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The heart receives a supply of oxygen through the arteries. These arteries can sometimes become narrowed. Narrowed arteries could cause a heart attack. One method used to treat a narrowed artery is by using a stent.

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1

Name the arteries that supply blood to the heart **[1 mark]**

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2

Explain how treatment using a stent could prevent a heart attack **[2 marks]**

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3

If a heart valve is damaged, blood may flow in the wrong direction, reducing the amount of oxygen and glucose that gets delivered to the body tissues. Major surgery is needed to replace the faulty valve and if it is an artificial valve that is used in the replacement, there is a chance that the valve may not work. If the surface of the valve becomes rough, small blood clots may form and these can break off and move into the blood vessels.

Using information from the passage above, as well as your own knowledge, evaluate the advantages and disadvantages of using artificial heart valves.

[4 marks]

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4

Suggest **one** advantage and **one** disadvantage of using a natural donor heart rather than an artificial heart in heart transplant operations **[2 marks]**

Advantage _____

Disadvantage _____