

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 **engineering fabrication** sector.

Products	Tick two boxes below
Climbing frame	
Concert ticket	
Park railings	
Kevlar flak jacket	
Calico sail	
Greetings card	

(2)

(b) Tick the **two** boxes below where the products belong to the **engineering fabrication** sector.

Products	Tick two boxes below
Compact disc	
Shopping trolley	
Sleeping bag	
Ammunition boxes	
Luxury hamper	
MP3 player	

(2)

Q1

(Total 4 marks)



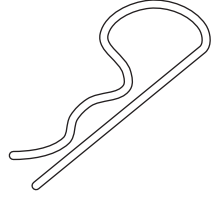
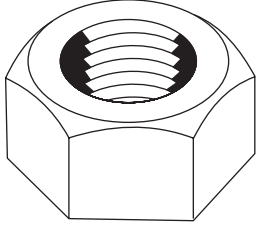
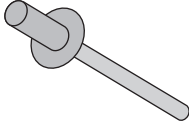
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2. The table below shows some components used in the manufacture of products.

Complete the table by:

- (a) naming each component;
- (b) explaining what each component is used for.

The first one is done for you.

Component	Component Name	Use
	Split pin or pin	Metal fastening used to join or keep components together.
		
		(3)
		
		(3)

(Total 6 marks)

Q2



Leave blank

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
Quality control	modern materials
Computer-aided manufacture	control technology
Polymers	information and communications technology (ICT)
Spreadsheet	
Automation	
Thermo-ceramics	

Q3

(Total 6 marks)



Leave blank

4. Gas barbecues belong to the engineering fabrication sector.

(a) (i) State **one** product from this sector, apart from gas barbecues, that uses a modern material and control technology in its manufacture.

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(1)

(ii) Explain the purpose of the product.

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.....
(2)

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

.....
(1)

(ii) Explain how this modern material benefits the design of the product.

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

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

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(1)

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

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.....
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(2)

(Total 9 marks)

Q4



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5. (a) Give **two** examples of communication technology.

For each, explain a benefit to the **manufacturer** of using this technology.

Communication technology 1. (1)

Benefit. (2)

Communication technology 2. (1)

Benefit. (2)

(b) Explain **one** benefit to the **consumer** of the manufacturer using communications technology.

..... (2)

(Total 8 marks)

Q5



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6. In the engineering fabrication industry, traditional methods of manufacture have been replaced by the use of computer-aided manufacture (CAM).

(a) Give **two** examples of manufacturing activities where a traditional method of manufacture has been replaced by the use of CAM.

Manufacturing activity 1.

Traditional method.

.....

Use of CAM.

.....

(2)

Manufacturing activity 2.

Traditional method.

.....

Use of CAM.

.....

(2)

(b) For each manufacturing activity you identified in 6(a), describe **one** advantage of using CAM compared with the traditional method of manufacture.

Manufacturing activity 1.

Advantage of using CAM.

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(2)

Manufacturing activity 2.

Advantage of using CAM.

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(2)

(Total 8 marks)

Q6



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7. Control technology is used in engineering fabrication manufacture.

Explain the impact of control technology on:

(a) safety in manufacture;

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(2)

(b) efficiency of methods of production.

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(2)

(Total 4 marks)

Q7

TOTAL FOR SECTION A: 45 MARKS



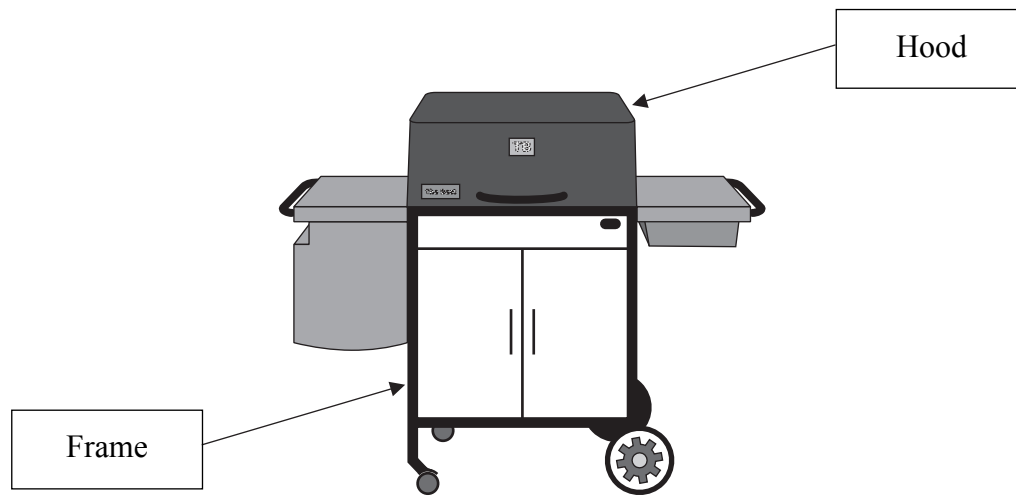
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SECTION B

Answer ALL questions in Section B with reference to mass produced gas barbecues.

The diagram below shows a mass produced gas barbecue.




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

(a) the function of the hood;

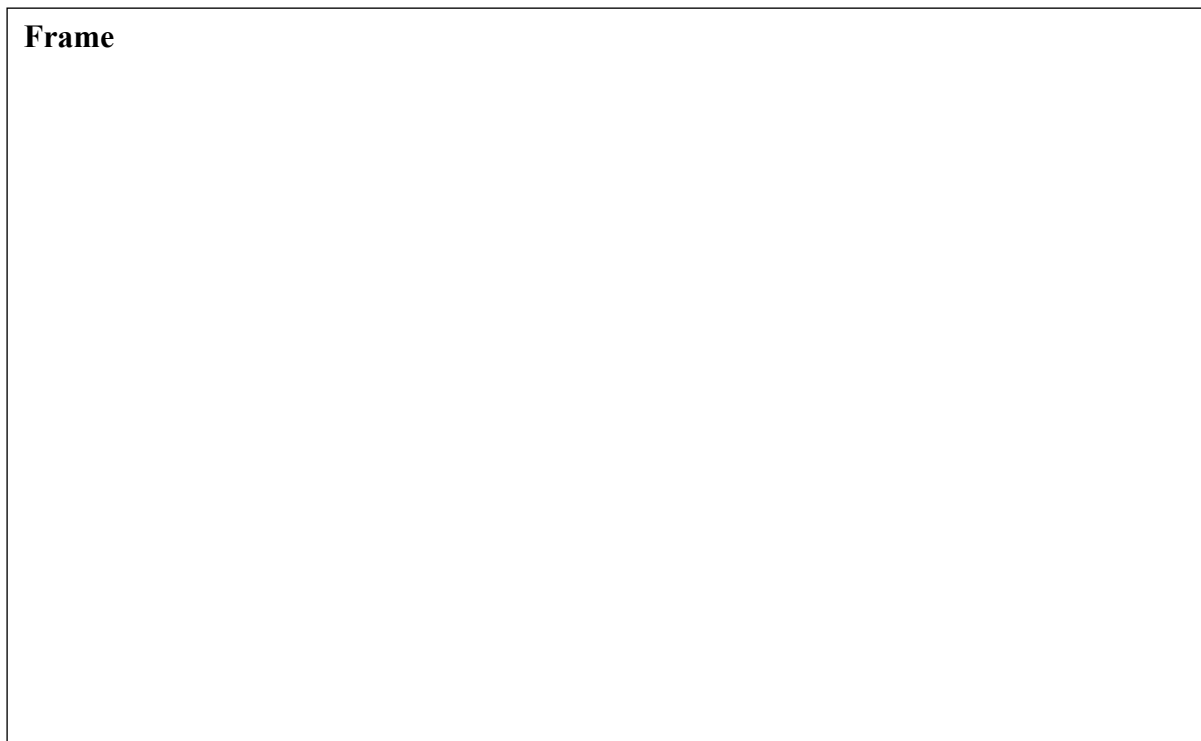
Hood



(3)

(b) the function of the frame.

Frame



(3)

(Total 6 marks)

Q8

11

Turn over



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9. The following table indicates the stages in manufacturing gas barbecues. Two stages are missing.

Design
Marketing
Material supply and control
Processing – Production
Packaging and dispatch

(a) Write in the table above the **two** missing stages in manufacturing gas barbecues. (2)

(b) State the stage where the hood is press formed.

Stage

(1)

Q9

(Total 3 marks)



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10. (a) Name the specific material commonly used in the following parts of a gas barbecue:

(i) burners;

.....
(1)

(ii) hood.

.....
(1)

(b) Porcelain-enamelled metal can be used in the manufacture of gas barbecues.

(i) Explain what is meant by porcelain-enamelled metal.

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(2)

(ii) Justify the use of porcelain-enamelled metal.

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(3)

(c) Explain how the use of modern materials has made gas barbecues appeal to the domestic market.

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(3)

(Total 10 marks)

Q10

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11. (a) Mass produced gas barbecues are manufactured using a number of different stages.

Describe the following **four** stages in the manufacture of gas barbecues:

(i) Design.

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(2)

(ii) Marketing.

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(2)

(iii) Materials supply and control.

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.....
(2)

(iv) Production.

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(2)



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(b) Information and communications technology (ICT) is used in the design and manufacture of gas barbecues.

(i) State and describe **one** use of ICT in the **design** stage of the gas barbecue.

Type of ICT used. (1)

Description of use. (2)

(ii) Explain the benefits of this use of ICT at the design stage.

..... (3)

(c) (i) State and describe **one** use of quality control in the **manufacturing** stage of the gas barbecue.

Type of quality control used. (1)

Description of use. (2)

(ii) Explain the benefits of this use of quality control in the manufacturing stage.

..... (3)

(Total 20 marks)

Q11



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12. Explain the impact of modern technology on:

(a) the design and development of gas barbecues;

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(3)

(b) improved characteristics of gas barbecues.

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(3)

Q12

(Total 6 marks)



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13. Information and communications technology (ICT) is used in the manufacture of mass produced gas barbecues.

(a) Evaluate the effect that the use of ICT has had on **materials supply and control** for the gas barbecues.

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(5)



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(b) Evaluate the effect that the use of ICT has had on **market supply and demand** for gas barbecues.

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(5)

Q13

(Total 10 marks)

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

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