

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										



General Certificate of Secondary Education
Specimen Paper

Design and Technology: **XXXX/W**

Graphic Products

Date: Time

You will need no other materials.

- a pen, a pencil, a ruler, an eraser, a pencil sharpener and coloured pencils.

Time allowed:

- 2 hours

Instructions

- Use black ink or black ball-point pen. Use pencil and coloured pencils only for drawing.
- Answer **all** questions.
- Answer the questions on the spaces provided.
- Do all rough work in the book. Cross through any work you do not want to be marked.

Information

- The maximum mark for this paper is 120.
- The marks for questions are shown in brackets.
- The question in Section A relates to the context referred to in the preparation sheet that was previously issued.
- You are reminded of the need for good English and clear presentation in your answer. Quality of written communication will be assessed in question 6 (c).

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
TOTAL	

There are no questions printed on this page



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SECTION A

You should answer this question.

Section A is about designing.

You are advised to spend about 35 minutes on this question.

Design Theme: MUSIC FESTIVALS

- 1 A logo of the 'Live Aid' music event is shown in **Figure 1**.
The event raised money to reduce famine in Africa.

Figure 1



- 1 (a) Explain, with reasons, why this logo was appropriate for this event.

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(3 marks)



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Turn over ►

1 (b) Using the following design brief and specification create and present a logo and apply it to the given product.

Brief Design a Promotional Logo for a music festival called ‘**Sound Off**’ planned for the year 2010. The festival will raise funds to protect endangered forests.

Design Specification

The logo must:

- include the name ‘**Sound Off**’
- include images related to protecting endangered forests and music
- include the year 2010
- use colour

You should answer this question on the A3 sheet of paper enclosed.

You may use the mood board on the opposite page as a source of inspiration for ideas.



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MOOD BOARD of MUSIC FESTIVALS



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Question 1 (continued)

Using the design specification from page 4:

- 1** (b) (i) Sketch with notes **three** different ideas for the logo, and develop one into a final logo design
- 1** (b) (ii) Produce a coloured **presentation drawing** of your final logo design (**Figure 3**),
- 1** (b) (iii) Redraw your final logo design in a suitable position on a **promotional T-shirt (Figure 4)** which will be screen printed

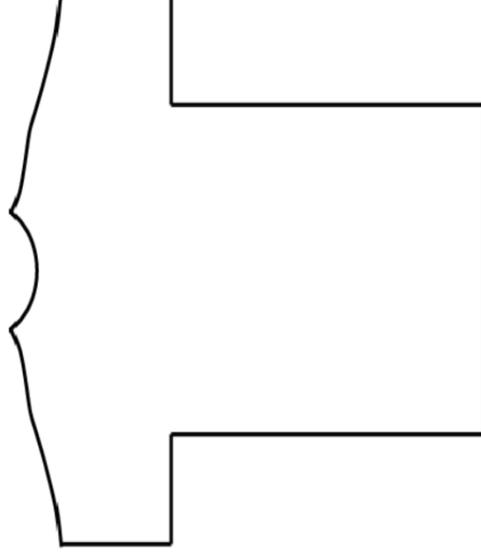
(13 marks)
(6 marks)
(5 marks)

(b) (i) Ideas and development

Figure 3

(b) (ii) Presentation drawing of final logo design

Figure 4 (b) (iii) T-shirt



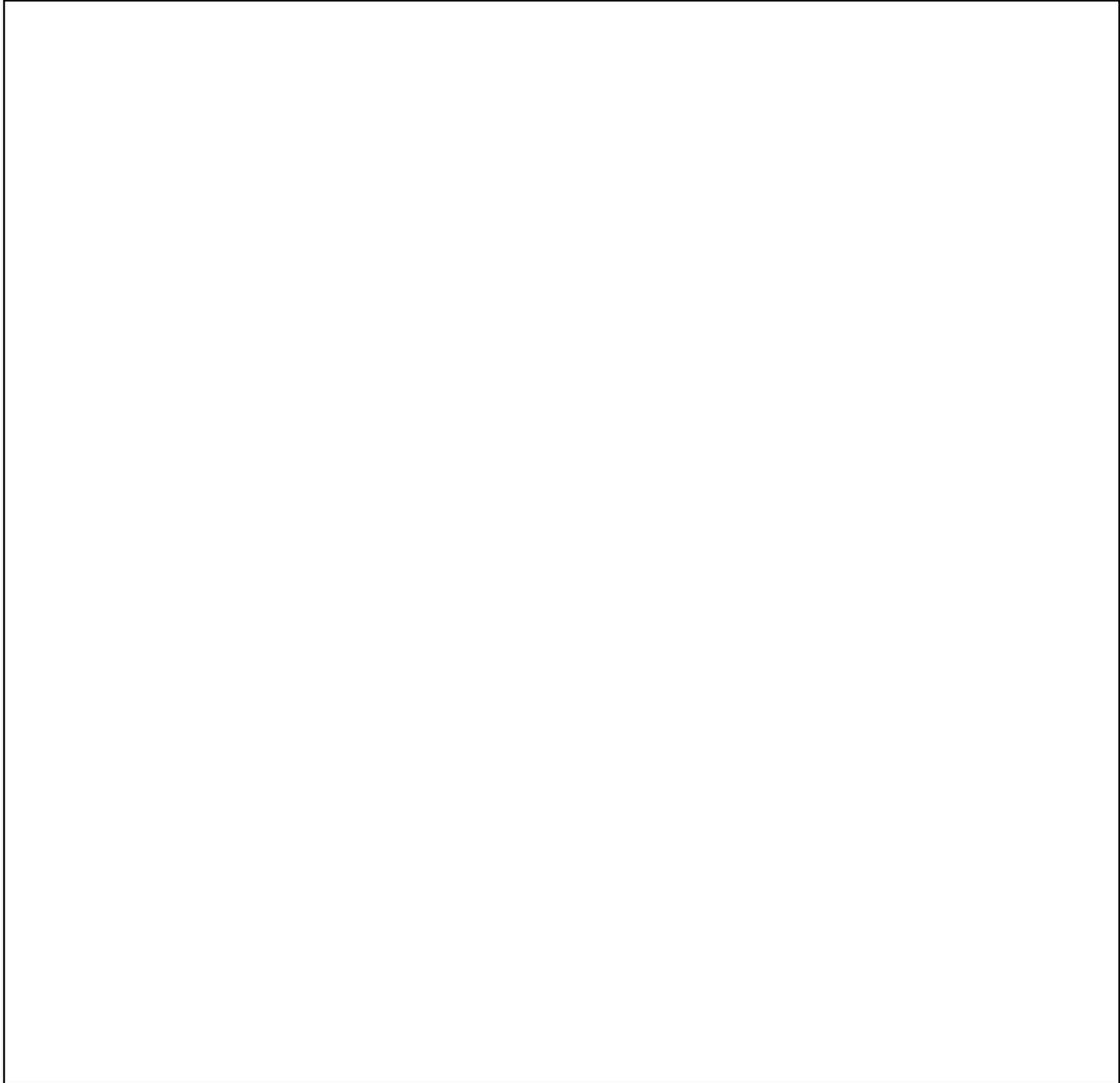
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1 (c) A package to hold the T-shirt is required.

In the space below use sketches and notes to design the package.

Marks will be awarded for:

- choice of materials used *(1 mark)*
- constructional details *(5 marks)*
- environmental considerations. *(2 marks)*



(8 marks)



SECTION B

You should answer **all** questions in this section.

This question is about representing data.

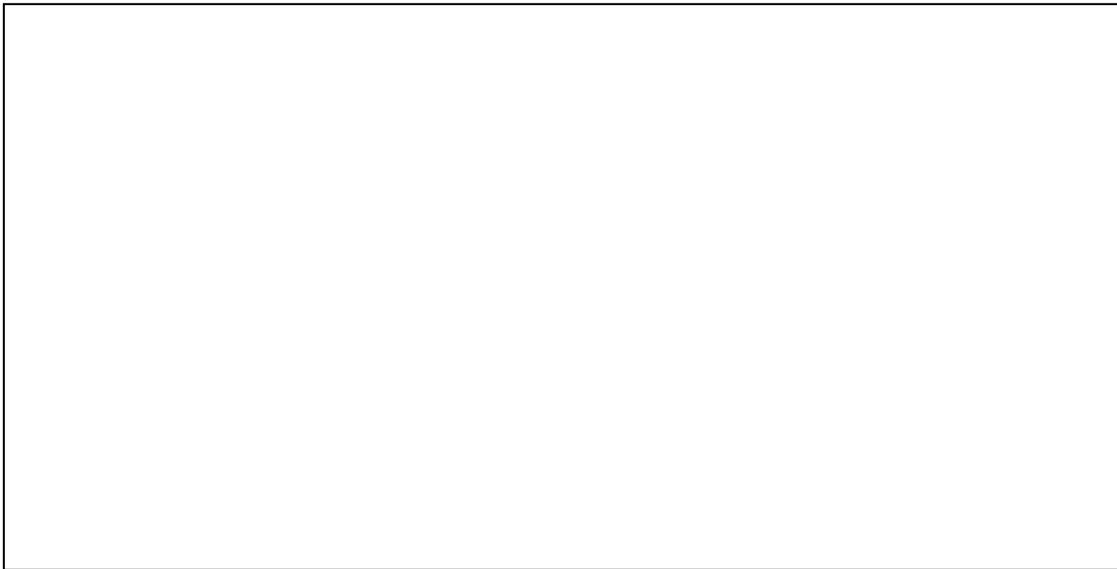
You are advised to spend about 7 minutes on this question.

- 2 A survey of the materials used for fast food containers gave the following results (**Table 1**).

Table 1

60 from printed card	20 from expanded polystyrene
30 from grease proof paper	10 from biodegradable board

- 2 (a) In the space below, draw a suitably coloured chart **or** diagram to represent this information graphically.



(6 marks)

- 2 (b) Name the type of chart or diagram used

.....

(1 mark)

7



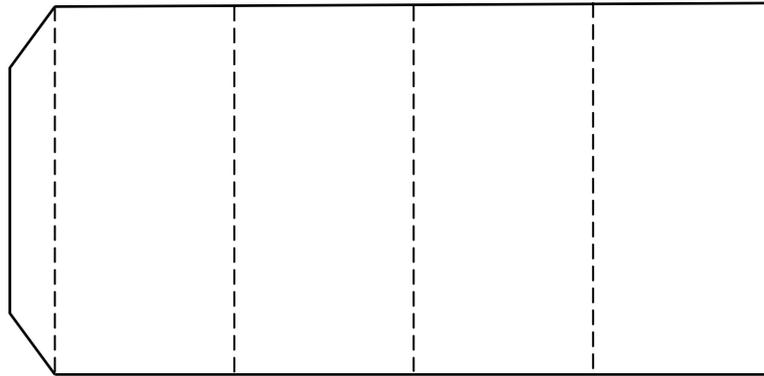
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This question is about pictorial sketching and equipment.

You are advised to spend about 20 minutes on this question.

- 3 A *tower* menu for a café is formed from thin card. The surface development (net) of the menu is shown in **Figure 5**.

Figure 5



- 3 (a) (i) In the space below draw a freehand isometric sketch of the assembled menu. (6 marks)
- 3 (a) (ii) Use the 'thick/thin line' technique to enhance the sketch. (2 marks)

- 3 (b) Three items of the equipment needed to make the menu card in a graphics studio



Barcode

Turn over ►

are shown below. Complete the details for each item.

<p>Item 1</p> 	<p>Name of equipment</p> <p>Use.....</p> <p>.....</p> <p>Safety considerations.....</p> <p>.....</p> <p>.....</p> <p style="text-align: right;"><i>(4 marks)</i></p>
<p>Item 2</p> 	<p>Name of equipment</p> <p>Use.....</p> <p>.....</p> <p>Safety considerations.....</p> <p>.....</p> <p>.....</p> <p style="text-align: right;"><i>(4 marks)</i></p>
<p>Item 3</p> 	<p>Name of equipment</p> <p>Use</p> <p>.....</p> <p>Safety considerations</p> <p>.....</p> <p>.....</p> <p style="text-align: right;"><i>(4 marks)</i></p>

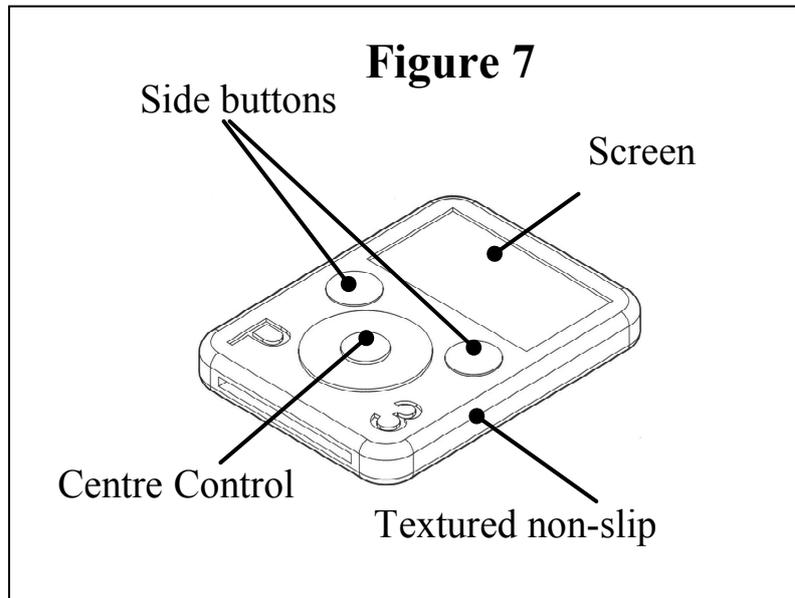
This question is about presentation, drawing and materials.



You are advised to spend about 18 minutes on this question.

- 4 A pictorial drawing of an MP3 player is given in **Figure 6** on the opposite page. A light source is shining down from the left.

It is made of different materials (see **Figure 7** below)



- the screen is clear plastic,
- the centre control has a metallic silver effect,
- around the sides is a textured non-slip rubber grip,
- the main casing is smooth plastic.

- 4 (a) On the side buttons, in **Figure 6**, draw 'fast forward' $\blacktriangleright\blacktriangleright$ and 'fast rewind' $\blacktriangleleft\blacktriangleleft$ arrows to show that they are embossed on the side buttons.

(2 marks)



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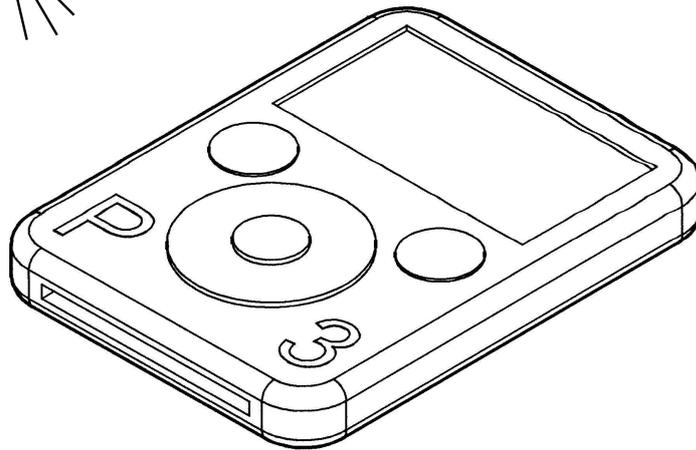
- 4 (b) Render the drawing of the MP3 player in **Figure 6**, taking the light source into account, to represent the given materials and textures.

Add shadow where appropriate.

Do **not** add extra text or other unwanted details.



Figure 6



(8 marks)



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4 (c) Different materials have properties which make them suitable for different uses.

Complete **Table 2** below by giving a full explanation as to why the material shown is suitable for the use indicated. An example has been given.

Table 2

Material	Typical Use	Reason
<i>Corrugated Card</i>	<i>Packaging</i>	<i>Protects product by absorbing knocks</i>
Clear polystyrene sheet	'Blister' packaging
Block foam <i>e.g. styrofoam</i>	Modelling 3D products
Laminated card	'Tetrapack' fruit drink containers
Biodegradable board	Fast food containers



This question is about Computer Aided Design and Manufacture and image manipulation.

You are advised to spend about 15 minutes on this question.

- 5 (a) (i) Computer Aided Drawing (CAD) programs use symbols or icons to represent drawing and colouring tools.
Three icons are shown in **Table 3**.

Name the icons numbered 1 and 2 and explain their use.
An example is given

Table 3

Number	ICON	Meaning	Use
Example		Pencil	To draw lines on the computer screen.
1	
2	

(6 marks)

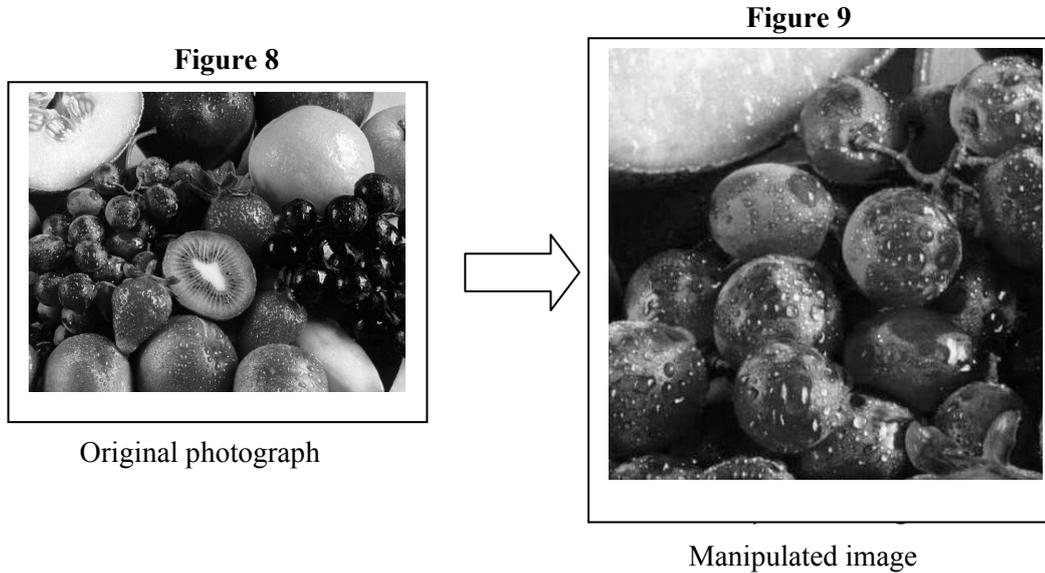
- 5 (a) (ii) For number 3, draw an icon in the same style to represent the ‘**print**’ command.

3		Print	When selected sends the screen image to the printer
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(2 marks)



- 5 (b) Photographs can be obtained from digital cameras and used on graphic products. **Figure 8** is the original photograph and **Figure 9** is its manipulated image. **Three** different changes have been made.



Explain how the original photograph has been manipulated. An example has been given.

Change 1 *Change in colour*

Explanation *The colour has been changed from multi-colour to a range of blues to suggest a change of mood/temperature and to emphasise their freshness by highlighting the moisture.*

Change 2

Explanation.....

(2 marks)

Change 3

Explanation.....

(2 marks)

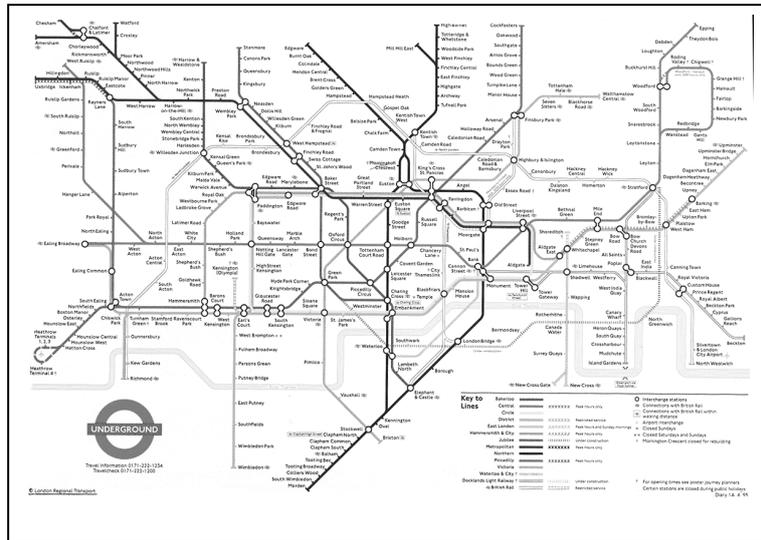


This question is about designers and their responsibilities.

You are advised to spend about 15 minutes on this question.

6

Figure 10



6 (a) Name the designer of this map of the London Underground system shown in Figure 10.

.....

(1 mark)



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6 (b)

Figure 11

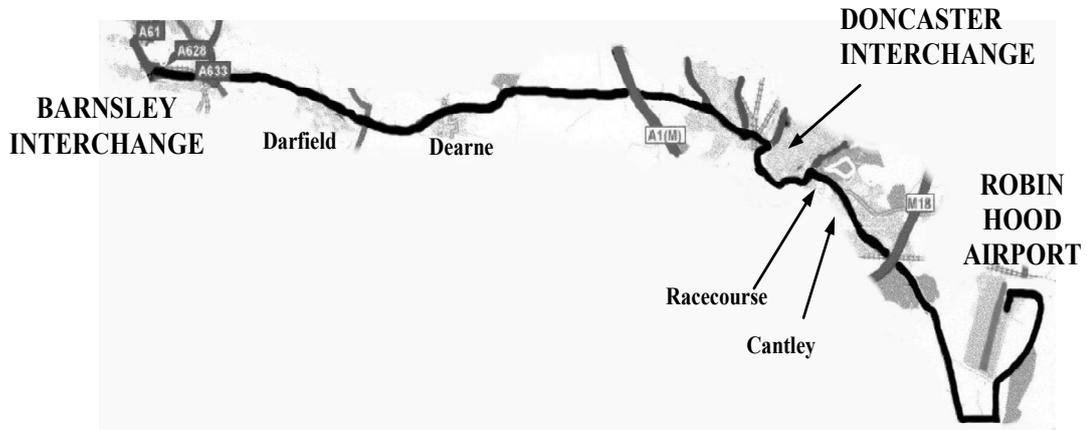


Figure 11 shows the route of an express bus service which runs between Barnsley Interchange and Robin Hood Airport. It stops at the places indicated.

In the space below draw a map of this bus route in the style of the designer of the London Underground Map.

(6 marks)



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6 (c) Briefly explain why this style of map (**Figure 10**) has proved popular for public transport routes in many cities.

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(6 marks)



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This question is about industrial processes and planning.

You are advised to spend about 15 minutes on this question.

- 7 (a) Promotional literature for a new expensive perfume is to be distributed inside a magazine.

The promotional literature could include one of the following special printing effects (**Table 4**).

Table 4

Spot varnishing
‘Scratch and Sniff’
Thermochromatic ink
Holographic image

Select **one** special printing effect you would use on this promotional literature.

I would use.....

- 7 (a) (i) Explain why this special printing effect is appropriate for a new perfume.

.....

.....

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(2 marks)



Barcode

7 (a) (ii) Describe with sketches and notes this special printing effect.



(4 marks)



Barcode

Turn over ►

- 7 (b) A design for a promotional sample container for a new shampoo to be given free with a magazine is shown in Figure 12.

Figure 12



- 7 (b) (i) Analyse the proposed design and comment on its suitability as a container for a sample of shampoo to be affixed on the front cover of a magazine.

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(5 marks)



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7 (b) (ii) The free sample is to be fixed to a magazine cover with hot melt glue **or** transparent adhesive tape (*Sellotape*). Give an advantage of hot melt glue and a disadvantage of adhesive tape for this use.

Advantage of hot melt glue:

.....
.....

(2 marks)

Disadvantage of adhesive tape:

.....
.....

(2 marks)

END OF QUESTIONS



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ADDITIONAL SAMPLE QUESTION

This question is about temperature sensitive inks and is worth 14 marks.

- (a) Explain the meaning of the term ‘smart material’.

(3 marks)

- (b) Smart materials have replaced more traditional materials. The medical thermometer (**Figure 9**) is an alternative to a glass thermometer. It is held against the patient’s forehead.

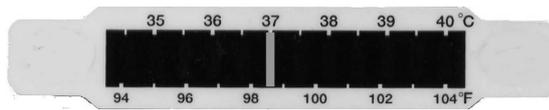


Figure 9

Explain how this thermometer works.

(5 marks)



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(c) A similar smart material is used when printing graphic imagery onto certain drinks cans. Explain how the use of a temperature sensitive ink can benefit both the manufacturer and the customer.

(i) The manufacturer would benefit because...

(3 marks)

(ii) The customer would benefit because...

(3 marks)



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