



**Answer ALL questions in Section A and Section B.**

**SECTION A**

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

1. All of the products listed below belong to a manufacturing sector.
- (a) Tick the **two** boxes below where the products belong to the **printing and publishing** sector.

| Products        | Tick <b>two</b> boxes below |
|-----------------|-----------------------------|
| Whale oil       |                             |
| Lottery ticket  |                             |
| Icing sugar     |                             |
| Metal door lock |                             |
| Football cards  |                             |
| Liquid soap     |                             |

(2)

- (b) Tick the **two** boxes below where the products belong to the **paper and board** sector.

| Products             | Tick <b>two</b> boxes below |
|----------------------|-----------------------------|
| High-visibility vest |                             |
| DVD                  |                             |
| Road atlas           |                             |
| Suspension bridge    |                             |
| Science textbook     |                             |
| USB stick            |                             |

(2)

Q1


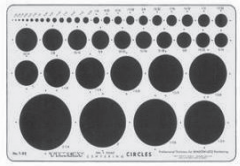
(Total 4 marks)



2. The tables below show some equipment used when designing or making paper or board products.

(a) Complete Table 1 by naming the equipment.



**Table 1**

| Equipment   | Equipment name | Use   |
|---|----------------|---|
|   |                | For precision cutting or scoring of paper or card.      |
|  |                | For drawing circles of different diameters, accurately. |

(2)

(b) Complete Table 2 by explaining the use of the equipment.

**Table 2**

| Equipment   | Equipment name | Use |
|---|----------------|-----|
|  | Guillotine     |     |
|  | Flexi-curve    |     |

(4)

Q2

(Total 6 marks)



Leave  
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3. Draw a straight line to link each term listed below to the correct key area.

Each key area can be used more than once.

**Term**

**Key Area**

Continuous operation

(1)

Information and  
communications technology  
(ICT)

Computer-aided  
design (CAD)

(1)

Databases

(1)

Control technology

Polymers

(1)

Automation

(1)

Modern materials

Composites

(1)

Q3

(Total 6 marks)



Leave blank

4. Cereal packaging belongs to the printing and publishing, paper and board sector.

(a) (i) Name **one** other product from this sector, apart from cereal packaging, that utilises in its manufacture information and communication technology and a modern material.

.....  
(1)

(ii) Explain the purpose of the product.

.....  
.....  
.....  
(2)

(b) (i) Name **one** stage in the manufacture of the product you gave in 4(a)(i) where information and communications technology is used.

.....  
(1)

(ii) Explain **one** advantage to the **manufacturer** of using information and communications technology at this stage.

.....  
.....  
.....  
(2)

(c) (i) State **one** modern material used in the manufacture of the product you named in 4(a)(i).

.....  
(1)

(ii) Describe how this modern material improves the design of the product.

.....  
.....  
.....  
.....  
(2)

(Total 9 marks)

Q4





|  |   |
|--|---|
| <p>5. (a) Explain <b>three</b> benefits to a <b>manufacturer</b> of using computer-aided manufacture (CAM).</p> <p>1 .....</p> <p>.....</p> <p>2 .....</p> <p>.....</p> <p>3 .....</p> <p>.....</p> <p style="text-align: right;">(6)</p> <p>(b) Explain how the use of CAM in product manufacture encourages the <b>consumer</b> to buy the product.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p style="text-align: right;">(2)</p> <p style="text-align: right;">(Total 8 marks)</p> | <p>Leave blank</p> <p>Q5</p> <input type="text"/> |
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6. In the paper and board sector, communications technology is used to transfer information between suppliers, manufacturers and distributors.

(a) (i) State **one** type of communications technology used to transfer information between suppliers and manufacturers.

.....  
(1)

(ii) Describe how the use of this communications technology benefits the **manufacturer**.

.....  
.....  
.....  
(2)

(b) (i) Describe **one** way in which communications technology is used to transfer sales information from paper and board distributors to manufacturers.

.....  
.....  
.....  
(2)

(ii) Explain how the use of this communications technology benefits the **distributor**.

.....  
.....  
.....  
.....  
.....  
(3)

(Total 8 marks)

Q6



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7. (a) Explain **one** advantage, other than a financial benefit, of introducing automation to the production stage in a printing process.

.....  
.....  
.....  
.....

(2)

(b) Explain **one** disadvantage of introducing automation to the production stage of a printing process.

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.....  
.....

(2)

(Total 4 marks)

Q7

**TOTAL FOR SECTION A: 45 MARKS**





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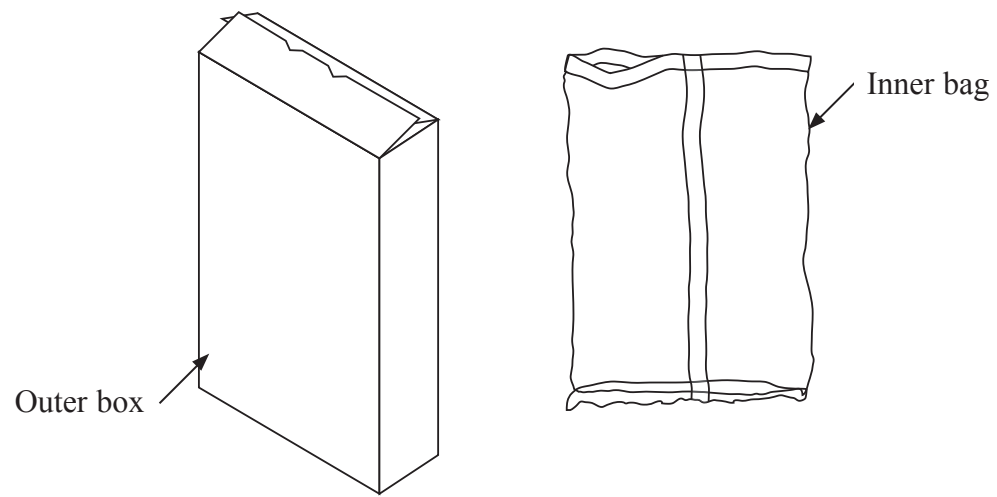
**TURN OVER FOR SECTION B**



**SECTION B**

**Answer ALL questions in this section with reference to the manufacture of mass produced cereal packaging. Write your answers in the spaces provided.**

The diagram below shows cereal packaging.

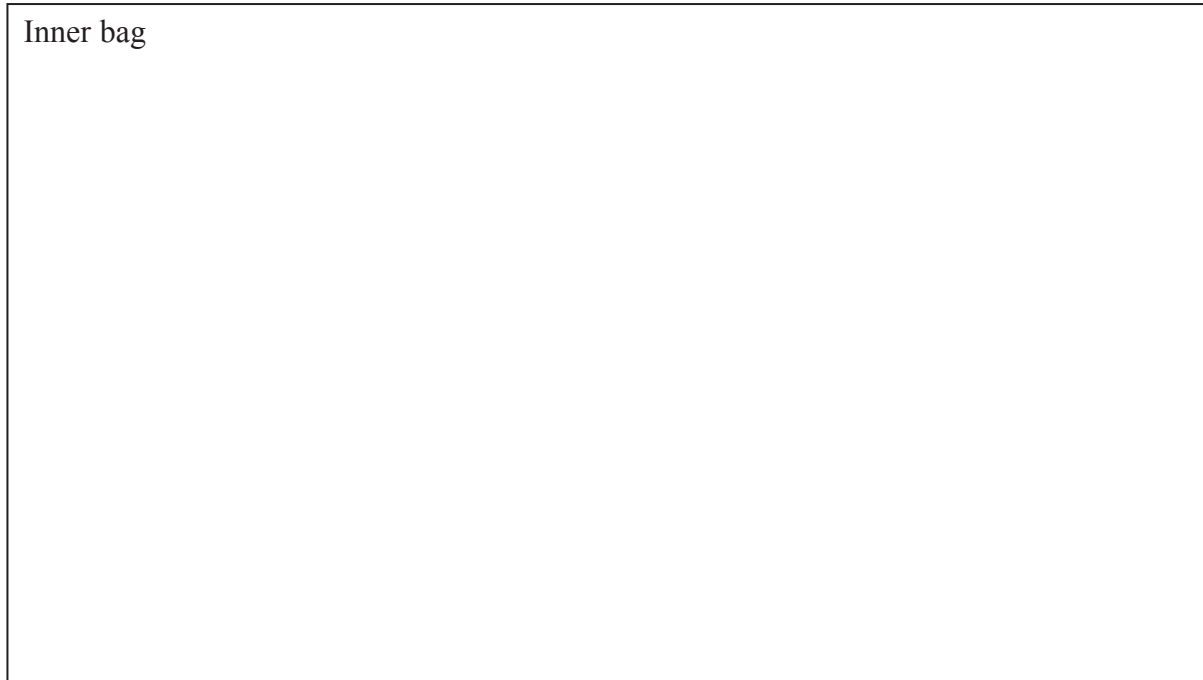


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8. In the boxes below, describe, using notes and sketches:

(a) the function of the inner bag

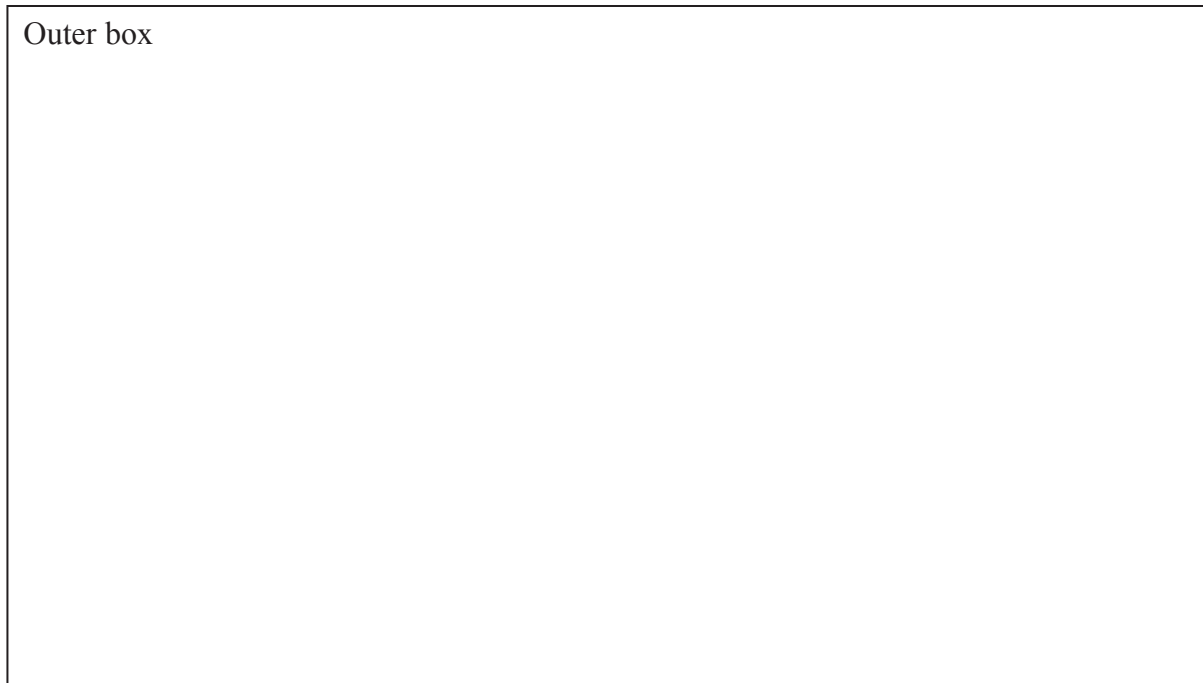
Inner bag



(3)

(b) the function of the outer box.

Outer box



(3)

(Total 6 marks)

Q8

11

Turn over



9. (a) The following table indicates some of the main stages in manufacturing cereal packaging.

(i) Complete the table below by giving the **two** missing main stages in manufacturing cereal packaging.

| Stages in manufacturing |                        |
|-------------------------|------------------------|
| 1                       | Design                 |
| 2                       | Marketing              |
| 3                       | Production planning    |
| 4                       |                        |
| 5                       | Production             |
| 6                       |                        |
| 7                       | Packaging and dispatch |

(2)

(ii) State the stage where images are produced for the outer box.

Stage .....

(1)

(b) Describe the following **two** stages in the manufacture of cereal packaging.

(i) Marketing .....

.....

.....

.....

.....

(3)

(ii) Production planning .....

.....

.....

.....

.....

(3)

(Total 9 marks)

Q9



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10. (a) Name the specific material commonly used for:

(i) the outer box of the cereal packaging

.....  
(1)

(ii) the inner bag of the cereal packaging.

.....  
(1)

(b) Flexography is used to print onto the surface of the outer box.

(i) State **three** production processes, other than flexography, used during the manufacture of cereal packaging.

1 .....

2 .....

3 .....

(3)

(ii) Explain why flexography is used for printing onto the surface of the outer box.

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(2)

(c) Explain how the use of modern materials has helped the **manufacturer** of cereal packaging to develop new products.

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(3)

(Total 10 marks)

Q10

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11. (a) (i) Give **one** application of quality control during the **production stage** of the manufacture of cereal packaging.

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(1)

(ii) Describe how quality could be checked in this application.

.....  
.....  
(2)

(iii) Explain the benefits to the cereal packaging user of the use of quality control.

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.....  
.....  
.....  
(3)

(b) (i) Apart from quality control, state **one type** of computer control in the **production stage** when manufacturing cereal packaging.

.....  
(1)

(ii) Describe the use of this type of computer control.

.....  
.....  
.....  
(2)

(c) Explain the benefits to the **manufacturer** of the use of computer control.

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.....  
.....  
.....  
(3)

(Total 12 marks)

Q11



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12. Information and communications technology (ICT) plays an important role in the manufacture and sales of cereal packaging.

(a) (i) State **two** uses of ICT at the design stage.

1 .....

2 .....

(2)

(ii) Describe **one** use of ICT in the packaging and dispatch stage.

.....

.....

.....

(2)

(b) Explain **one** benefit of the use of ICT to the retailer of packaged cereals.

.....

.....

.....

(2)

(c) Explain the impact ICT has on the design, development and production of cereal packaging.

.....

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(4)

(Total 10 marks)

Q12

TURN OVER FOR QUESTION 13



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13. Automation is always evident when manufacturing cereal packaging.

(a) Explain how the introduction of automation has impacted on product cost and the opportunity to introduce new product designs.

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(4)

(b) Evaluate the effect of the use of automation on the workforce and the working environment.

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(4)

(Total 8 marks)

Q13

**TOTAL FOR SECTION B: 55 MARKS**

**TOTAL FOR PAPER: 100 MARKS**

**END**

