



**Tuesday 24 June 2014 – Afternoon**

**GCSE MANUFACTURING**

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

Candidates answer on the Question Paper.

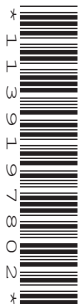
**OCR supplied materials:**

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 The list below shows some manufacturing sectors.

- Clothing and textiles
- Chemical and pharmaceutical
- Electronic and communications
- Machinery and equipment
- Food and drink

(a) Choose **one** manufacturing sector from the list above and for that sector

- name **two different** products made in this sector
- for each product, give **one** example of a modern technology used in its manufacture.

Sector .....

Product 1 .....

Modern technology used .....

[2]

Product 2 .....

Modern technology used .....

[2]

(b) Explain the benefit of using modern technologies in **each** product that you have named in part (a).

Benefit for product 1 .....

..... [2]

Benefit for product 2 .....

..... [2]

2 Some stages in the manufacture of a product are listed below.

- Assembly**
- Finishing**
- Packaging**

Describe **one** activity that takes place at each of these stages.

(i) Assembly .....  
.....  
..... [2]

(ii) Finishing .....  
.....  
..... [2]

(iii) Packaging .....  
.....  
..... [2]

3 Describe the impact of modern technologies on each of the following:

(i) Working conditions .....  
.....  
..... [2]

(ii) Product availability .....  
.....  
..... [2]

(iii) Product cost.....  
.....  
..... [2]

(iv) Transportation of goods .....  
.....  
..... [2]

4 Many manufacturers use **CAM** technologies in their production processes.

(a) (i) State what the letters **CAM** stand for.

**C** ..... **A** ..... **M** ..... [1]

(ii) Describe **two** benefits to a manufacturing company of using CAM.

1 .....  
..... [2]

2 .....  
..... [2]

(b) Some manufacturing sectors also use Computer Integrated Manufacturing (CIM) in their production processes.

Describe, in detail, **one** benefit to a manufacturing company of using CIM.

.....  
.....  
.....  
..... [3]

(c) Explain what is meant by the term 'standardised components'.

.....  
.....  
.....  
..... [3]

5 Describe **three** things that a manufacturer should consider when introducing modern technologies into the workplace.

1 .....  
.....  
..... [2]

2 .....  
.....  
..... [2]

3 .....  
.....  
..... [2]

6 (a) Describe how waste can be reduced in the following stages of manufacture.

(i) Production planning .....  
.....  
..... [2]

(ii) Processing .....  
.....  
..... [2]

(iii) Packaging.....  
.....  
..... [2]

(b) Explain what is meant by the term 'Design for Manufacturing Assembly' (DFMA).

.....  
.....  
.....  
..... [3]

7 Shape memory alloy is one example of a smart material.

(a) Explain what is meant by the term 'smart material'.

.....  
.....  
.....  
..... [3]

(b) Explain the use of a smart material other than shape memory alloy in a manufactured product.

.....  
.....  
.....  
..... [3]



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