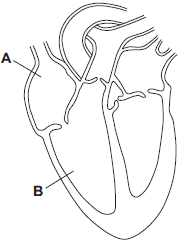
**Level 2 question – for everyone to try**

**Diagram 1** shows a section through the heart.

**Diagram 1**

****

(a)     Use words from the box to name the structures labelled **A** and **B** on **Diagram 1**.

|  |  |  |  |
| --- | --- | --- | --- |
| **aorta** | **atrium** | **pulmonary artery** | **ventricle** |

**A** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**B** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(2)**

(b)     The tissue in the wall of the heart contracts.

(i)      What type of tissue is this?

Tick () **one** box.

|  |  |
| --- | --- |
| muscular |  |
| glandular |  |
| epithelial |  |

**(1)**

(ii)     What does the heart do when this tissue contracts?

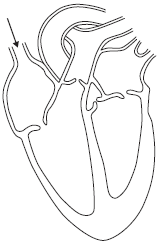
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**(1)**

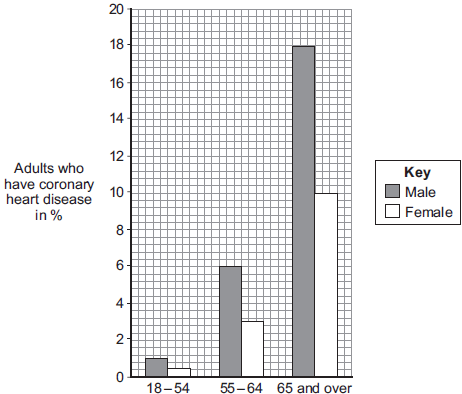
(c)     Draw arrows on **Diagram 2** to complete the route taken by deoxygenated blood through the heart.

**Diagram 2**

****

**(2)**

(d)     The graph shows the percentage (%) of adults in the UK who have coronary heart disease.

  
Age group

(i)      Look at the graph.

Which group of people is **most** at risk of having coronary heart disease in the UK?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(2)**

(ii)     Explain what happens to the heart in coronary heart disease.

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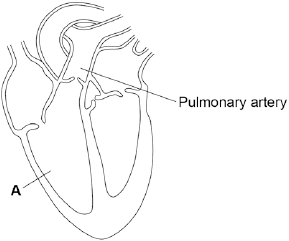
**(3)**

**(Total 11 marks)**

**Level 1 question – try this if you found the Level 2 quite hard**

**Figure 1** shows a diagram of the human heart.

**Figure 1**

****

(a)     What part of the heart is labelled **A**?

|  |  |
| --- | --- |
| Tick **one** box. |  |
| Aorta |  |
| Atrium |  |
| Valve |  |
| Ventricle |  |

**(1)**

(b)     Where does the pulmonary artery take blood to?

|  |  |
| --- | --- |
| Tick **one** box. |  |
| Brain |  |
| Liver |  |
| Lungs |  |
| Stomach |  |

**(1)**

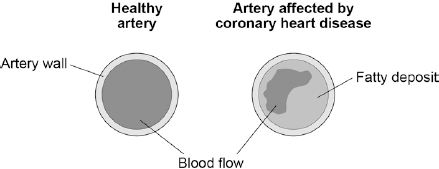
(c)     Circle a valve on **Figure 1**.

**(1)**

(d)     The coronary arteries supply blood to the heart.

**Figure 2** shows two coronary arteries.

**Figure 2**

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Describe **two** ways the healthy artery is different from the artery affected by coronary heart disease.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**(2)**

(e)     What can be used to treat people with coronary heart disease?

|  |  |
| --- | --- |
| Tick **two** boxes. |  |
| Antibiotics |  |
| Hormones |  |
| Statins |  |
| Stent |  |
| Vaccination |  |

**(2)**

(f)     Suggest **two** risk factors for coronary heart disease.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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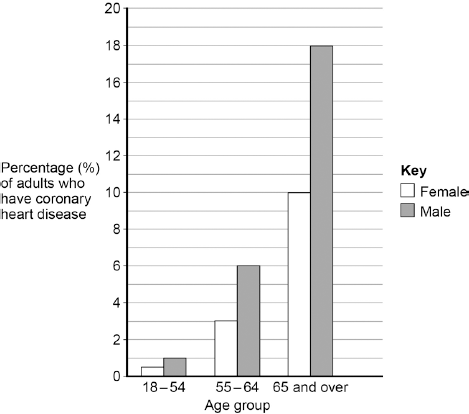
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**(2)**

(g)     **Figure 3** shows the percentages of adults in the UK who have coronary heart disease.

**Figure 3**

****

Calculate the difference in the percentage of male and female adults aged 65 and over who have coronary heart disease.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ %

**(1)**

(h)     Which is the correct conclusion for the data in **Figure 3**?

|  |  |
| --- | --- |
| Tick **one** box. |  |
| Children do **not** suffer from coronary heart disease |  |
| More males suffer from coronary heart disease than females |  |
| More younger people suffer from coronary heart disease than older people |  |

**(1)**

**(Total 11 marks)**

**Level 3 question – try this if you need more challenge after Level 2**

The circulatory system is composed of the blood, blood vessels and the heart.

(a)  Urea is transported in the blood plasma.

Name **two** other substances transported in the blood plasma.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(2)**

(b)  Some athletes train at high altitude.

Training at high altitude increases the number of red blood cells per cm3 of blood.

Explain why having more red blood cells per cm3 of blood is an advantage to an athlete.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**(3)**

(c)  Which **two** blood vessels carry deoxygenated blood?

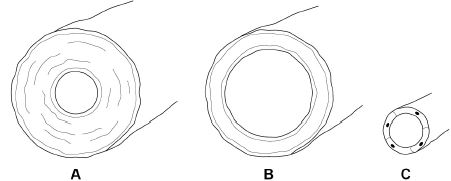
Tick **two** boxes.

|  |  |
| --- | --- |
| Aorta |  |
| Coronary artery |  |
| Pulmonary artery |  |
| Pulmonary vein |  |
| Vena cava |  |

**(2)**

**Figure 1** shows the three types of blood vessel.

**Figure 1**

****

(d)  Which type of blood vessel carries blood into the right atrium?

Tick **one** box.



**(1)**

(e)  Compare the structure of an artery with the structure of a vein.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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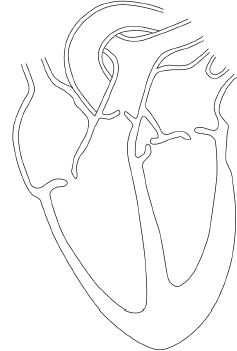
**(3)**

(f)   Heart rate is controlled by a group of cells. This group of cells act as a pacemaker.

**Figure 2** shows a section through the heart.

Draw an **X** on **Figure 2** to show the position of the pacemaker.

**Figure 2**

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**(1)**

(g)  A patient may be fitted with an artificial pacemaker.

What condition may be treated using an artificial pacemaker?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**(1)**

**(Total 13 marks)**