



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	
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.

- 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]

3

- 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]

4

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]

5

- (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

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]

7

8* Discuss the effects of modern technologies on the production of manufactured products.

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..... [6]

END OF QUESTION PAPER

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