5 A hospital has computers and technology that it uses when caring for its patients.

(a) One computer is an expert system that is used to help diagnose a patient's illness.

The doctor inputs the patient's symptoms into an interface and a diagnosis is output.

Describe how the expert system decides the diagnosis.

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(b) The hospital has a robot that is used to perform surgery. A doctor controls the robot from a different location to perform surgery on a patient.

(i) One feature of the robot is that it has electrical components.

Give **two** examples of the electrical components of a robot.

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(ii) Explain the advantages of using the robot to perform surgery.

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(iii) Explain **one** disadvantage of using the robot to perform surgery.

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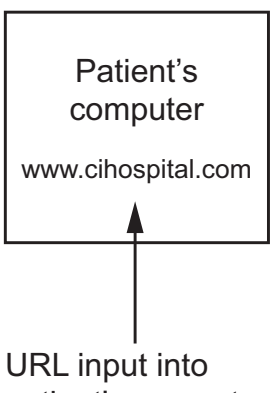
(c) Patients use a web page to log into their account to pay for the treatment they have received in the hospital.

(i) The patient enters the uniform resource locator (URL) for the web page into their browser and the web page is requested and displayed.

Complete and annotate the diagram to show how the web page is requested for the patient.



[6]

(ii) A patient is making a payment through a secure connection.

The secure connection is created using the secure socket layer (SSL) protocol.

Explain how a secure connection is created using the SSL protocol.

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