



Oxford Cambridge and RSA

Monday 27 June 2016 – Afternoon

GCSE MANUFACTURING

B234/02 Impact of Modern Technologies on Manufacturing



Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

None

Duration: 1 hour



Candidate forename		Candidate surname	
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Centre number						Candidate number			
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- Your Quality of Written Communication will be assessed in questions marked with an asterisk (*)
- This document consists of **8** pages. Any blank pages are indicated.

1 A list of manufacturing sectors is given below.

Food and drink

Electrical

Furniture

Machinery and Equipment

Paper and Print

(a) Name **two** different manufacturing sectors other than those shown above.

1

2

[2]

(b) Choose **three** sectors from the list and, for each sector:

- name **one** product produced in that sector
- give **one** example of a modern technology used in the product.

Sector 1

Product

Modern technology used

[2]

Sector 2

Product

Modern technology used

[2]

Sector 3

Product

Modern technology used

[2]

2 Many products have changed because of developments in modern materials.

(a) Explain the meaning of the term 'modern material.'

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

[2]

(b) Explain, using **two** examples, how products have been improved through the use of modern materials.

Example 1

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

[3]

Example 2

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

[3]

3 Describe the impact of modern technologies on the following:

(i) Product quality

..... [2]

(ii) Materials

..... [2]

(iii) The environment

..... [2]

(iv) Product disposal

..... [2]

4 'Lean manufacturing' aims to reduce waste.

(a) Describe in detail **two** ways in which waste can be reduced in the manufacturing process.

1

.....

.....

.....

..... [3]

2

.....

.....

.....

..... [3]

(b) Explain **one** possible impact on the environment of waste material disposal.

.....

.....

.....

.....

..... [3]

5 Part of a flow process chart is shown below.

Flow Process Chart			
Symbols	Description	Distance (m)	Time (s)
○	Source material	20	40
○	Place material in milling machine		10
○	Process component		300
→	Move machined component to assembly	10	20
○	Assemble component		100
→	Move assembled product to quality control	20	80
▽	Check final product		25
→	Move finished product to dispatch	50	100

(a) State the meaning of each of the following flow process symbols:

Symbol 1 

[1]

Symbol 2 

[1]

Symbol 3 

[1]

(b) Explain how this flow process chart could be used to improve manufacturing output.

.....

 [3]

(c) Describe how introducing a quality control check after processing the component could reduce:

Manufacturing waste

.....

[2]

Manufacturing time

.....

[2]

6 (a) Describe **two** ways in which energy consumption in the workplace can be reduced.

1

.....

[2]

2

.....

[2]

(b) Give **three** examples of 'green energy' sources.

1

.....

2

[3]

7 Describe **two** ways in which the use of modern technology has improved the workplace environment.

1

For more information, contact the Office of the Vice President for Research and the Office of the Vice President for Student Affairs.

[2]

2

[2]

8* Discuss the effects of modern technologies on 'Global Trading'.

[6]

END OF QUESTION PAPER



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