



GCE A level

1113/01

**DESIGN AND TECHNOLOGY
PRODUCT DESIGN DT3**

A.M. WEDNESDAY, 26 January 2011

2½ hours

ADDITIONAL MATERIALS

In addition to this examination paper, you will need a 12 page answer book.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Answer **three** questions from Section A.

Answer **three** questions from Section B.

Answer **two** questions from Section C.

INFORMATION FOR CANDIDATES

When and where appropriate, answers should be amplified and illustrated with sketches and/or diagrams.

Section A and Section B answers are designed to demonstrate your **breadth** of knowledge in Product Design.

Your **Section C** answers should be substantial and demonstrate your **depth** of knowledge in Product Design.

Candidates are reminded of the necessity for good English and orderly presentation in their answers.

SECTION A

Answer **three** questions from this section.

This section is designed to demonstrate your **breadth** of knowledge in *Product Design*.

Each question carries 8 marks.

1. Explain how an understanding of *client profiles* influences design thinking. [8]

2. Market pull forces have had a considerable impact on the development of products such as MP3 players and mobile phones.

Using a different named product, describe the incremental upgrades that have taken place as a consequence of *market pull* forces. [8]

3. Explain the need to promote a product at different stages of its life cycle. [8]

4. Explain how the *technology push* model of innovation can impact positively on the development of a product. [8]

5. Describe how templates are used to ensure consistency and accuracy of component production. [8]

SECTION B

Answer **three** questions from this section.

This section is designed to demonstrate your **breadth** of knowledge in Product Design.

Each question carries 8 marks.

6. Explain how a particular named product has been made more sustainable by changes in materials used for its component parts. [8]

7. Explain how surface detailing can benefit the aesthetic **and** functional characteristics of a named product. $2 \times [4]$

8. Explain the similarities and differences between a Registered Design and a Registered Trade Mark. [8]

9. Describe, using diagrams where necessary, a processing operation that is used to form a particular named plastic material. [8]

10. (a) Explain what is meant by the term *user interface*. [2]
(b) Describe how the consideration of *user interfaces* is vital to the successful design of products. [6]

SECTION C

Answer **two** questions from this section.

Your answers should be substantial and show the **depth** of your knowledge in Product Design.

Each question carries 26 marks.

11. With reference to aesthetic appeal, discuss the ways in which a product designer of your choice, from the early 70s to the present day, has developed a product or range of products. [26]
12. Evaluate the influences and effects that appropriate material selection has on the success of a specific product in terms of function, reliability and aesthetics. [26]
13. Fully describe a product or building which is considered to be a design icon and explain the specific reasons why that product or building is iconic in its field. [26]
14. Edwin Datchefski in his book *The Total Beauty of Sustainable Products* cites “ecological and social issues as paramount to the future design of products”.

Discuss the ways that product design and manufacture can affect human rights and natural justice. [26]
15. Explain how the development of a thorough broad-ranging specification, its application to designing and its use as an evaluative tool can ensure that a particular product fully meets the needs of its target audience. [26]