



Design and Technology: Product Design (3-D Design)

PROD3

Unit 3 Design and Manufacture

Specimen paper for examinations in June 2010 onwards

This question paper uses the [new numbering system](#) and [new AQA answer book](#)

For this paper you must have:

- an AQA 8-page unlined answer book
- normal writing and drawing instruments.

Time allowed

- 2 hours

Instructions

- Use black ink or black ball-point pen. Use pencil and coloured pencils only for drawing.
- Write the information required on the front of your answer book. The **Examining Body** for this paper is AQA. The **Paper Reference** is PROD3.
- Answer **three** questions.
- Answer **one** question from each of Sections 1 and 2 and **one** other question from either section.
- Do all rough work in your answer book. Cross through any work that you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 84.
- You will be marked on your ability to:
 - use good English
 - organise information clearly
 - use specialist vocabulary where appropriate.

Advice

- Illustrate your answers with sketches and/or diagrams wherever you feel it is appropriate.

PROD3

Answer **three** questions.

Answer **one** question from each of Sections 1 and 2 and **one** other question from either Section.

Section 1

Question 1

0	1
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 There is much that you can learn about design from studying the work of designers and the iconic products they produced.

Name a famous designer, either past or present and critically analyse a sample of their work.

You should use sketches in your answer to identify key features and explain how these have contributed to the success of the design. *(28 marks)*

Question 2

0	2
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 Sustainability and the effects of manufacture, use and disposal of a product are important.

For a named product of your choice, carry out a life cycle assessment.

Give full consideration to the following issues in order to justify your answers:

- the extraction and processing of raw materials,
 - the manufacture, distribution and the use and final disposal of the product.
- (28 marks)*

Question 3

During your lifetime, the developments in new technology and a competitive market has brought about rapid change and evolution in many of the products we have today.

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 For **two** of the following areas, name a specific product and, using annotated sketches, comment upon and critically analyse the changes which have taken place.

- Portable music player
 - Communication – telephone
 - An item of sports equipment.
- (2 × 9 marks)*

0	4
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 For **one** of your chosen products show the extent to which aesthetics have been influenced by the new technologies available. *(10 marks)*

Section 2

Question 4

0 5 The design, manufacture and function of many of today's products relies heavily upon the use of microprocessors or computers in order to improve both the development, manufacture and function of new products.

With reference to specific industrial contexts, consider to what extent the computer/microprocessor has been used and assess the improvements associated in

- the design of a product
- the manufacture of a product.

(28 marks)

Question 5

0 6 Systems to monitor quality control and quality assurance are used in order to ensure that today's products meet the needs of consumers.

With reference to specific products, describe and explain what methods could be used to ensure quality control and quality assurance. *(18 marks)*

0 7 Safety is an important part of product manufacture.

With reference to a specific, named product of your choice describe the safety requirements that should be considered during manufacture to ensure the safety of workers. You should consider and evaluate various ways in which safety measures can be deemed to be effective. *(10 marks)*

Turn over for the next question

Turn over ➡

Question 6

0 8 Packaging has become an important part of both the sale and promotion of the product they contain.

With reference to a specific product area, describe the development of materials and production techniques which are used in packaging today.

In your answer you should consider the needs of the manufacturer, retailer and the consumer. *(10 marks)*

0 9 Compare and contrast the differences between the methods used for the manufacture of an item of furniture **or** jewellery by each of the following:

- Mass-production
- One-off production
- Batch production.

(3 × 6 marks)

END OF QUESTIONS