

5 A barcode scanning system uses a check digit to check for errors in data on input.

(a) Explain how the barcode scanning system operates to check for errors.

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(b) After a barcode is scanned, data is sent to a stock control system to update the stock value stored for that product.

The data is sent to the stock control system using serial simplex data transmission.

(i) Explain how the data is sent using serial simplex data transmission.

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(ii) Explain why serial simplex is the most appropriate method of data transmission for this purpose.

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(iii) The data is checked for errors after it has been transmitted to the stock control system.

Give **two** error detection methods that could be used for this purpose.

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[2]