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.
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 DISPOSABLE food carrier involves, investigating a range of points.

Complete the diagram below.

One of the points has been completed for you.  

<table>
<thead>
<tr>
<th>COST</th>
<th>LIFE CYCLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CORRUGATED CARD</td>
</tr>
<tr>
<td></td>
<td>POLYETHYLENE</td>
</tr>
<tr>
<td></td>
<td>POLYVINYLCHLORIDE</td>
</tr>
</tbody>
</table>

PRODUCT ANALYSIS

<table>
<thead>
<tr>
<th>FUNCTIONS AND FEATURES</th>
</tr>
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<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>SYMBOLS</th>
</tr>
</thead>
<tbody>
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<td></td>
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<tr>
<td></td>
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</tbody>
</table>
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
1c. Evaluate your design and its suitability as a disposable food carrier, for people taking part in leisure activities.  

1d. Your product is to be manufactured through continuous production. What is continuous production and why is it suitable for your product?
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

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

<table>
<thead>
<tr>
<th>LETTER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Normally seen on the packaging of fragile products. It means that the package and its contents need handling with care.</td>
</tr>
<tr>
<td>B</td>
<td>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.</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
</tr>
</tbody>
</table>
2b. The products shown below are manufactured from POLYETHYLENE TEREPTHALATE, PET, PETE, (POLYESTER).

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

REASON 1: http://www.technologystudent.com/joints/pety2.html

REASON 2: http://www.technologystudent.com/joints/pet1.html

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_flsh/nylon1.html

REASON 1: http://www.technologystudent.com/joints_flsh/nylon1.html

REASON 2: http://www.technologystudent.com/joints_flsh/nylon1.html
2d. The products shown below are manufactured from POLYURETHANE. Write two reasons why this material is suitable.  

**REASON 1:**

**REASON 2:**

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http://www.technologystudent.com/joints/polyurethane2.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

3a. What is a barcode? 2 marks

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:

Closed Loop Recycling:

Environmental Modernism:

TO HELP YOU ANSWER THIS QUESTION  
http://www.technologystudent.com/prddes1/envirmod1.html
5a. Name a typical method of advertising.  \(1 \text{ mark}\)

5b. Name a product that has been sold successfully, as a result of the type of advertising you named above.  \(1 \text{ mark}\)

5c. Describe how this type of advertising encouraged consumers to buy your named product.  \(4 \text{ marks}\)

5d. What is the purpose of advertising? (What is advertising?)  \(4 \text{ marks}\)
6. This set of questions is concerned with production methods.

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/joints/scalep1.htm
http://www.technologystudent.com/joints/revcard_contp1.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
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

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
6f. To add a feel of quality to the packaging of the music CD ROM, it is to undergo the process of foil blocking. In the space below, explain the process of Foil Blocking. Use notes and a sketch(s)  8 marks
6g. Sometimes packaging is embossed. What is embossing? *Include notes and a sketch(s) 4 marks*
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.

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

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Ettore Sottsass was a famous ‘Memphis’ designer.

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

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