

Design & Technology

AQA GCSE

Surface treatments and finishes

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. Why are surface treatments and finishes applied to materials?

- A** To reduce the weight of the product
- B** To improve strength and weight balance
- C** To improve function and appearance

Q2. What is the first step in preparing a material for finishing?

- A** Apply gloss
- B** Paint immediately
- C** Clean and sand the surface

Q3. Which of the following is a surface finish that helps protect wood from water damage while showing the grain?

- A** PVA glue
- B** Varnish
- C** Spray paint

Q4. Why is primer often used before applying paint to a material?

- A** To make the product heavier
- B** To allow for easier cutting
- C** To help the paint stick and give an even finish

Q5a. Explain why surface finishes are applied to materials and fabrics for aesthetic reasons. Give examples in your answer. **(3 marks)**

Q5b. Explain why surface finishes are applied to materials and fabrics for functional reasons. Give examples in your answer. **(3 marks)**

Answers

Q1. C

Q2. C

Q3. B

Q4. C

Q5a.

Any named aesthetic reason:

- Change the colour of a product
- Improving appearance/make the product look more attractive
- Change the look and feel of a product

Aesthetic finish examples:

- Painting cars different colours to suit different customer tastes
- Embossing in card to create a decorative 3D effect
- Self-finished surface, eg the injection moulding process can 'build in' a textured surface in contrast to a smooth surface
- Add to decoration and quality of finish, eg enamelling jewellery
- Wood stains to enhance the colour of timber
- Anodising to produce brightly coloured aluminium products, eg bike wheels, Maglites
- Stonewashing jeans (distressing) gives a soft peach skin effect
- Heat setting thermoplastic fibres to give crushed effect, creases and pleating

Q5b.

Indicative content:

- To make more suited to intended use/improve durability
- To inhibit combustion/reduce fire risk (textiles)
- Protect from moisture/water
- Stain resist finish
- To prevent insect/fungal attack (wood)
- To resist corrosion
- Build in a textured finish (polymers)
- Provide a non-slip finish
- Functional finish examples
- Flame retardants to textiles
- Waterproof finish on a jacket

- Laminating a book cover to protect from moisture
- Anodising aluminium to improve durability
- Electro plating to provide a durable finish
- Wood preservative on a garden fence to protect from moisture and insect attack
- Dip/powder coating of metals to inhibit corrosion
- Galvanising (not aesthetic reason) mild steel to resist corrosion
- Self-finished surface, eg injection moulding process can 'build in' a textured surface to provide a non-slip surface/grip on a chair, child's toy etc.