

**GENERAL CERTIFICATE OF SECONDARY EDUCATION**  
**MANUFACTURING**  
Manufacturing Processes

**B232**

Candidates answer on the question paper.

**OCR supplied materials:**  
None

**Other materials required:**  
None

**Wednesday 19 January 2011**  
**Afternoon**  
**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. Pencil may be used for graphs and diagrams only.
- 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).
- Answer **all** the questions.
- 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 is assessed in questions marked with an asterisk (\*).
- This document consists of **8** pages. Any blank pages are indicated.

1 Manufacturing sectors produce different products.

(a) Complete the links below to identify which manufacturing sector makes the products listed.

Manufacturing Sector	Product
Clothing and textiles	— Catalogue
Machinery and equipment	— Pick-up truck
Paper and print	— Satellite Navigation
Motor manufacturing	— Waterproof trousers
Electronic and communications	— Fruit drink carton
Electrical	— Mechanical press
Packaging	— Microwave oven

[7]

(b) State **one** manufacturing sector not shown above and give **two** examples of products made in that sector.

Sector ..... [1]

Product 1 ..... [1]

Product 2 ..... [1]

2 (a) Complete the table below for a product you have made by stating:

- two different processes carried out
- tools or equipment used
- two different safety precautions taken

Product .....

Process 1	Tools or equipment	Safety precaution

[3]

Process 2	Tools or equipment	Safety precaution

[3]

(b) Describe how the product would be made in 'real-world' manufacturing.

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

3 Many modern materials are available for use in manufactured products.

(a) Give **one** example of a product and a modern material used in its manufacture.

Product ..... [1]

Modern material ..... [1]

(b) (i) State what is meant by the term 'Smart' material.

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

(ii) Describe **one** example of the use of a 'Smart' material in a manufactured product.

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

4 (a) Describe **one** quality control check carried out during the manufacture of a product.

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

(b) Explain the importance of quality control when manufacturing products.

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

(c) Describe, using **one** example, how modern technology is used in quality control.

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

5 The design of a new product is carried out in a number of stages.

(a) Complete the chart below by adding the following design stages in the correct order.

**Developing design ideas**  
**Presenting designs to a client**

**Prototyping**  
**Research**

Design stages
Client brief
Develop specification
Modifying design
Production planning

[4]

(b) Explain how modern technologies could be used during the following design stages:

(i) Presenting designs to a client

.....

.....

.....

..... [3]

(ii) Prototyping

.....

.....

.....

..... [3]

6 Many factors need to be considered when selecting materials for use in manufactured products.

The table below shows a comparison of six materials.

Material	Factors				
	Ease of storage	Easy to use	Safe to work with	Value for money	Readily available
A	2	6	5	8	9
B	5	6	5	5	4
C	8	2	1	2	3
D	1	9	1	2	2
E	3	8	6	3	5
F	9	5	3	8	1

10 = excellent 1 = very poor

(a) State which material is the most difficult to store.

Material ..... [1]

(b) Explain why material C may be unsuitable for use by new or inexperienced workers.

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

(c) Give **two** other factors that should be considered when selecting materials for manufactured products.

1 ..... [1]

2 ..... [1]

7 Manufacturers often use 'bought-in' standard components in their products.

(a) Give **two** examples of 'bought-in' standard components used in manufacturing.

Component 1 ..... [1]

Component 2 ..... [1]

(b) Explain why manufacturers might use 'bought-in' standard components in their products.

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

(c) Describe **one** possible disadvantage of using 'bought-in' standard components.

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

8\* Discuss the implications of introducing modern technologies into manufacturing.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [6]

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