



DESIGN AND TECHNOLOGY

0445/11

Paper 1 Product Design

May/June 2017

1 hour 15 minutes

Candidates answer on the pre-printed A3 Answer Sheets.

Additional Materials: Standard drawing equipment and coloured pencils.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces on **both** printed Answer Sheets.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer **one** question.

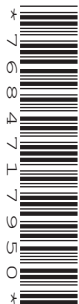
Write/draw your answers in the spaces provided on the Answer Sheets.

You may use a calculator.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

The total of the marks for this paper is 50.



This document consists of 4 printed pages and 2 A3 Inserts.

Answer **one** question only on the A3 pre-printed answer sheets provided.

- 1 People eating in cafés need some items to be readily available on the table.



Design a product that will hold one salt pot, one pepper pot, 10 sachets of sugar and 5 teaspoons. The product should be easily stacked when not on a table.

- (a) List **four** additional points about the function of such a product that you consider to be important. [4]
- (b) Use sketches and notes to show **two** ways by which products could be stacked. [4]
- (c) Develop and sketch **three** ideas for the product. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution. [6]

- 2 Cafés need to find ways of promoting their food so that people want to eat there.



Design a portable promotional board that will encourage people to eat at a particular cafe. The board will hold menus that can be taken away.

- (a) List **four** additional points about the function of such a portable promotional board that you consider to be important. [4]
- (b) Use sketches and notes to show **two** ways of holding menus on such a board. [4]
- (c) Develop and sketch **three** ideas for the portable promotional board. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution. [6]

- 3 It is important that children are encouraged to learn healthy eating habits.



Design a mechanical or electronic game that will promote healthy eating.

- (a) List **four** additional points about the function of such a game that you consider to be important. [4]
- (b) Use sketches and notes to show **two** mechanical or electronic features that could be used to amuse children in such a game. [4]
- (c) Develop and sketch **three** ideas for the game. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution. [6]

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