

GENERAL CERTIFICATE OF SECONDARY EDUCATION
DESIGN AND TECHNOLOGY
PRODUCT DESIGN

A554

Designing Influences

Candidates answer on the question paper.

OCR supplied materials:

None

Other materials required:

None

Thursday 13 January 2011
Afternoon

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. Pencil may be used for graphs and diagrams only.
- 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).
- Answer **all** the questions in section A **and** B.
- 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 'Eras and movements'.
- Your quality of written communication is assessed in the question marked with an asterisk (*).
- This document consists of **16** pages. Any blank pages are indicated.

SECTION A

You are advised to spend 45 minutes on this section.

1 Fig. 1 shows a modern car steering wheel.

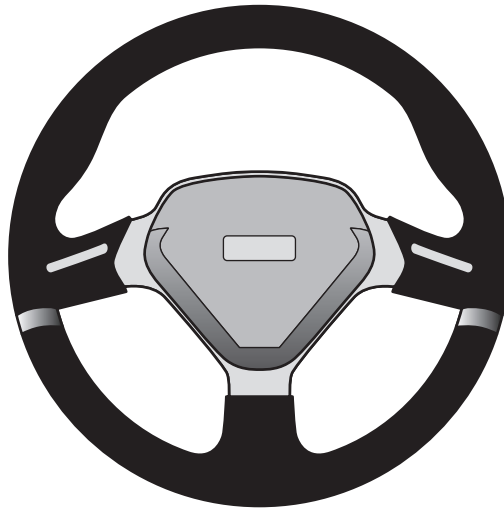


Fig. 1

(a) Give **three** design features of modern car steering wheels.

Feature 1

Feature 2

Feature 3 [3]

(b) A designer developing a steering wheel has found that the larger the diameter of the steering wheel, the easier it is to steer the car.

(i) Explain why this would be the case.

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..... [2]

(ii) Give **two** constraints on the overall size of the car steering wheel.

Constraint 1

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Constraint 2

..... [2]

2 Fig. 2 shows a wall hanging with an African design.



Fig. 2

(a) Give **three** reasons why designs from different cultures are popular.

Reason 1

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Reason 2

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Reason 3

..... [3]

(b) Globalisation has led to an increase in the availability of products such as the wall hanging in Fig. 2.

(i) Explain what is meant by the term globalisation.

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..... [2]

(ii) Give **two** advantages to the consumer of the globalisation of design and manufacturing.

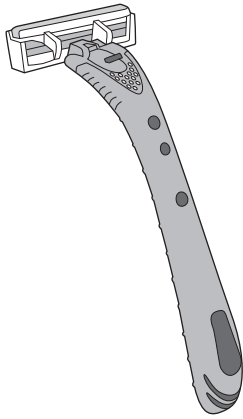
Advantage 1
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Advantage 2
..... [2]

(c) Explain, using **one** example, how designs from other times or cultures have influenced modern designs in this country.

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..... [3]

[Total: 10]

- 3 Fig. 3 shows a modern twin blade razor and a razor from around the 1900s.



modern twin blade razor

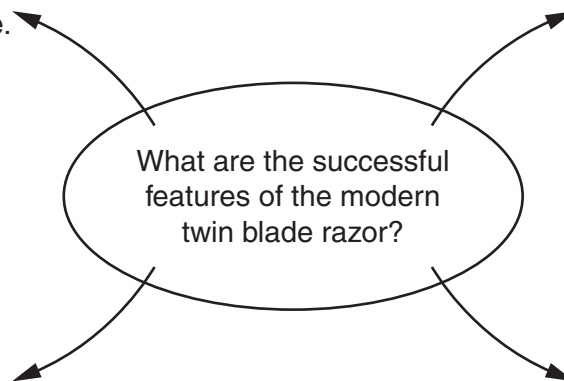


razor from around the 1900s

Fig. 3

- (a) Complete the diagram below by adding a further **three** successful features of the modern twin blade razor.

The twin blade razor is safer to use.



[3]

- (b) Explain why **two** of the features you have identified have made the modern twin blade razor successful.
An example has been done for you.

Point 1: The twin blade razor is safer to use.

Explanation: Only the very edge of the blades are exposed, therefore the risk of cutting the user is greatly reduced.

(i) *Point 2*

Explanation

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(ii) *Point 3*

Explanation

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..... [4]

- (c) Explain why the razor from around the 1900s is considered to be more sustainable than modern twin blade razors.

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..... [3]

[Total: 10]

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 [✓] the era or movement you have studied.

Era or Movement	Trend setter	Iconic product	✓
1910 – 1930	Marcel Breuer	Wassily Chair	
1920s	Coco Chanel	‘flapper’	
1870 – 1880	William Morris	Block printed wallpaper	
1960s + 1970s	Light emitting diodes	Pulsar watch	
1970s	Convenience foods	Vesta curry	

(a*) Trend setter chosen

Discuss the importance of this trend setter in the context of modern design.

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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 mobile phone holder in the style of the Wassily chair.	
A handbag in the 'flapper' style.	
A drinks mat in the William Morris style.	
An 'engaged' display for a door locking mechanism incorporating LEDs.	
A convenience food product for a person on a low carbohydrate diet.	

(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

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2

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3

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4

..... [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.

- (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]

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