

OCR

Oxford Cambridge and RSA

Monday 27 June 2016 – Morning

GCSE DESIGN AND TECHNOLOGY Product Design

A554/01 Designing Influences

Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

None

Duration: 1 hour 30 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. 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. If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the bar codes.

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 (*).
- This document consists of **16** pages. Any blank pages are indicated.

Answer **all** the questions.

SECTION A

You are advised to spend 45 minutes on this section.

1 Fig. 1 shows a stationery folder.

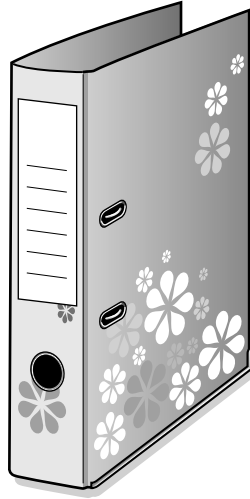


Fig. 1

(a) Give three design requirements of a stationery folder.

- 1
- 2
- 3

[3]

(b) Fig. 2 shows the mechanism inside the stationery folder.

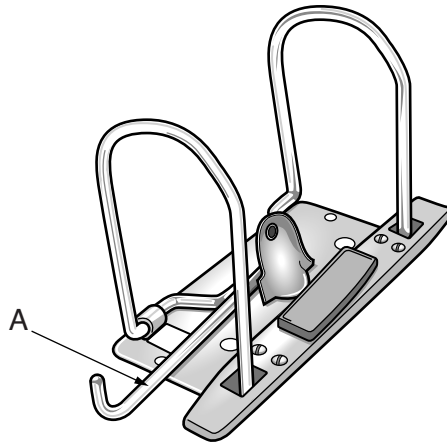


Fig. 2

(i) State the type of mechanism labelled A.

..... [1]

(ii) State how the mechanism can be 'modified' to make it easier for a user to operate.

..... [1]

(c) Explain why the designer of the stationery folder carries out a life cycle assessment as part of the design process.

.....
.....
.....
..... [2]

(d) Explain how the use of 3D printers can help designers develop products such as the mechanism inside the stationery folder.

.....
.....
.....
..... [3]

2 Fig. 3 shows an item of casual sportswear.



Fig. 3

(a) Give **two** reasons why companies produce sportswear in a range of colours.

1

2

[2]

(b) Clothing companies often have their products manufactured in countries such as India.

Give **three** advantages to the **manufacturer** of manufacturing products in overseas countries.

1

2

3

[3]

(c) Explain **one** reason why companies brand sportswear products with a logo.

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.....

.....

..... [2]

(d) Explain why sports brands use professional sports people to promote their products globally.

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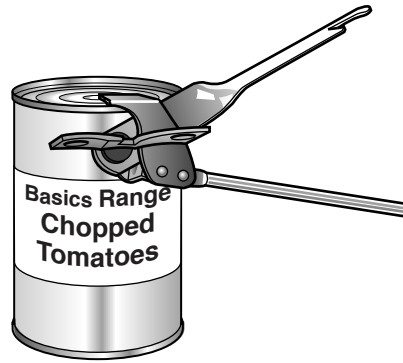
.....

..... [3]

3 Fig. 4 shows two ways of opening cans.



can with modern opening method



can with traditional opening method

Fig. 4

(a) The opening of cans has changed over time.

Give **three** advantages of the modern can-opening method that benefit the **user**.

1

2

3

[3]

(b) Explain **two** implications for the **manufacturer** of producing a can with the modern opening method.

1

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.....

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2

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[4]

(c) Cans are a sustainable method of food packaging.

Explain how other types of food packaging could be developed to be more sustainable.

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[3]

The table below shows the iconic products for this examination.

Era or movement	Iconic product
1850s to present	Chair no. 14
1950s to present	IBM 350 disk storage unit
1980s to present	Lycra dance wear
1970s to present	I ♥ NY logo
1980s to present	Quorn

(b) Select an iconic product from the table above.

Iconic product chosen

Give **two** reasons why the product you have chosen has been so influential.
You must justify each answer.

1

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.....

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2

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.....

.....

[4]

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
- evaluate your final proposal.

Five different design needs are given below.

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

Design Need	✓
An item of public seating in the style of Michael Thonet.	
A wearable activity tracking device that records and stores data.	
A garment to wear on holiday in the style of ‘Pineapple – Debbie Moore’.	
A 3D promotional display for the ‘UK City of Culture 2017’ in the style of Milton Glaser.	
A lunch time snack that incorporates a meat analogue.	

(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.

1

.....

2

.....

3

.....

4

.....

[4]

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

(c) Use sketches and notes to develop **one** of your initial ideas to meet the original design need.

Give details of materials and construction.

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).

A large area of lined paper for writing. It consists of a vertical solid line on the left side, creating a margin. To the right of this line, there are numerous horizontal dotted lines spaced evenly down the page, providing a guide for writing.

A large area of the page is reserved for writing, featuring a vertical solid line on the left side and horizontal dotted lines extending across the page.



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