



Candidate Name	Centre Number	Candidate Number
----------------	---------------	------------------

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

D & T (GRAPHIC PRODUCTS)
PAPER 3 (FOUNDATION TIER)

1955/3

Specimen Paper 2003

1 hour 15 minutes

Additional materials:
Drawing aids may be used.

TIME 1 hour 15 minutes

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces provided above and on the other sheets.

Answer **all** questions in the spaces provided.

All diagrams should be drawn accurately unless otherwise stated. Drawing aids may be used. Colour or shading should only be used if asked for in the question. Use your discretion where dimensions are not given.

INFORMATION FOR CANDIDATES

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

Dimensions are in mm unless stated otherwise.

Marks will be awarded for the use of correct conventions.

Question 5, product analysis, is based on the theme 'Children's activity packs' printed in the specification.

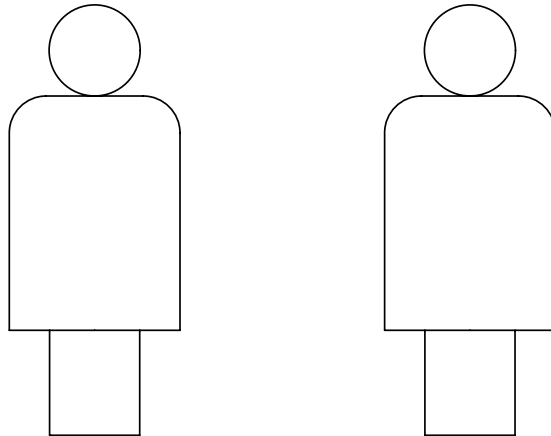
FOR EXAMINER'S USE	
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
TOTAL	

This question paper consists of 3 printed sheets.

- 1 (a) Part of a chart showing daily attendance figures at an international exhibition is shown opposite. Each symbol on the chart represents 1000 people. Complete the chart below for Thursday, to show an attendance of 2500 people. [3]

Monday		1000
Tuesday		3000
Wednesday		4000

Daily attendance figures



THURSDAY ATTENDANCE FIGURES

- (e) Explain why it would be inappropriate to display the daily attendance figures in the form of a pie chart.

_____ [1]

- (f) The outline of the symbol shown in (a) is to be used as the basis for male and female signs on the doors of toilets. Use sketches and notes to show how the outline could be used to show both male and female symbols. [2]

pictograph	picture	logo	silhouette
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- (b) Tick the correct name of this type of chart. [1]

- (c) Why would it be hard to show an attendance of less than 500 people using this type of chart.

_____ [1]

- (d) State why it is quicker to produce this type of chart using a computer.

_____ [2]

2 An isometric view of a card container used by a fast food restaurant to serve chips is shown.

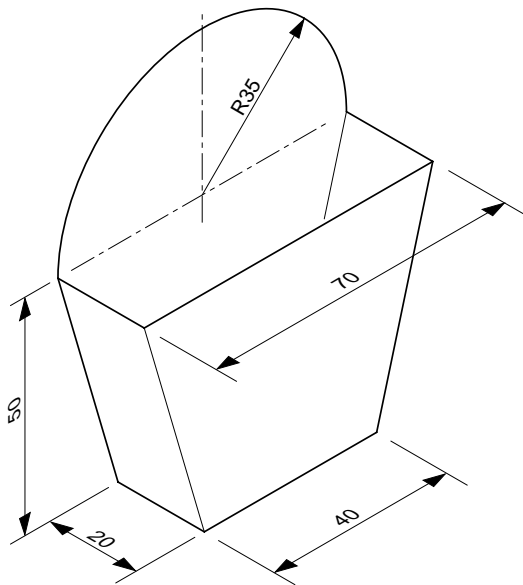
(a) Draw full size the development (net) of the container. Include a method for the **quick** assembly of the container by the staff of the restaurant. [6]

(b) Identify **two** things that would need to be tested in deciding on a suitable material for the container.

_____ [2]

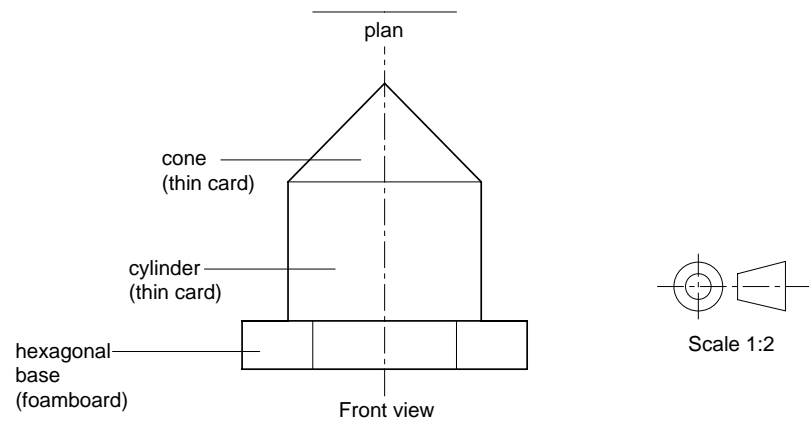
(c) Describe how CAM might be used in cutting out the shape of the development (net).

_____ [2]



3 The front view of a piece of novelty packaging is shown below.

(a) Complete the plan view of the packaging. [3]



(b) Use sketches and notes to show how the thin card cylinder could be attached to the foamboard base. [2]

(c) Quality control checks have shown that the cylinder and cone parts of the packaging need to be made as separate one piece developments (nets).

Identify **one** important aspect of making sure the two parts fit together.
_____ [1]

(d) An alternative design has been proposed in which the cylinder and cone are manufactured by vacuum forming in thin styrene sheet. Sketch a design for the former. Your design should show how the moulding can be easily removed from the former. [3]

(f) The foamboard bases are bought from another supplier on a 'just in time' basis.
State **one** advantage for the manufacturing company of using this form of manufacturing system for producing its products.
_____ [1]

4 Incomplete stages for the assembly of a mechanism made from card are shown. The mechanism has three parts; a Backing Card, a Pull Tab and a Pivot Arm.

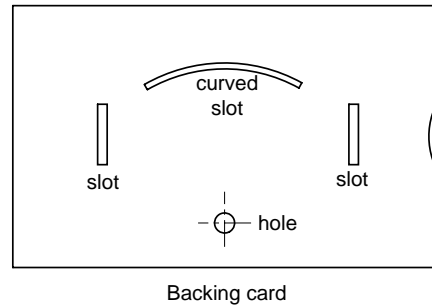
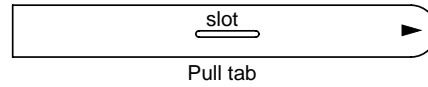
(a) Complete **Stage 1** by showing the Pull Tab in position in the two vertical slots. [1]

(b) Complete **Stage 2** by showing the Backing Card, Pull Tab and Pivot Arm fully assembled. [3]

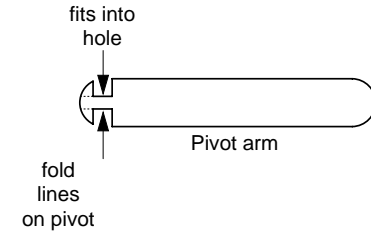
(c) State the input motion produced by the Pull Tab
 _____ [1]

(d) State the output motion produced by the Pivot Arm.
 _____ [1]

STAGE 1



STAGE 2



(e) In the space provided opposite, draw a modified version of the mechanism in which a second Pivot Arm is added so that the two Pivot Arms move like a pair of windscreen wipers. [2]

(f) In evaluation trials the card pivot point on the Pivot Arm has been found to tear easily. Describe how this problem could be overcome.
 _____ [1]

(g) Identify **one** key aspect of the manufacture of the slot to ensure that the mechanism works.
 _____ [1]

- 5 A drawing of a cartoon character is shown below.
The character is to form the theme for a childrens' activity pack.



- (a) Describe how market research could help in deciding whether the design for the character needs to be changed.

_____ [1]

- (b) Part of the activity pack is an A4 vinyl self adhesive sheet printed with ten images of the character.
The initial batch run is for 10,000 sheets.

Give **one** reason why photocopying would not be appropriate.

_____ [1]

- (f) Explain why the manufacturers of the activity pack have insisted the design for the character is generated within a computer package rather than drawn manually and then scanned into the system.

_____ [2]

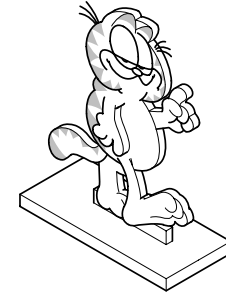
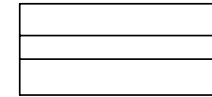
- (g) The initial sales campaign for the activity pack is to be launched only on the Internet.
Children will be able to download parts of the activity pack directly from the web site and then purchase the full pack by post.

State **one** advantage to the company in using this form of sales campaign.

_____ [1]

- (c) Part of the activity pack is a board game in which the children move playing pieces around the board.
Orthographic views and a pictorial sketch of one of the playing pieces are shown below.
Name, with a suitable reason, an appropriate graphic material for manufacturing the playing piece.

_____ [2]



- (d) Name the manufacturing process that would be used to cut out the outline of the character part of the playing piece.

_____ [1]

- (e) Draw an exploded isometric sketch of the base of the playing piece, showing how the two pieces of the playing piece would be joined together, and easily taken apart by the children.
It is not necessary to draw the character.

[2]