

SAMPLE PRODUCT DESIGN

GCSE EXAMINATION PAPER

CENTRE NUMBER

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CANDIDATE NUMBER

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SAMPLE PAPER 2

SURNAME _____

FORENAME(S) _____

CANDIDATE SIGNATURE _____

2 HOURS ALLOWED

Materials required for this examination:

- normal writing and drawing instruments
- a calculator
- a protractor.

Instructions to candidates:

- Use black ink or black ball-point pen. Use pencil only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write on blank pages.
- Do all rough work in this book. Cross through any work that you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 123.
- The question in Section A relates to the context referred to in the Preliminary Material that was previously issued.
- All dimensions are given in millimetres unless otherwise stated.
- You are reminded of the need for good English and clear presentation in your answers.

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SECTION A

This question is about designing.

You are advised to spend about 30 minutes on this question.

People take part in a range of leisure activities. Food and drink is required for lunch time and there is a need for a suitable DISPOSABLE carrier.

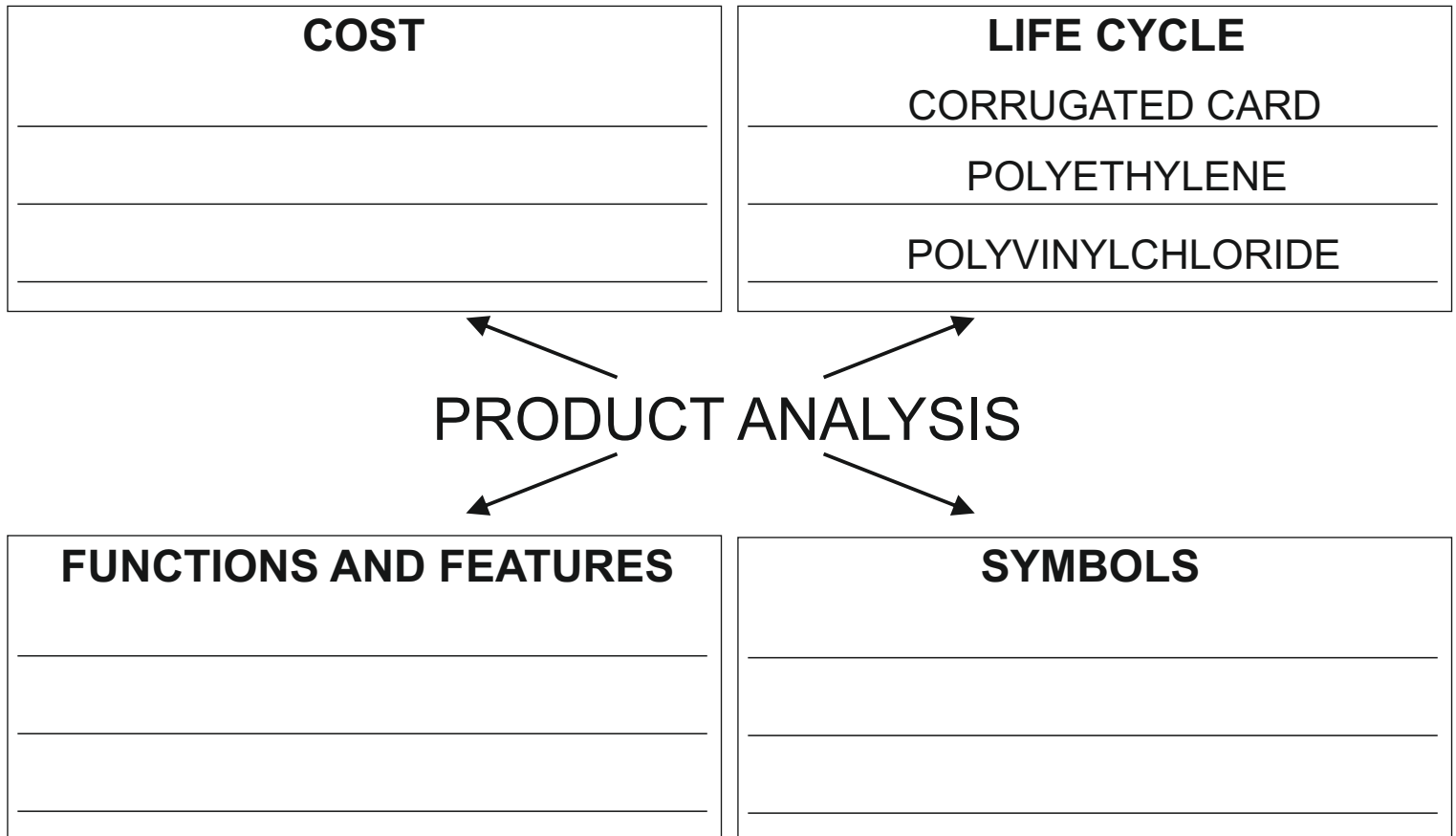
LEISURE ACTIVITIES



1a. A product analysis for designing a DESPOSABLE food carrier involves, investigating a range of points.

Complete the diagram below.

One of the points has been completed for you. 3 X 2 marks



TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/prddes1/pklunch1.html>

http://www.technologystudent.com/prddes_2/carrier17.html

<http://www.technologystudent.com/prddes1/pklunch2.html>

1b. You are to design a DISPOSABLE food carrier to contain and protect its contents. The carrier will be used by people who enjoy participating in leisure activities and need to carry a meal / lunch with them.

In the space below, use notes and sketches to design a disposable food carrier for leisure activities.

Marks will be given for:

- an original outcome
- details regarding the use of materials and the techniques and processes required for its manufacture.
- health and safety considerations and functionality.
- the level of communication and presentation.

15 marks

TO HELP YOU ANSWER
THIS QUESTION

http://www.technologystudent.com/prddes_2/carrier18.html

1e. Describe the life cycle of your disposable food carrier? 4 marks

Section B

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

This question is focussed on materials and also symbols.

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/despro2/drink7.htm>
<http://www.technologystudent.com/despro2/drink14.htm>

2a. Three packaging symbols are seen below. Complete the table by adding the symbol letter to the correct description. **3 marks**

A



B



C



LETTER	DESCRIPTION
	Normally seen on the packaging of fragile products. It means that the package and its contents need handling with care.
	It is there to remind people to place their rubbish in a rubbish bin rather than dropping it on the floor. It is also aimed at making people aware that they have a responsibility to keep the environment around them tidy and litter free.
	The product inside has been tested to British safety standards. This symbol is normally applied to non-food products such as electronic products or toys.

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/joints/pet1.html>

<http://www.technologystudent.com/joints/pety2.html>

2b. The products shown below are manufactured from POLYETHYLENE TEREPHTHALATE, PET, PETE, (POLYESTER).



Write two reasons why this type of material is suitable for the products above. *2 marks*

REASON 1:

REASON 2:

2c. The clothing is manufactured from nylon.
Write two reasons why this material is suitable. *2 marks*



TO HELP YOU ANSWER THIS QUESTION

http://www.technologystudent.com/joints_fish/nylon1.html

REASON 1:

REASON 2:

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/joints/polyurethane2.html>

2d. The products shown below are manufactured from POLYURETHANE. Write two reasons why this material is suitable. *2 marks*



REASON 1:

REASON 2:

TO HELP YOU ANSWER
2e and 2f

<http://www.technologystudent.com/joints/kevlar1.html>
<http://www.technologystudent.com/joints/kevlar2.html>

2e. What is Kevlar® ? Include in your answer, the name of the company that developed it. 3 marks

2f. Give two examples of the practical application of kevlar. 3 marks

3. This question is concerned barcodes

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/prddes1/barcode1.html>

3a. What is a barcode? 2 marks

TO HELP YOU ANSWER
THIS QUESTION

http://www.technologystudent.com/despro_flash/barcode1.html

How useful are barcodes at the check out of a supermarket? 2 marks

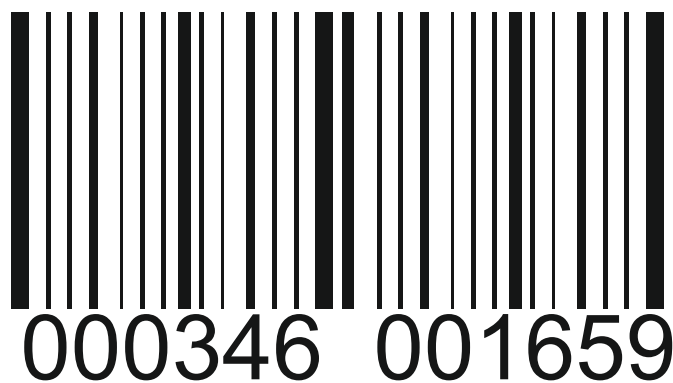
3b. Barcodes are usually very straightforward, being composed on a series of vertical lines and numbers. However, the presentation of barcodes can be improved by adding appropriate images and colour. An example is shown below.

This barcode has been designed for a florist. Grass and wild flowers have been added to the basic barcode, so that it fits in with the shop's theme.



The owner of a local shop selling children's toys, has asked you to design a suitable pictorial barcode.

On / around the barcode below, add suitable sketches, with colour. The mood board on the next page, may be helpful. *6 marks*





4. This question relates to environmental issues

4a. Explain each of the following environmental terms. 3 x 2 marks

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/prddes1/downcyc1.html>

Downcycling:

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/prddes1/closetloop1.html>

Closed Loop Recycling:

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/prddes1/envirmod1.html>

Environmental Modernism:

6. This set of questions is concerned with production methods.

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/joints/scalep1.htm>

http://www.technologystudent.com/joints/revcard_contp1.html

http://www.technologystudent.com/joints/rev_batch1.html

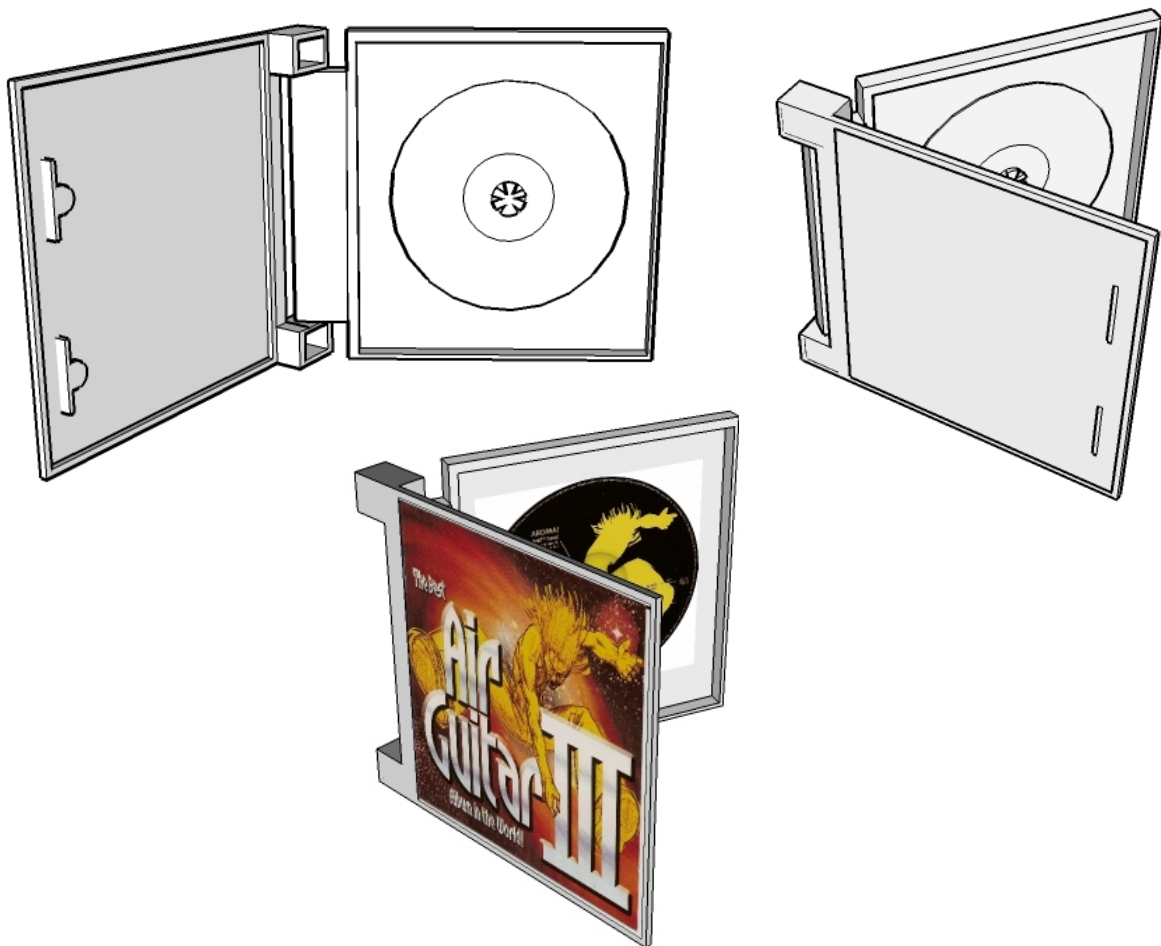
6a. What is the difference between Continuous Production and Batch Production? Include an example of a product manufactured by each system. 4 marks

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/grp08/case1.html>
<http://www.technologystudent.com/grp08/manu1.html>
<http://www.technologystudent.com/grp08/prnt1.html>
<http://www.technologystudent.com/grp08/pack1.html>

6b. The image below shows a design for a case/packaging for a Music CD ROM.

Add notes and sketches to give relevant details about the suitable materials, manufacturing and finishing processes. *6 marks*



TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/designpro/prtpro4.htm>

6c. The printing on the surface of Music CDs is through a process called screen printing. What is screen printing? Use notes and sketches.

3 marks

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/prddes1/qual1.html>

6d. The manufacturing the music CD packaging goes through a process called Quality Assurance.

What is Quality Assurance ? 4 marks

6e. The manufacture of the packaging for the music CD ROM, involves the tessellation of the packaging material surface. What is a tessellation? Use notes and a sketch in your answer. 3 marks

TO HELP YOU ANSWER THIS QUESTION <http://www.technologystudent.com/prddes1/perfpk16.html>

TO HELP YOU ANSWER
THIS QUESTION

http://www.technologystudent.com/despro_flash/foilblk1.html

6f. To add a feel of quality to the packaging of the music CD ROM, it is to under go the process of foil blocking. In the space below, explain the process of Foil Blocking. Use notes and a sketch(s) 8 marks

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/despro2/prneff4.htm>
<http://www.technologystudent.com/despro2/stamp24.htm>

6g. Sometimes packaging is embossed. What is embossing? *Include notes and a sketch(s)* 4 marks

TO HELP YOU ANSWER
THIS QUESTION

http://www.technologystudent.com/despro_flesh/revise11.html

7. This set of questions relates to Iconic Designs

7a. The history of design is 'littered' with iconic designs. Write a criteria list, that helps determine which designs are iconic designs. Criteria number one has already been written for you. 5 marks

1. A design that sets a bench mark for others to follow.

TO HELP YOU ANSWER
THIS QUESTION

www.technologystudent.com/despro_flesh/Designer1.html

7b. Name an iconic design and explain why you feel it deserves iconic status. Your answer to 7a, may help you answer this question. 6 marks

TO HELP YOU ANSWER
THIS QUESTION

<http://www.technologystudent.com/prddes1/ettore1.html>
<http://www.technologystudent.com/prddes1/ettore2.html>



Ettore Sottsass was a famous 'Memphis' designer.

8a. Name a product designed by Ettore Sottsass. 1 mark

8b. In the space provided, describe the product you have named and include a colour rendered sketch. 5 marks