

Write your name here	
Surname	Other names
Centre Number	Candidate Number
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<b>Edexcel GCE</b>	
<h1>Design and Technology</h1> <h2>Product Design: Graphic Products</h2> <h3>Advanced Subsidiary</h3> <h3>Unit 2: Design and Technology in Practice</h3>	
Tuesday 19 May 2009 – Morning <b>Time: 1 hour 30 minutes</b>	Paper Reference <b>6GR02/01</b>
<b>You do not need any other materials.</b>	Total Marks
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#### Instructions

- Use **black** ink or ball-point pen.
- If pencil is used for diagrams/sketches it must be dark (HB or B). Coloured pens, pencils and highlighter pens must not be used.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*

#### Information

- The total mark for this paper is 70.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*
- You will be assessed on your ability to organise and present information, ideas, descriptions and arguments clearly and logically, including your use of grammar, punctuation and spelling.

#### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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**Answer ALL the questions. Write your answers in the spaces provided.**

- 1 Figure 1 shows a range of greeting cards. A designer uses desktop publishing (DTP) when producing ideas for the cards.



**Figure 1**

- (a) Give **four** advantages of using DTP over hand produced layouts.

(4)

1 .....

2 .....

3 .....

4 .....



(b) Describe **two** Health and Safety issues that must be considered when working on a computer.

(4)

1 .....

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(c) Describe how piezoelectric crystals could be used to enhance a greeting card.

(2)

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(d) Describe how phosphorescent pigments could be used to further enhance a greeting card.

(2)

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**(Total for Question 1 = 12 marks)**



2 Once a greeting card design is completed it will be commercially printed.

(a) Quality control (QC) will be needed to ensure a high quality colour printed image.

(i) Describe how computers are used to ensure colour consistency in the final print run.

(3)

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(ii) State and describe **two** further methods of quality control used in high volume printing.

(6)

Method 1

Description

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Method 2

Description

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(b) The gravure printing process is to be used for the commercial printing of a greeting card.

(i) Explain **two** benefits of using this printing process.

(4)

1 .....

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2 .....

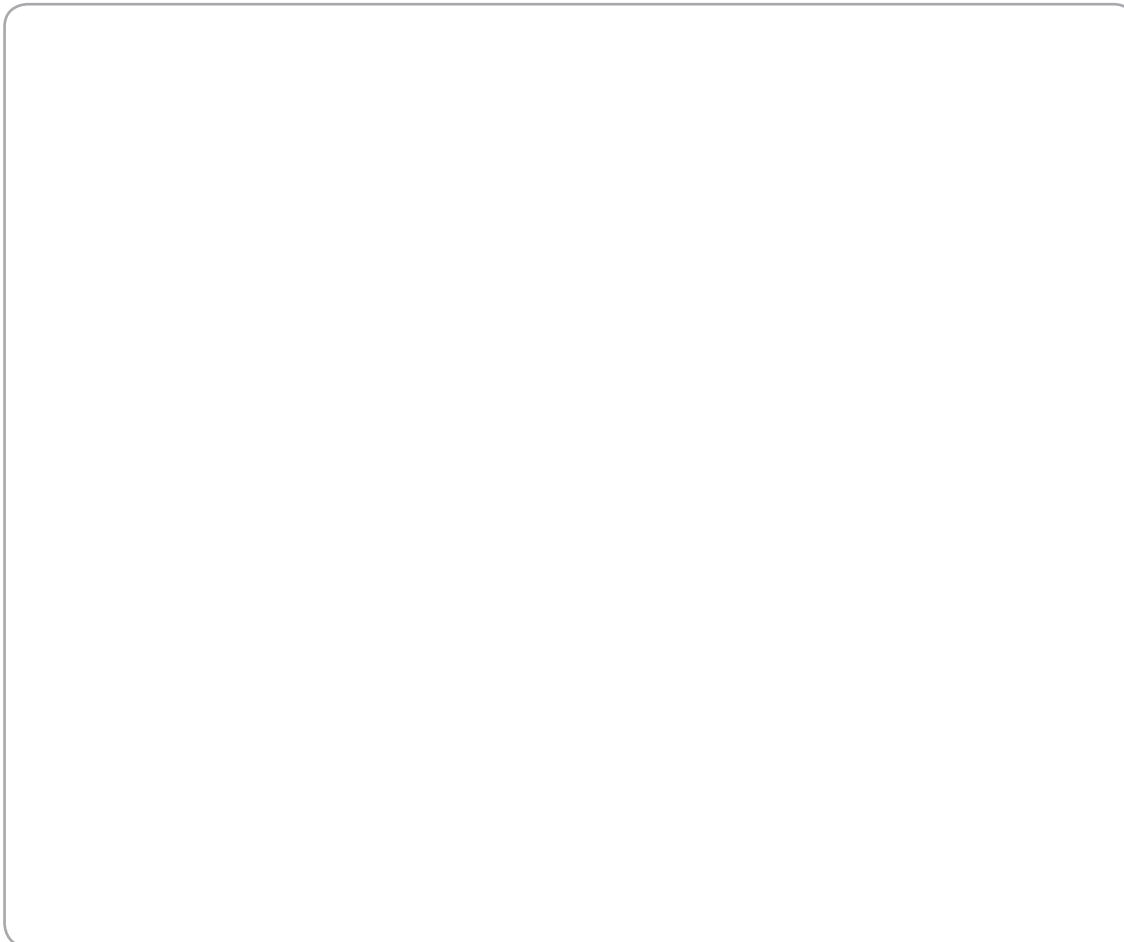
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(ii) Using annotated sketches, describe the gravure printing process.

(4)



(Total for Question 2 = 17 marks)





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6



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**3** An architect has designed a house. To show the idea to his client, a hand made block model has been produced.

(a) Outline **four** properties of Styrofoam™ which make it a suitable material for producing the block model.

(4)

1 .....

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(b) To show the internal details of the house, a virtual model has been generated on a computer.

Discuss the benefits of this method of modelling.

(5)

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(c) Figure 2 shows two orthographic views of a house.

From the orthographic views, produce a pictorial illustration of the house looking in the direction of the arrow shown.

Draw your response in the box on the facing page.

(6)

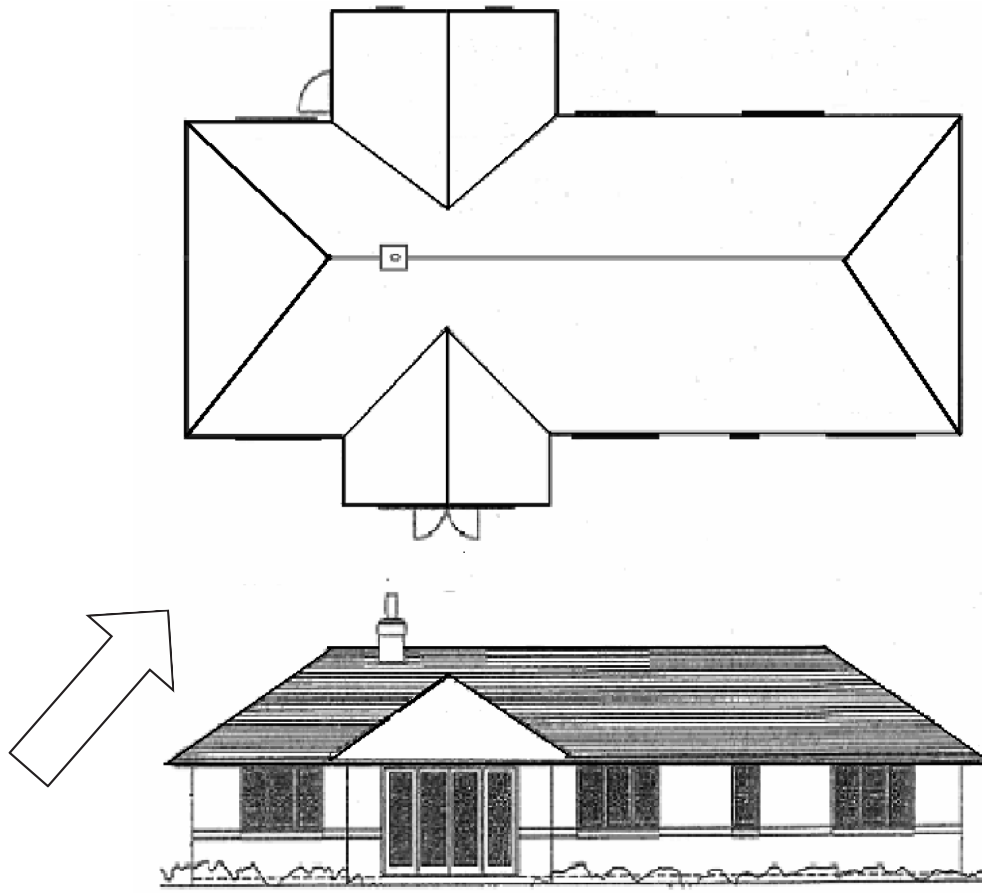


Figure 2





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[Large empty rectangular box for writing]

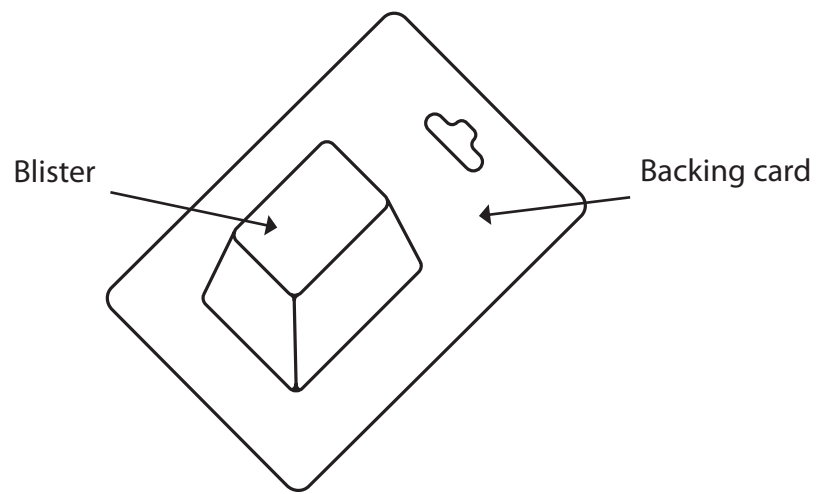
(Total for Question 3 = 15 marks)



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4 Figure 3 shows a blister pack.



**Figure 3**

(a) (i) State a suitable polymer for the vacuum formed blister.

(1)

(ii) Using annotated sketches, describe the stages in vacuum forming the polymer blister.

(5)

A large, empty rectangular box with rounded corners, intended for the student to draw annotated sketches of the vacuum forming process.





5 Figure 4 shows a hot drinks cup made from expanded polystyrene (PS).



Figure 4

(a) Describe **three** properties of expanded polystyrene (PS) that make it suitable to be used for a hot drinks cup.

(6)

1 .....

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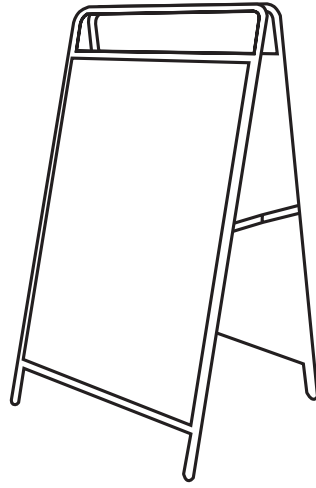
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Figure 5 shows an aluminium pavement sign.



**Figure 5**

(b) Evaluate the use of aluminium in the construction of this pavement sign in preference to other materials.

(6)

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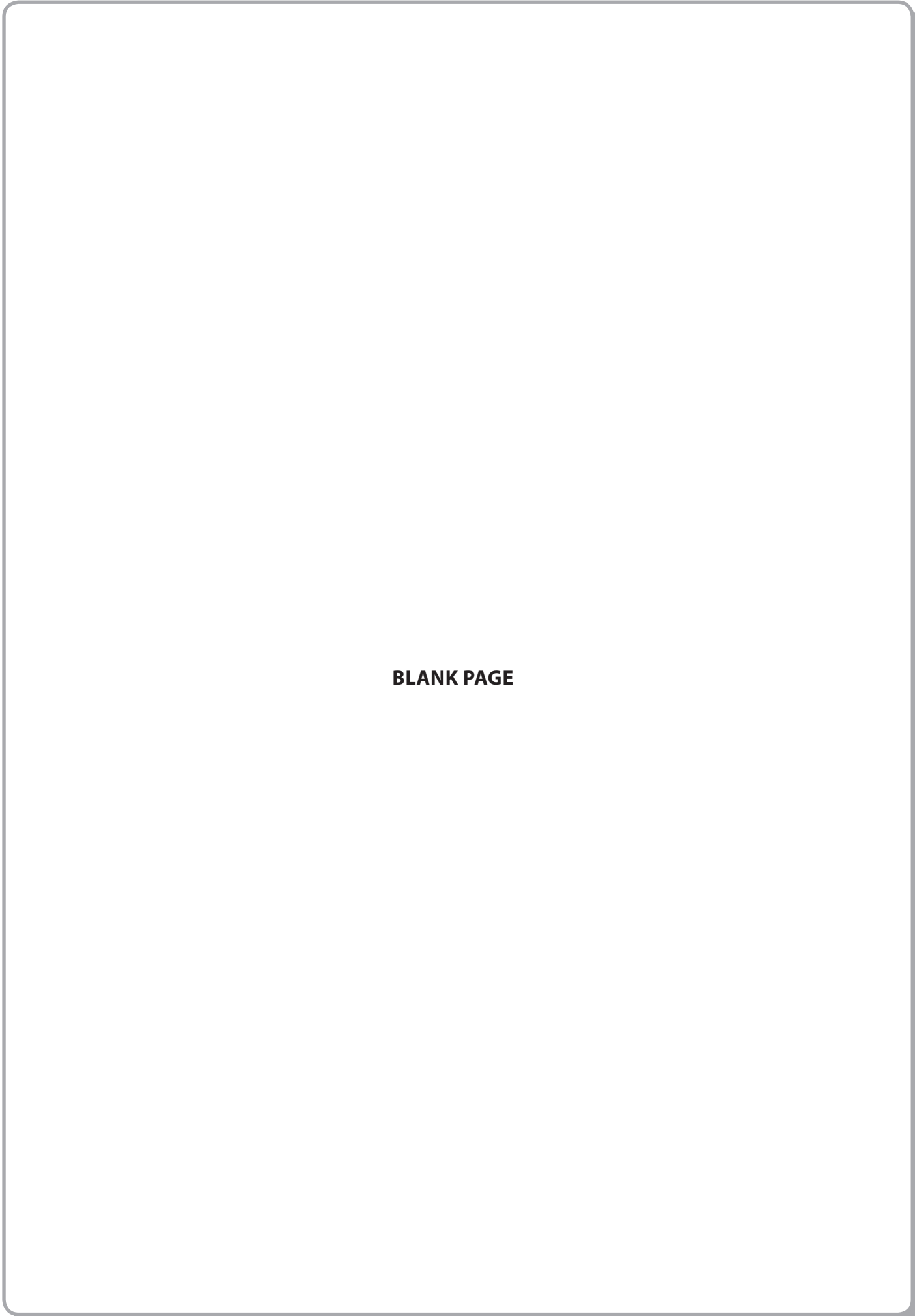
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**(Total for Question 5 = 12 marks)**

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**TOTAL FOR PAPER = 70 MARKS**





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