



**GENERAL CERTIFICATE OF SECONDARY EDUCATION
MANUFACTURING**

B234

Impact of Modern Technologies on Manufacturing

**Tuesday 29 June 2010
Morning**

Duration: 1 hour

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:
None



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number			
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INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- 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).

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 is assessed in questions marked with an asterisk (*).
- This document consists of **8** pages. Any blank pages are indicated.

- 1 (a) Manufacturing sectors produce different products.
Complete the links below to identify which manufacturing sector makes the products listed.

Manufacturing Sector	Product
Chemical and pharmaceutical	- Birthday cake
Clothing and Textiles	- Child's cot
Electrical and communications	- Football shirt
Food and drink	- Horse box
Furniture	- Lipstick
Motor manufacturing	- Orange juice carton
Packaging	- Vacuum cleaner

[7]

- (b) Select **two** products from those shown above and, for each, state:

- **one** technology used in your chosen product;
- **one** benefit of using that technology.

Product 1

Technology..... [1]

Benefit..... [1]

Product 2

Technology..... [1]

Benefit..... [1]

2 (a) Give **two** detailed reasons for making a prototype when designing a product for manufacture.

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

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

(b) Give **two** reasons why a prototype might differ from the final product in large scale production.

Reason 1 [1]

Reason 2 [1]

3 (a) To achieve sustainable manufacturing, companies should consider how they can “reduce” and “reuse”.

(i) Explain, using an example how “reduce” can be achieved.
.....
..... [2]

(ii) Explain, using an example how “reuse” can be achieved.
.....
..... [2]

(b) Give **one** material that cannot be recycled and explain why this material cannot be recycled.
material [1]

explanation
..... [2]

4 Explain the impact of using modern technology on the:

- transportation of goods;
- variety of manufactured products;
- local environment.

transportation of goods

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..... [3]

variety of manufactured products

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..... [3]

local environment

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..... [3]

5 Explain what is meant by the following terms.

(a) Make versus buy

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

(b) Safe disposal

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

(c) Fair trade

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

6 *Lean Manufacturing* aims to reduce waste in the manufacturing system.

Describe how waste can be reduced by considering each of the following.

(a) Transportation of materials and products

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

(b) Movement of people

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

(c) Scrap

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

7 Part of a flow process chart is shown.

Flow Process Chart			
<input checked="" type="checkbox"/> Present method <input type="checkbox"/> Proposed method			
Subject: Finishing and packaging			
Chart begins: Pierce top			
Chart ends: Pack in outer cartons			
Symbols	Description	Distance (m)	Time (s)
	Pierce top		7
	Wait		350
	Carry to packing line	10	60
	Box in dozens		
	Conveyor to line 4	25	100
	Pack in outer cartons		15

(a) Complete the links below to indicate the meaning of the symbols shown.

Symbol	Meaning
○	Delay
⇒	Inspection
□	Operation
◐	Transport
▽	Storage

[4]

(b) Describe, using an example, what is meant by a delay in a manufacturing process.

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..... [2]

8* Discuss the impact of modern technology on the lifestyles of working people.

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