UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

DESIGN AND TECHNOLOGY **0445/11**

Paper 1 Design **October/November 2013**

1 hour 15 minutes

Candidates answer on the pre-printed A3 Answer Sheets.

Additional Materials: Standard drawing equipment

To be taken together with the optional paper for which you have been entered in one session of 2 hours and 15 minutes.

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 a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

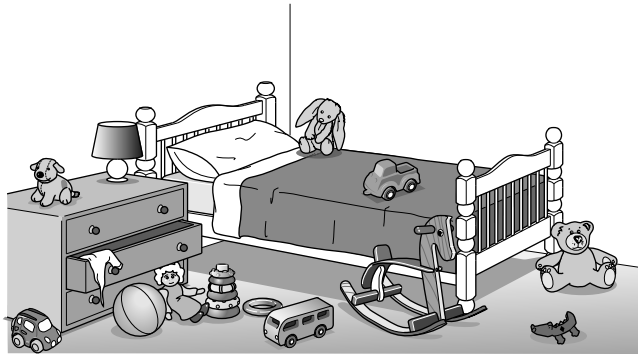
Answer **one** question.
Write/draw your answers in the spaces provided on the Answer Sheets.
You may use a calculator.

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.

This document consists of **4** printed A4 pages and **2** A3 Inserts.

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

1 Toys often get left around the room when children have finished playing with them.



Design a storage system that would hold a range of toys but also include an interesting feature in its design.

(a) List **four** additional points about the function of such a storage system that you consider to be important. [4]

(b) Use sketches and notes to show **two** different types of carcase (box) construction. [4]

(c) Develop and sketch **three** ideas for the storage system. [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 major dimensions. [12]

(f) Suggest 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 in the school workshop. [6]

2 Simple card models are often printed on packaging used for food products.

Design a simple model vehicle that will be printed on an A4 sheet of card ready to be cut out and assembled.

(a) List **four** additional points about the function of such a card model that you consider to be important. [4]

(b) Use sketches and notes to show **two** methods of attaching lightweight wheels to a card model. [4]

(c) Develop and sketch **three** ideas for the card model. [12]

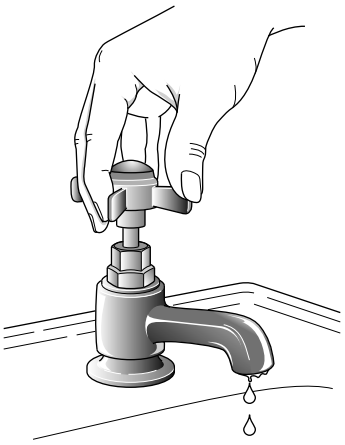
(d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]

(e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and major dimensions. [12]

(f) Suggest suitable specific materials for your solution and give reasons for your choice. [4]

(g) Outline a method of producing a prototype of your solution in the school graphics studio. [6]

3 Taps can often be difficult to turn on and off.



Design a device that could be used to make turning a tap on and off easier.

(a) List **four** additional points about the function of such a device that you consider to be important. [4]

(b) Use sketches and notes to show **two** methods that might assist in the function of the device. [4]

(c) Develop and sketch **three** ideas for the device. [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 major dimensions. [12]

(f) Suggest suitable materials for your solution and give reasons for your choice. [4]

(g) Outline a method used to manufacture **one** part of your solution in the school workshop. [6]