



**Monday 27 June 2016 – Afternoon**

**GCSE MANUFACTURING**

**B234/02** Impact of Modern Technologies on Manufacturing

Candidates answer on the Question Paper.

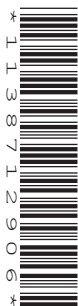
**OCR supplied materials:**

None

**Other materials required:**

None

**Duration:** 1 hour



Candidate forename		Candidate surname	
Centre number		Candidate number	

### 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.

2

- 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]

3

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]

5

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			
Subject: Process and production Chart begins: Source material Chart ends: Move finished product to dispatch			
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]

7

- (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 .....

[3]

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

1 .....

.....

..... [2]

2 .....

.....

..... [2]

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

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..... [6]

**END OF QUESTION PAPER**

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