

7 Bacteria are found in a wide range of habitats. Some bacteria can cause harm whilst others are useful to humans.

(a) During the testing of a new anti-bacterial drug, a double blind trial may be used. Explain what is meant by a **double blind trial** and suggest why it is important.

(3)

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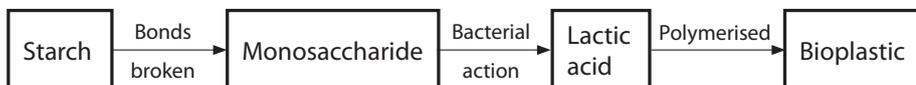
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(b) Bacteria can be used in the production of bioplastic from starch. Bioplastic is a more sustainable form of packaging than oil-based plastics. Part of the conversion process is shown below.



(i) Name the bond that is broken to convert starch into its monosaccharide building blocks.

(1)

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(ii) Name the monosaccharide formed when the bonds in starch are broken.

(1)

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(iii) Suggest why bioplastic is described as a more sustainable form of packaging than oil-based plastics.

(2)

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(iv) Bioplastic is biodegradable. Suggest **one** environmental advantage of using biodegradable packaging.

(1)

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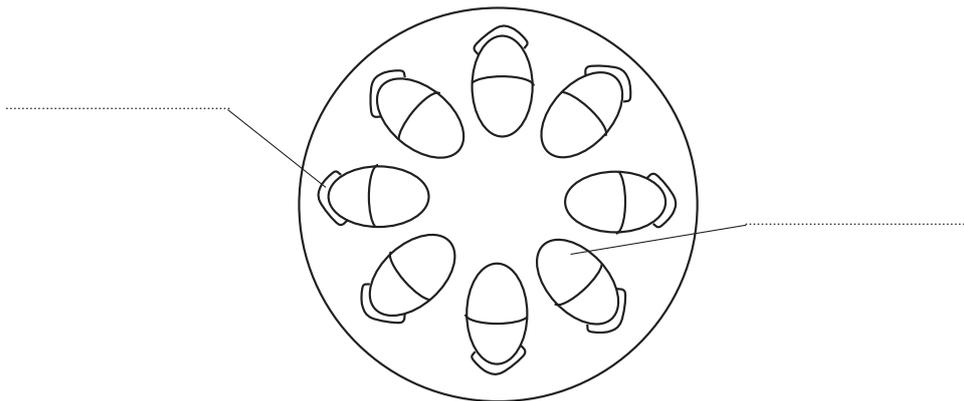
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(c) As well as starch, plants supply other useful products such as plant fibres.

The diagram below shows a transverse section of a stem. Complete the diagram by writing the correct name for each of the parts of the stem alongside the lines on the diagram.

(2)



(Total for Question 7 = 10 marks)

