Candidate Name	Centre Number	Candidate Number

OCR
RECOGNISING ACHIEVEMENT

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

DESIGN AND TECHNOLOGY (RESISTANT MATERIALS TECHNOLOGY)

1956/1
1056/1

PAPER 1 FOUNDATION TIER

Specimen Paper 2003

1 hour

Candidates answer on the question paper.

TIME 1 hour

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces at the top of this page.
Answer **all** questions.
Write your answers in the spaces provided on the question paper.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part question.
Dimensions are given in mm unless stated otherwise.
Total marks for this paper is **50**.

FOR EXAMINER'S USE	
1	
2	
3	
4	
5	
TOTAL	

This specimen question paper consists of 11 printed pages and 1 blank page.

Registered Charity Number: 1066969
[Turn over

1 Fig. 1 shows details of a hook made from 6 mm thick plastic.

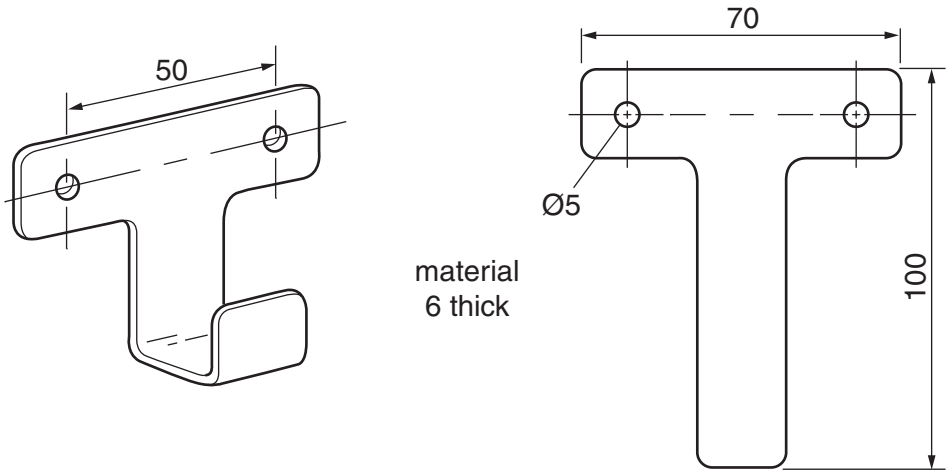


Fig. 1

(a) **(i)** Name a sheet plastic suitable for making the hook.

_____[1]

(ii) State **one** reason why a plastic is a suitable material for making the hook.

_____[1]

(b) The table below shows the main stages in making the hook. Complete the table by naming the tools or equipment used for each process.

Process	*Tools/ equipment used*
(i) Marking out	1 _____[1] 2 _____[1]
(ii) Sawing	_____[1]
(iii) Finishing	1 _____[1] 2 _____[1]
(iv) Bending	_____[1]

(c) State **two** safety precautions to be taken when using a drilling machine to drill the holes in the hook.

1 _____

_____[1]

2 _____

_____[1]

2 A company providing school meals is to introduce individual table menus.
Fig. 2 shows one menu card to be displayed on tables in a school dining hall.

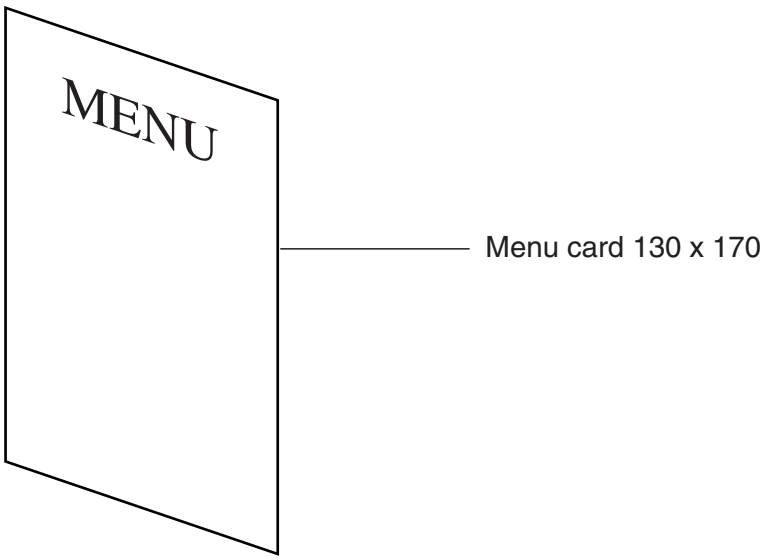


Fig. 2

Twenty stands will be required.

(a) Write a specification to include **three** important points for a menu stand.
The menu stand must:

1 _____[1]

2 _____[1]

3 _____[1]

(b) Use notes and sketches to design a stand to display one menu card.
Your design must include:

(i) the names of materials used.
(ii) the main sizes.
(iii) how the menu card is supported.
(iv) how the menu card can be replaced with a new card.

[4]

(c) Use notes and sketches to describe **one** way by which you could make sure that a batch of twenty stands were identical.

[3]

3 Fig. 3 shows a child's hand-held toy. When the handle is pulled and pushed the ears move as shown.

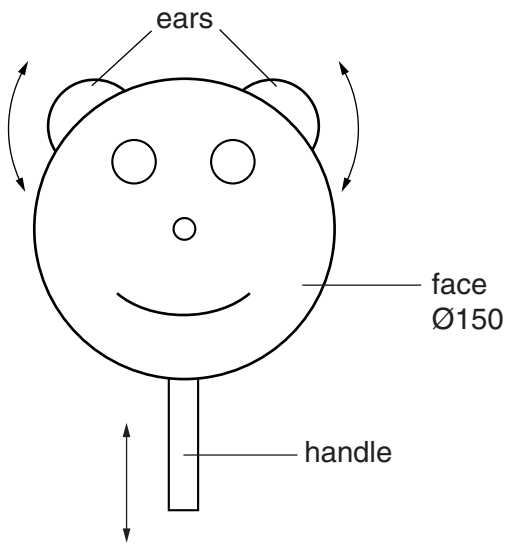


Fig. 3

(a) Name the type of motion made by:

1 the handle _____[1]

2 the ears. _____[1]

(b) On Fig. 3 label the INPUT motion and the OUTPUT motion. [2]

(c) State **two** reasons why a model would be made before manufacturing the toy in quantity.

1 _____[1]

2 _____[1]

(d) Fig. 4 shows the back of the child's toy.

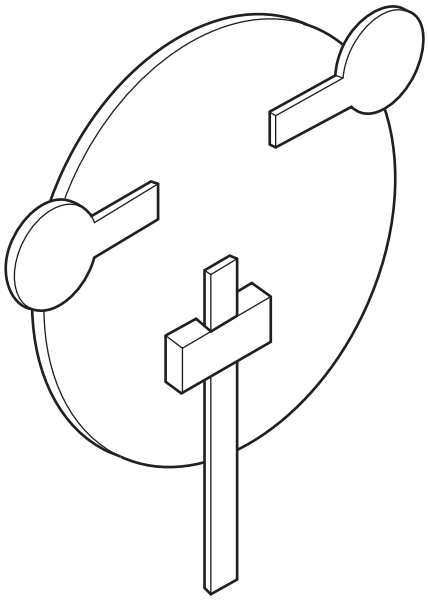


Fig. 4

Complete the drawing of the mechanism to show:

(i) how the ears could be made to move as shown in Fig. 3

(ii) the pivot points

(iii) how the parts of the mechanism are connected. [3]

(e) Describe **one** improvement you would make to the design of the toy.

_____

_____[1]

4 Fig. 5 shows a bookend to be used in a school library.
The bookend is made from sheet metal 1.6 mm thick.

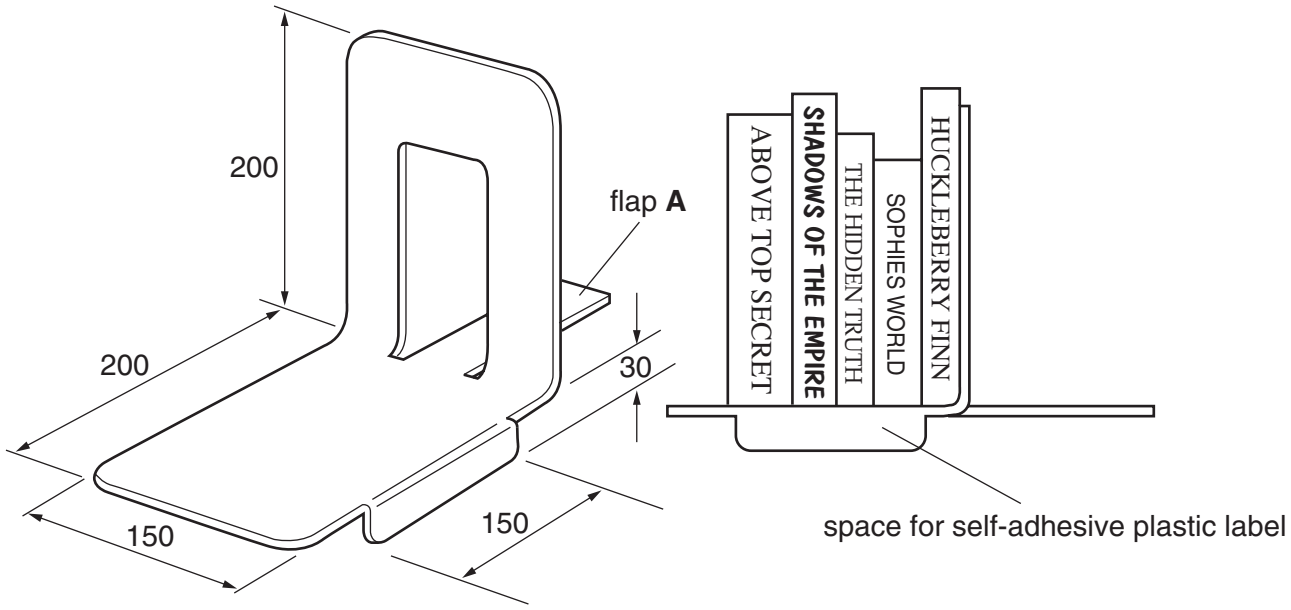


Fig. 5

(a) (i) The bookend could be made from either sheet aluminium or sheet steel.
State **one** reason for choosing either aluminium or steel for the bookend.

Chosen sheet metal _____

Reason _____[1]

(ii) State **two** advantages, not including speed, for manufacturing the bookend shape by the process "pressing".

1 _____[1]

2 _____[1]

(iii) The bookend could also be made from a plastic. Explain **one** advantage to the environment of using metal rather than plastic.

_____

_____[2]

(b) A quantity of self-adhesive plastic labels are required. Each label will give the name of a subject and fit onto the space provided.

Explain clearly how you could use a computer to design and make a suitable self-adhesive plastic label.

_____

_____

_____

_____[3]

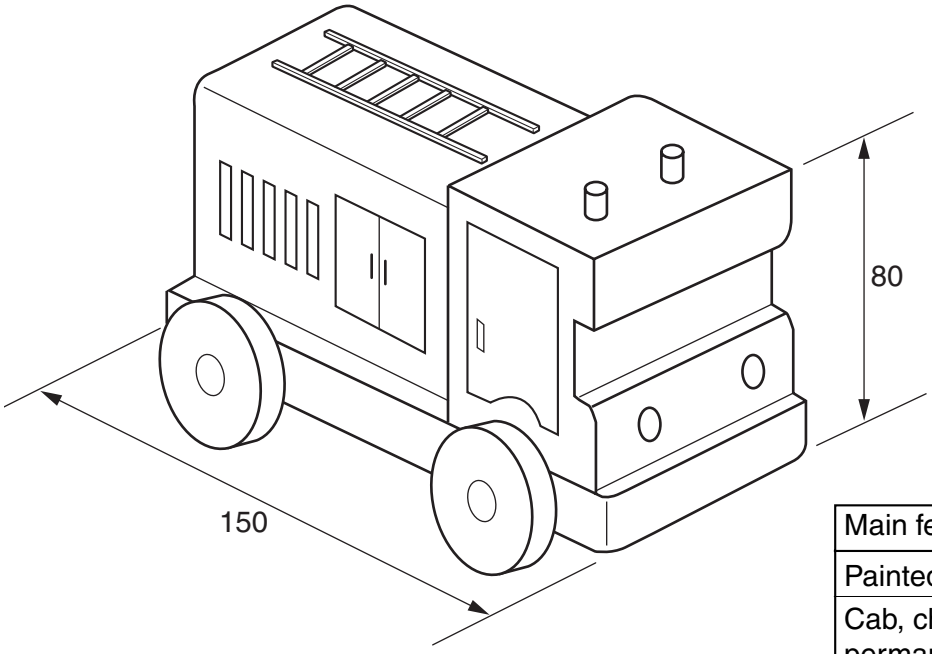
(c) Quality control would be carried out during manufacture to ensure that the product meets the required standard.

Describe **two** quality control checks you would make during manufacture.

1 _____[1]

2 _____[1]

5 Fig. 6 shows a toy fire engine made from solid wood suitable for use by children aged 3-6 years.



Main features of fire engine
Painted finish
Cab, chassis, body and wheels permanently attached
Ladders, doors painted on

Fig. 6

(a) Name a solid wood commonly used in the manufacture of children's toys.

_____[1]

(b) Describe **two** ways in which the design of the fire engine could be considered suitable for a child age 3-6 years.

1 _____

_____[1]

2 _____

_____[1]

(c) State **two** ways in which the designer has considered mass-production in the design of the fire engine.

1 _____

_____[1]

2 _____

_____[1]

(d) Children's toys can also be made mainly from plastics.
State **two** reasons why consumers would choose to buy a toy made from plastics rather than solid wood.

1 _____[1]

2 _____[1]

(e) Use notes and sketches to show **one** improvement you could make to the design of the fire engine to make a more exciting toy.

[3]

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