

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GCSE
A554**

**DESIGN AND TECHNOLOGY
Product Design**

Designing Influences

**WEDNESDAY 16 JANUARY 2013:
Morning**

**DURATION: 1 hour 30 minutes
plus your additional time allowance
MODIFIED ENLARGED 24pt**

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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Candidates answer on the Question Paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. HB pencil may be used for graphs and diagrams only.**
- **Answer ALL the questions in Section A AND B.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).**

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is 60.
- SECTION A is worth 30 MARKS. You are advised to spend no more than 45 minutes on it.
- SECTION B is worth 30 MARKS. You are advised to spend no more than 45 minutes on it.
- You will need to select from the tables in SECTION B when answering question 4 and question 5 of this paper. ‘Trend setter’ and ‘Iconic product’ must be linked to the ‘Era or Movement’.
- Your Quality of Written Communication will be assessed in questions marked with an asterisk (*).

SECTION A

You are advised to spend 45 minutes on this section.

1 Fig. 1 shows a plastic jug.

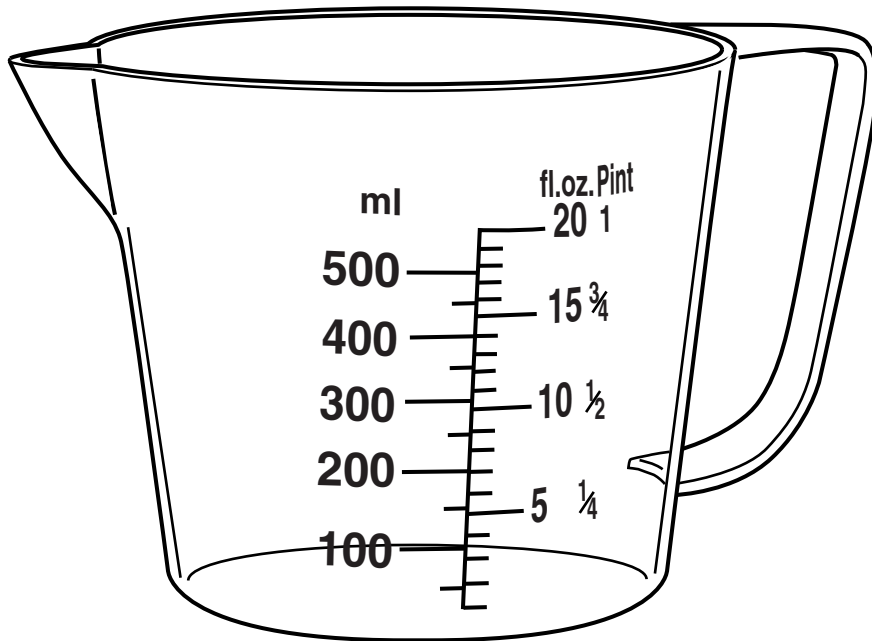


FIG. 1

(a) Give THREE design features of the plastic jug shown in Fig. 1. [3]

1 _____

2 _____

3 _____

(b) The plastic jug in Fig. 1 was designed using computer-aided design (CAD).

(i) Give TWO advantages of using a CAD to design products. [2]

1 _____

2 _____

(ii) Describe how CAD and computer-aided manufacture (CAM) work together to produce a quality product. [2]

Some products are designed in the UK but are manufactured in China.

(c) Explain why some products designed in the UK are manufactured in other countries. [3]

[TOTAL: 10]

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2 Fig. 2 shows a fibre optic lamp.

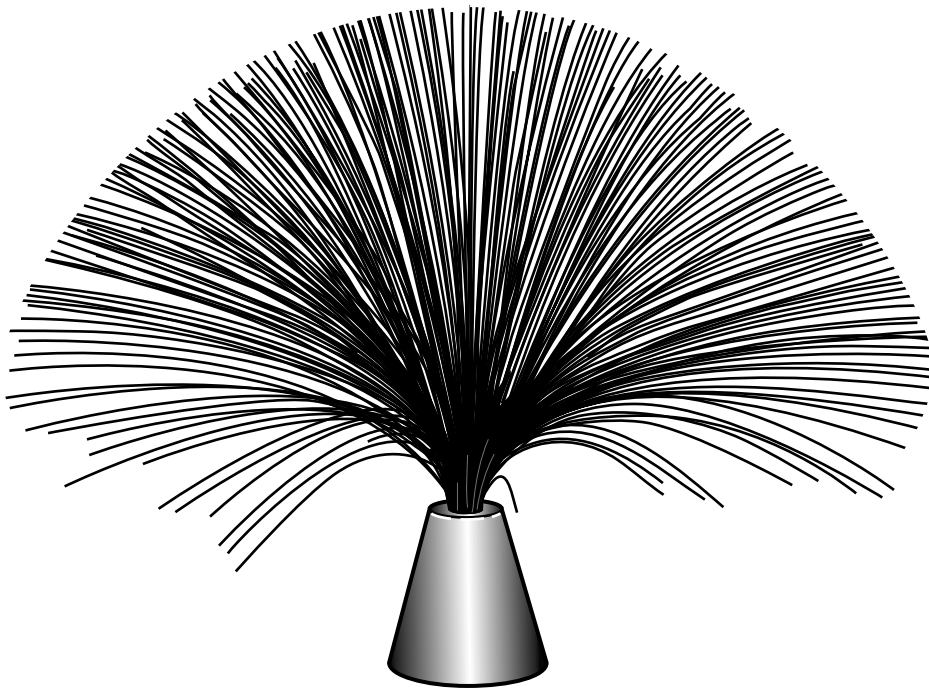


FIG. 2

The colour of the light can change to create different moods and emotions in a room.

(a) Look at this list of colours:

RED

~~**ORANGE**~~

YELLOW

GREEN

BLUE

GREY

VIOLET

Complete the table below by choosing the colour which is most associated with the different moods and emotions.

The first one has been done for you.

MOODS AND EMOTIONS	COLOUR
Stability, warmth, excitement	ORANGE
Nature, relaxing, restful	
Danger, passion, energy	
Calming and soothing, serenity	
Sunshine, optimism, freshness	

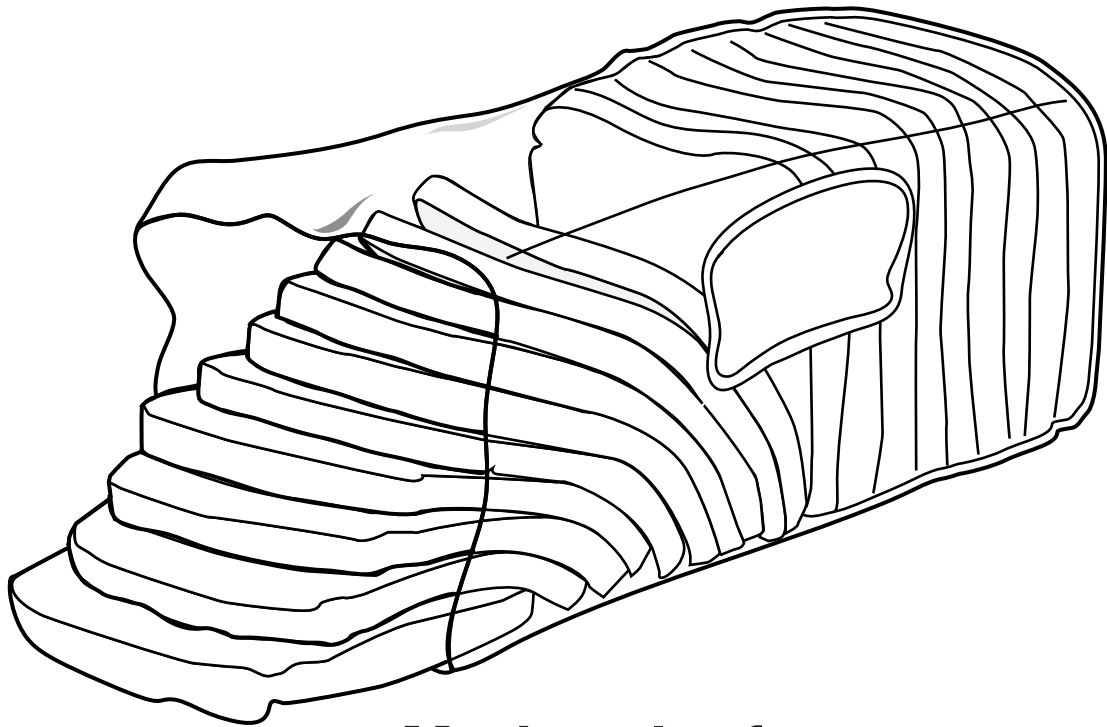
[4]

(b) Describe one way a paint manufacturer could find out which colours are most popular with customers. [2]

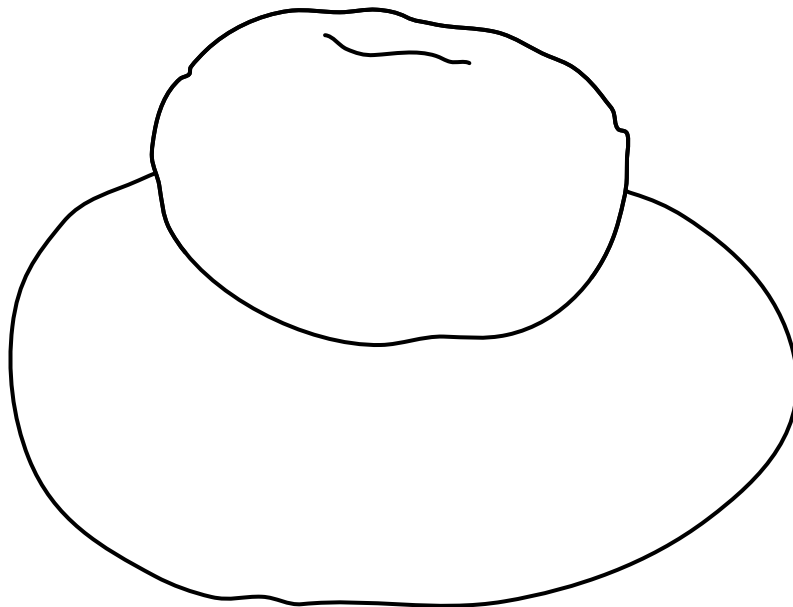
(c) Explain why clothing manufacturers introduce a new colour range each season. [4]

[TOTAL: 10]

- 3 Fig. 3 shows two loaves of bread, one is a modern loaf from a supermarket, the other is a loaf made in the 1890s.**



Modern loaf

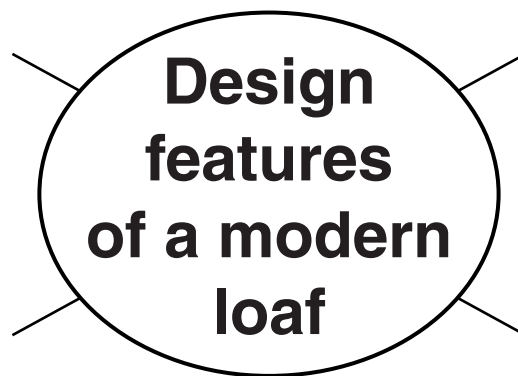


loaf made in the 1890s

FIG. 3

- (a) Complete the diagram below by identifying a further THREE design features of the modern loaf which makes it different from the loaf made in the 1890s. [3]**

It is wrapped and sold in a polyethylene bag



(b) Explain why TWO of the design features of the modern loaf you have identified are popular with customers.

An example has been done for you.

Point 1: It is wrapped and sold in a polyethylene bag.

Explanation: Nowadays most customers do not want their food products exposed to the air for fear of it becoming contaminated with germs, so producers sell them ready-wrapped in a protective bag.

Point 2: _____

Explanation:

Point 3: _____

Explanation:

(c) The examples in Fig. 3 show how the design of loaves of bread has changed over time.

Explain how modern production methods have influenced the design of the modern loaf. [3]

[TOTAL: 10]

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SECTION B

You are advised to spend 45 minutes on this section.

THIS QUESTION DRAWS UPON THE RESEARCH YOU CARRIED OUT AS PART OF YOUR EXAMINATION PREPARATION.

- 4 The table below shows the eras, trend setters and iconic products for this examination.**

Please indicate using a tick (✓) the era or movement you have studied.

✓	ERA OR MOVEMENT	TREND SETTER	ICONIC PRODUCT
	1980s to the present	Philippe Starck	Juicy Salif lemon squeezer
	1960s/1970s	Laura Ashley	Floral furnishing fabric
	1980s/1990s	Alan Fletcher	Corporate identity for the Victoria & Albert Museum (V&A)
	1970s/1980s	Sir Clive Sinclair	ZX Spectrum programmable computer
	1990s	Linda McCartney	Linda McCartney Frozen Vegetarian Sausages

(a)*Trend setter chosen

Explain why this trend setter has been so influential. [6]

(b) Iconic product chosen

Give TWO reasons why the product you have chosen has been so influential. [4]

1 _____

2 _____

[TOTAL: 10]

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5 THIS QUESTION DRAWS UPON THE RESEARCH YOU CARRIED OUT AS PART OF YOUR EXAMINATION PREPARATION.

You will need to:

- **Write a specification**
- **Produce a range of initial ideas**
- **Develop ONE idea**
- **Give details of the final proposal**

Five different design needs are given below.

Please indicate using a (✓) one design need you are going to consider.

DESIGN NEED	✓
A pair of kitchen scissors in the style of Philippe Starck.	
An item of summer clothing in the Laura Ashley floral style.	
A name sign for the front of your school or college in the style of Alan Fletcher's corporate identity for the Victoria & Albert Museum (V&A).	
A programmable device that switches off lights when a room is not in use.	
A frozen meal in the style of Linda McCartney.	

(a) Identify FOUR important design specification points for your chosen design need. These must specify key design requirements other than those detailed in the design need above. [4]

1 _____

2 _____

3 _____

4 _____

(b) Use sketches and notes to produce a range of initial ideas that meet your specification. [5]

(c) Use sketches and notes to develop ONE of your initial ideas to meet the original design need. [5]

(d) Give details of your final proposal showing how it meets the four design specification points you identified in part (a) of this question.

[6]

[TOTAL: 20]

END OF QUESTION PAPER

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