Design & Technology
(Product Design)

DTBase©

OCR A-Level

How is the quality of products controlled through manufacture?

Materials required for questions

- Pencil
- Rubber
- Calculator

Instructions

- Use black ink or ball-point pen
- Try answer all questions
- Use the space provided to answer questions
- Calculators can be used if necessary
- For the multiple choice questions, circle your answer

Advice

- Marks for each question are in brackets
- Read each question fully
- Try to answer every question
- Don’t spend too much time on one question

Good luck!

Q1. What is not part of quality control?

A Checking for accuracy

B Checking design against British standards

C Checking for safety

Q2. Who doesn't conduct quality assurance checks?

A FSC

B BSI

C ISO

Q3. What quality monitoring system can be described as reactive?

A Quality control

B Quality assurance

Q4. What quality monitoring system is used to find defects?

A Quality control

B Quality assurance

Q5a. State two organisations that issue standards that need to be met in the design of products. **(2 marks)**

Q5b. Explain two ways in which product designers and manufacturers could test their products to ensure they meet relevant standards. **(4 marks)**

Q6. Designers and manufacturers have a responsibility to meet standards requirements when creating commercial products. Discuss the implications to the designer and manufacturer of applying standards requirements to commercial products. Refer to specific products in your response **(6 marks)**

Answers

Q1. B
Q2. A
Q3. A
Q4. A

Q5a.

- BSI (1)
- ISO (1)
- Any other suitable response.

Q5b.

- To check for levels of toxins (1). Children's toys could have paint scraped off and subjected to x rays to analyse elements in the finish and ensure that levels of elements such as lead are not too high (1).
- Cars could be subjected to wind tunnels/ crash tests (1) to check how aerodynamic they are/crumple zones and safety (1)
- In plastic bottle manufacture the bottles are tested to high pressure blow tests (1) to ensure that there are no cracks or leaks for the air to escape (1).
- Performance under different conditions

Any other suitable response, that could include:

- X rays to check for cracks and internal faults, checks for dimensions of parts to meet standards.

Q6.

British standards:

- There are a set of standards that should be followed to ensure safety and inclusivity. Designer & Manufacturer Implications: increased responsibility to the designer to apply these standards. Products may have to have components that are a specific sizes or have specific features and materials to prevent injury or harm. This could restrict the designer. Manufacturers have their own standardized tests to ensure products comply and are safe. Possible examples: the bars of a babies cot have to be a certain distance apart to minimise risk of injury, the flammability and toxicity of materials e.g. paint used should be checked

against the standards meet high safety standards needed for children. Manufacturers tests for insulation (electricity or heat).