



Cambridge International AS & A Level

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DESIGN & TECHNOLOGY**9705/12**

Paper 1 AS Level Written Paper

May/June 2025**2 hours 15 minutes**

You must answer on the question paper.

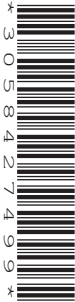
You will need: Standard drawing equipment
Coloured pencils
Calculator

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use a pencil or coloured pencils for any sketches, drawings or rough working.

INFORMATION

- The total mark for this paper is 100.
- The number of marks for each question or part question is shown in brackets [].
- All dimensions are in millimetres, unless otherwise stated.

This document has **20** pages. Any blank pages are indicated.



Answer **all** questions.

- 1 Fig. 1.1 shows a desk tidy.

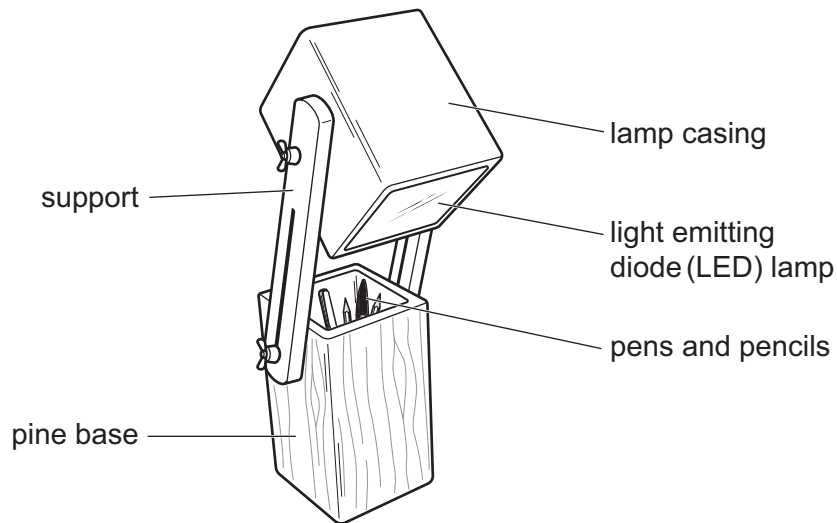


Fig. 1.1

- (a) (i) Name **one** non-ferrous metal that could be used to make the support.

..... [1]

- (ii) Name **one** thermoplastic that could be used to make the lamp casing.

..... [1]

- (iii) Describe **one** property of pine that makes it suitable for the base.

..... [2]

- (b) (i) Describe **one** electronic input component that could be used in the lamp.

..... [2]

- (ii) Describe how the LED in the lamp works.

..... [2]



2 Designers often work collaboratively to plan and discuss design projects.

(a) (i) Identify the planning drawing shown in Fig. 2.1.

..... [1]

Tasks	Weeks											
	1	2	3	4	5	6	7	8	9	10	11	12
Identification												
Research												
Ideas												
Development												
Planning												
Making												
Evaluation												

Fig. 2.1

(ii) Name **one** other planning drawing that could be used by a designer.
Explain why this planning drawing would be used by a designer.

planning drawing

explanation

.....
.....
.....

[3]

(b) Explain **two** advantages for designers of using video conferencing to discuss a design project.

1

.....

.....

.....

2

.....

.....

[4]





3 Fig. 3.1 shows details of a display stand that is used to promote a school play.

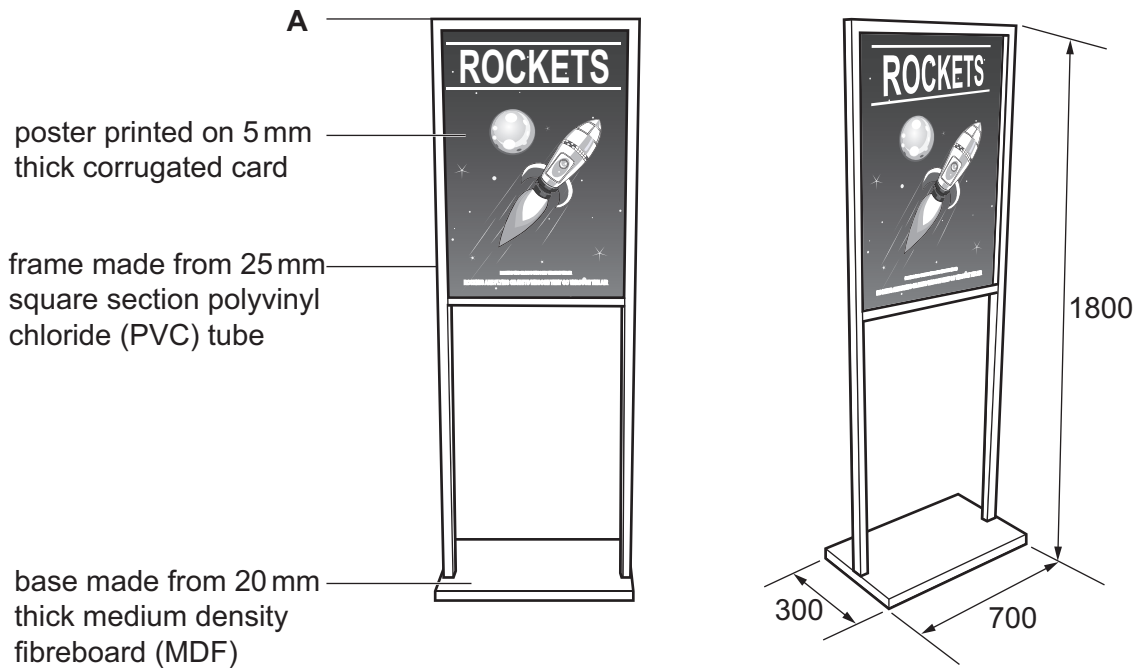


Fig. 3.1

(a) Explain **one** factor the designer of the display stand would have considered when making each of the following design decisions:

size of the base

.....

.....

.....

material for the frame

.....

.....

.....

[4]





(b) Use sketches and notes to show:

(i) a permanent method of joining the frame of the display stand at **A**

[4]

(ii) a temporary method of attaching the corrugated card poster to the PVC frame.

[4]





(c) Describe **two** safe working practices that should be followed when making the MDF base of the display stand.

1

.....

.....

.....

2

.....

.....

.....

[4]

(d) Identify a suitable finish for the MDF base of the display stand.
Justify your choice of finish.

finish

justification

.....

.....

.....

.....

.....

.....

.....

[4]





Question 4 starts on page 8.





4 Fig. 4.1 shows details of a bookcase that is made from medium density fibreboard (MDF).

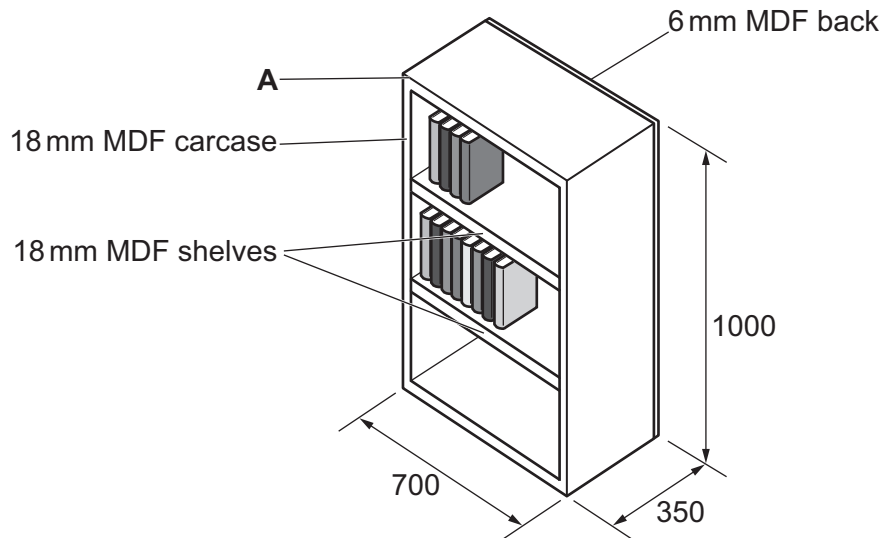


Fig. 4.1

(a) Give **two** reasons why the designer added a back to the bookcase.

- 1
 - 2
- [2]

(b) Explain **one** way of reducing the amount of energy used during the manufacture of the bookcase.

-
-
-
- [2]





- (c) (i) Use sketches and notes to describe a method of making the joint at **A** on the bookcase.

In your response, you should give details of any tools, equipment and processes involved and the safety precautions undertaken.





- (ii) Use sketches and notes to describe a method of making the height of the shelves on the bookcase adjustable to allow for different sized books.

In your response, you should give details of any tools, equipment and processes involved and the safety precautions undertaken.

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Question 5 starts on page 12.



5 Fig. 5.1 shows a coffee machine.

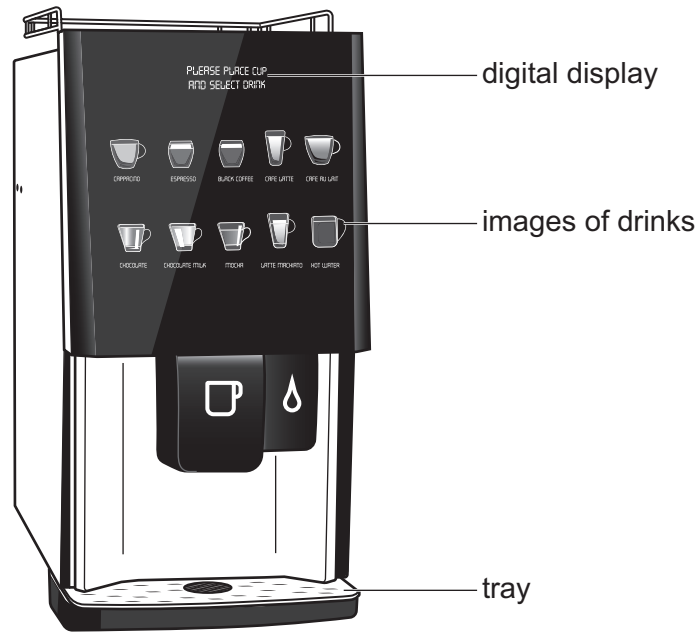


Fig. 5.1

(a) Explain why the coffee machine:

(i) has a digital display

.....

.....

..... [2]

(ii) uses images of drinks

.....

.....

..... [2]

(iii) has a tray.

.....

.....

..... [2]





(b) Describe **two** ways in which the coffee machine shown in Fig. 5.1 has been designed with ease of maintenance in mind.

1

.....

.....

.....

2

.....

.....

.....

[4]

Question 5 continues on page 14.





(c) Fig. 5.2 shows the coffee machine being activated by a mobile phone.



Fig. 5.2

- (i) Explain **one** advantage of using contactless technology to control the coffee machine.

.....

.....

.....

..... [2]

- (ii) Use a sketch and notes to show **one** other way in which contactless technology could be used to control a device.





(d) Fig. 5.3 shows a takeaway coffee cup.

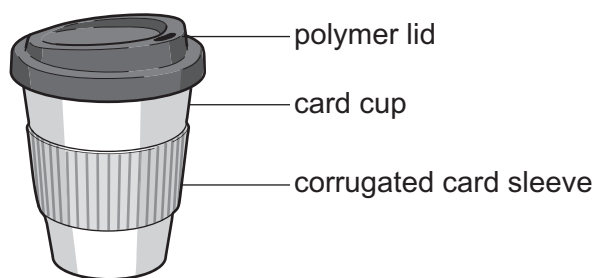


Fig. 5.3

Use sketches and notes to show **one** way that each of the following have been considered in the design of the takeaway coffee cup.

(i) ergonomics

[3]

(ii) sustainability

[3]



- 6 Fig. 6.1 shows a device which is used to record a voice message to allow visually impaired people to know what is inside a can.

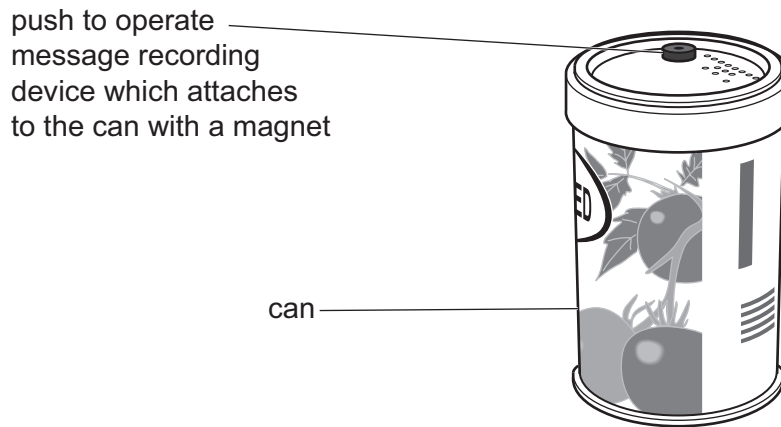


Fig. 6.1

Use sketches and notes to show how the design of **one other product** could be modified to be more inclusive, allowing it to be used by people who have a visual impairment.

Your answer should:

- identify the product you propose to modify
- use sketches and notes, including appropriate conventions and specialist vocabulary, to show how you propose to modify the product to be more inclusive
- include an analysis of how the modification meets the needs of people with a visual impairment.

You may use the space on the next page for more sketches.



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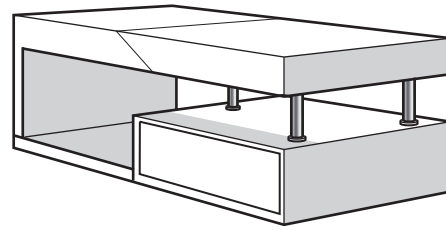
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- include examples of fashion and trends
- evaluate the impact of fashion and trends on the development of products
- discuss the impact of fashion and trends on the wider issues in design and technology (including cultural, economic, environmental and social factors).

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[12]



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