

Answer ONE question only.

- 1 Wheelchair users have great difficulty opening doors, particularly when they open towards them.

An image has been removed due to third party copyright restrictions

Details:

An image of a wheelchair user wheeling through a doorway

A system to aid a wheelchair user to open doors is required.

Data

- Market research has indicated that there is a potential demand for an initial minimum of 1,000 products.

Follow the instructions given on the four A3 answer sheets to complete the question.

Theme: Needs of the disabled.

- 2 Many car drivers have difficulty reversing their car into a cluttered garage.

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Details:

An image of a car reversing into a garage

A system to help drivers reverse their car accurately into a limited space is required.

Data

- Market research has indicated that there is a potential demand for an initial minimum of 5,000 products.

Follow the instructions given on the four A3 answer sheets to complete the question.

Theme: Sensing systems.

- 3 Ironing is a potentially hazardous task due to the high temperature of the iron.

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Details:

An image of an iron and ironing board

A system to hold a hot iron securely when 'parked' but allow the operator to use the iron without increased difficulty is required.

Data

- Market research has indicated that there is a potential demand for an initial minimum of 5,000 products.

Follow the instructions given on the four A3 answer sheets to complete the question.

Theme: Ironing.

ALLOCATION OF MARKS FOR PAPER 2525/02

- (a) a list of eight qualified specification points, directly related to the 'given' situation, that initial ideas should meet; [16]
- (b) initial ideas to the needs of the 'given' situation, presented in the form of:
– a variety of brief sketched viable alternatives;
– brief descriptive and evaluative annotations;
– details of materials and construction methods. [38]
- (c) the choice of features from within your ideas which are suitable for development. Justify your choice. [8]
- (d) efficient communication. [10]

[Total : 72]

All dimensions are in mm.

Where necessary, calculators may be used.

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(a) A list of **eight** qualified specification points, directly related to the given situation, that initial ideas should meet. [16]

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

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FOR CANDIDATE USE ONLY

Circle the question number you are answering

1 2 3 4 5

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(b) Initial ideas:

- Range of ideas. [10]
- Design ideas relating to the functional aspects raised in your specification. [5]
- Quality of design thinking relating to the volume production and wider market issues. [5]
- Consideration of construction. [5]
- Consideration of specific materials and components (may include calculations.) [5]
- Consideration of dimensional detail (may include calculations). [3]
- Evaluation of the suitability of the ideas with reference to the Specification. [5]

[Total : 38]

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(c) Features suitable for development.

- Appropriate features identified and clearly described. [4]
- Appropriate justification of the features identified with reference to the Specification. [4]

[Total : 8]

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2524/02 PRODUCT DESIGN
2525/02 SYSTEMS AND CONTROL

CANDIDATE NAME _____ CANDIDATE NUMBER _____ CENTRE NUMBER _____