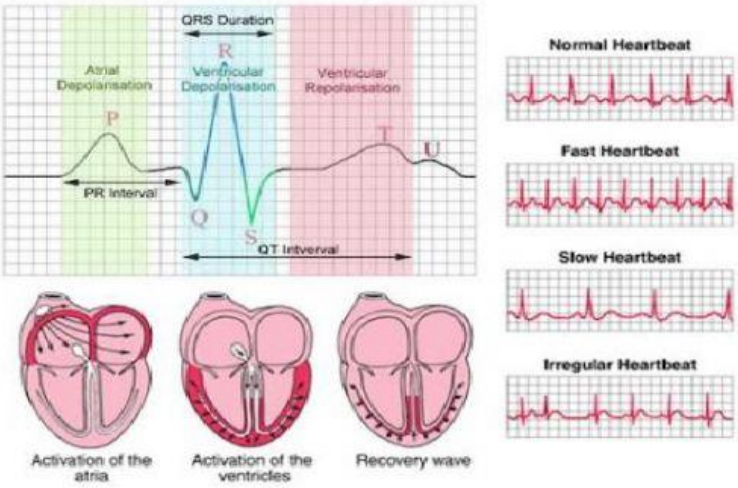
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8. Refer to the photograph of a heart valve below. Which statement if correct? *



- ◯ This is a semi-lunar valve, found between the ventricle and aorta
- ◯ This is a cuspid valve, found between the left atrium and ventricle
- ◯ This is a tricuspid valve, found between the right atrium and right ventricle
- ◯ This is a pulmonary valve, found between the left ventricle and pulmonary vein

9. Refer to the figure below showing an ECG. Which would be the correct labels for the letters on the graph? *



- ◯ P represents atrial systole; R represents cuspid valve closes; S represents semi-lunar valve opens; T represents general diastole
- ◯ P represents ventricular systole; R represents cuspid valve closes; S represents semi-lunar valve opens; T represents general diastole
- ◯ P represents atrial systole; R represents semi-lunar valve closes; S represents cuspid valve opens; T represents general diastole
- ◯ P represents general diastole; R represents cuspid valve closes; S represents semi-lunar valve opens; T represents ventricular systole

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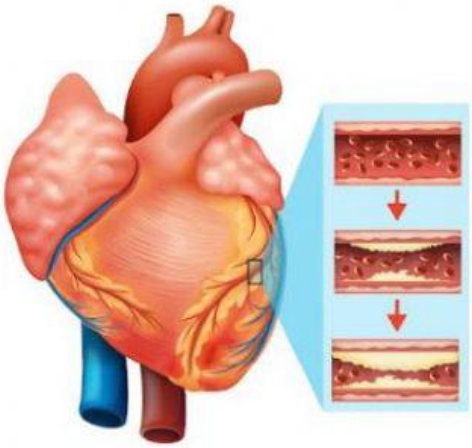
10. The cardiac cycle lasts 0.8 seconds and your heart beats about 70 times a minute. Which is correct regarding the phases of the cardiac cycle? *

- Atrial systole is 0.2 seconds; Ventricular systole is 0.2 seconds; and general diastole is 0.4 seconds
- Atrial systole is 0.1 seconds; Ventricular systole is 0.3 seconds; and general diastole is 0.4 seconds
- Atrial systole is 0.4 seconds; Ventricular systole is 0.3 seconds; and general diastole is 0.1 seconds
- Atrial systole is 0.1 seconds; Ventricular systole is 0.2 seconds; and general diastole is 0.5 seconds

11. Which are functions of blood? *

- Blood carries substances from one part of the body to another
- Blood plays a role in immunity
- Blood thermoregulates the body
- All of the above
- Only options 1 and 2

12. Refer to the image below. Which medical condition is likely to arise for this individual? *



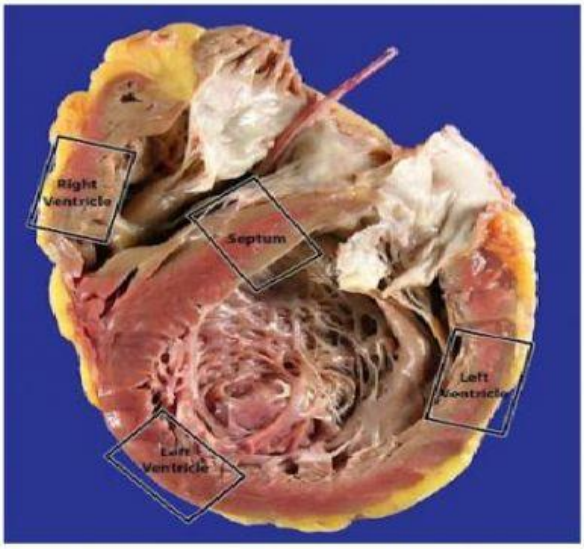
- Heart attack
- Stroke
- Cardiac arrest
- Elephantiasis

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13. How does the lymphatic system differ from the blood circulatory system? *

- Lymph vessels are blind-ended, only transporting fluid back in the direction of the heart.
- The lymphatic system lacks a pump, it relies on muscular movement to push the lymph along.
- Both of the above
- None of the above

14. Refer to the image of a heart dissection below. Why is the wall of the left ventricle thicker than that of the right ventricle? *



- Higher forces are needed to pump blood through the systemic compared to the pulmonary circuit.
- There is a greater volume of blood in the left ventricle.
- Lower forces are needed to pump blood through the systemic system.
- There is lower pressure in the left ventricle.

15. What components make up blood? *

- Plasma; erythrocytes; leucocytes; and platelets
- Plasma; platelets; Red blood cells; and erythrocytes
- White blood cells; platelets; plasma; and leucocytes
- White blood cells; red blood cells; plasma

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