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Answer ALL the questions in Section A and Section B.

SECTION A

Answer ALL the 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 **food** and **drink** sector.

Products	Tick two boxes below
Soy sauce	
Plastic ruler	
Baseball cap	
China mug	
Paperback book	
Carbonated water	

(2)

(b) Tick the **two** boxes below where the products belong to the **biological** and **chemical** sector.

Products	Tick two boxes below
Carrier bag	
Nylon socks	
De-icer	
Oven mitt	
Light bulb	
Dried yeast	

(2)

Q1

(Total 4 marks)



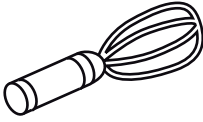
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2. The table shows some equipment used in the manufacture of products.

Complete the table by:

- (a) Naming each piece of equipment;
- (b) Explaining what each piece of equipment is used for.

The first one is done for you.

Equipment	Equipment name	Use
	Whisk	To mix liquid ingredients and liquid/powder ingredients. To make mixtures smooth. To mix in air to lighten mixture.

		
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(3)

		
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(3)

Q2

(Total 6 marks)



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

Each key area can be used more than once.

Term

Key area

Computer Integrated Manufacturing (CIM)

Information and Communications Technology (ICT)

Modified starches

Process control

Modern materials

Gelling agents

Internet sites

Control technology

Databases

Q3

(Total 6 marks)



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4. Digestive biscuits belong to the food and drink sector.

(a) (i) Name **one** other product from this sector, apart from **digestive biscuits**, that utilises in its manufacture control technology and modern materials.

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(1)

(ii) Explain how the product can be used.

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

(b) (i) State **one** stage in the manufacture of the product you named in 4(a)(i) where control technology is used.

.....
(1)

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

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.....
.....
(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 characteristics of the product.

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

(Total 9 marks)

Q4



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5. Computer-aided manufacture (CAM) and Computer-aided design (CAD) are both used by manufacturers of food and drink, biological and chemical products.

(a) (i) Give **one** example of where Computer-aided manufacture (CAM) is used by a manufacturer.

.....
(1)

(ii) Explain the benefits to the **manufacturer** of using Computer-aided manufacture (CAM) relating to the example given in 5(a)(i).

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

(b) (i) Give **one** example of how Computer-aided design (CAD) is used by a manufacturer.

.....
(1)

(ii) Explain the benefits to the **manufacturer** of using the Computer-aided design (CAD) relating to the example given in 5(b)(i).

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

(c) Explain **one** benefit to the **retailer** of the manufacturer using Computer-aided manufacture (CAM).

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

(Total 8 marks)

Q5



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6. Communications technology is now widely used by manufacturers.

- (a) Name **two** examples of communications technology.
- (b) Describe the traditional communications method it has replaced.
- (c) Explain **one** benefit to the manufacturer of using this replacement new technology.

Example 1

Communications technology 1
.....
(1)

Method it has replaced
.....
(1)

Benefit of replacement
.....
.....
(2)

Example 2

Communications technology 2
.....
(1)

Method it has replaced
.....
(1)

Benefit of replacement
.....
.....
(2)

(Total 8 marks)

Q6



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7. Handling information and data is an essential feature in food and drink, biological and chemical manufacturing companies.

Explain the benefits information and data handling systems have on:

(a) production efficiency

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(2)

(b) marketing

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(2)

Q7

(Total 4 marks)

TOTAL FOR SECTION A: 45 MARKS



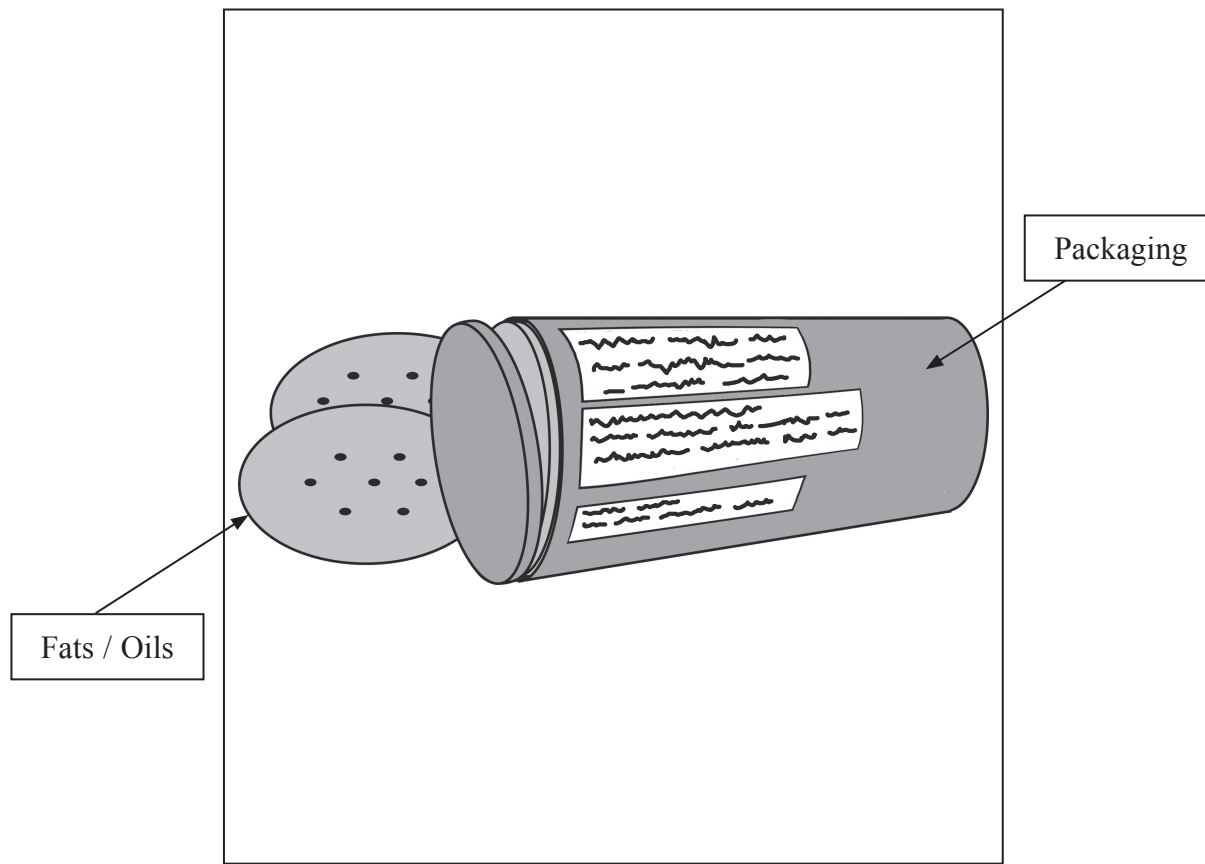
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SECTION B

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

The diagram below shows a pack of digestive biscuits.



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8. (a) In the box below, explain, using notes, the functions of the fats/oils.

Fats/Oils

(3)

(b) In the box below, explain, using notes and sketches the functions of the packaging.

Packaging

(3)

Q8

(Total 6 marks)

11

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9. (a) The following table indicates the main stages in manufacturing packs of digestive biscuits.

Design
Production planning
Materials supply and control
Assembly and finishing
Packaging and dispatch

(i) Write in the table above the **two** missing stages in manufacturing packs of digestive biscuits. (2)

(ii) State the stage where the “Best Before” information is applied.

Stage (1)

(b) Describe the following **two** stages in the manufacture of packs of digestive biscuits.

(i) Production planning

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

(ii) Packaging and dispatch

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

(Total 9 marks)

Q9



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10. (a) Name the specific ingredient commonly used in digestive biscuits to make them:

(i) short to eat

.....
(1)

(ii) brown in colour.

.....
(1)

(b) Raising agents can be used in the manufacture of digestive biscuits.

(i) Explain the functions of raising agents.

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(3)

(ii) Name **two** materials that could be used as a raising agent.

1
2
(2)

(c) Explain how the use of modern materials has helped the **manufacturer** of digestive biscuits develop new products.

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(3)

(Total 10 marks)

Q10

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11. (a) Describe **two** quality control procedures used at the **packaging stage** of the manufacture of the packs of digestive biscuits that utilise monitoring control technology.

(i) Quality control procedure 1

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(2)

(ii) Quality control procedure 2

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.....

(2)

(b) Explain **one** benefit of applying each quality control procedure, described in (a) above, to the **manufacturer**.

(i) Benefit of procedure 1

.....
.....

(2)

(ii) Benefit of procedure 2

.....
.....

(2)

(c) Explain **one** benefit of applying each quality control procedure, described in (a) above, to the **consumer**.

(i) Benefit of procedure 1

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.....

(2)

(ii) Benefit of procedure 2

.....
.....

(2)

(Total 12 marks)

Q11



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12. (a) The utilisation of modern technology in the manufacture of packs of digestive biscuits has brought changes. Explain these changes in:

(i) the type and size of the workforce

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(2)

(ii) the working environment

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.....
.....

(2)

(iii) the global environment

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.....
.....

(2)



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(b) Describe **one disadvantage** that modern technology has had on the workforce.

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(2)

(c) Describe **one advantage** that modern technology has had on the global environment.

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(2)

Q12

(Total 10 marks)

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13. Computer-aided design (CAD) and Computer-aided manufacture (CAM) are used in the manufacture of packs of digestive biscuits.

(a) Describe how CAD is used by the manufacturer to increase market share.

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(4)



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(b) Describe how CAM is used to control manufacturing costs.

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(4)

Q13

(Total 8 marks)

TOTAL FOR SECTION B: 55 MARKS
TOTAL FOR PAPER: 100 MARKS

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