

Design & Technology A-Level

Influence of Aesthetics

Multiple Choice

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
- Use a cross in the box to mark you 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. Which word is used to describe designing products well so they are easy to use?

A Aesthetics

☐

B Function

☐

C Usability

☐

Q2. Which of these is not influence aesthetic?

A texture

☐

B convenience

☐

C colour

☐

Q3. Why should a designer be mindful of the colours selected for a product?

A some colour choices may have cultural barriers

☐

B some colour choices may make the product less flexible

☐

C some colour choices may stop the product from working correctly

☐

Q4. What does aesthetics mean?

- A** user-centred design ☐
- B** measurements of the human body ☐
- C** the way a product looks and feels ☐

Q5. What does the colour blue universally represent?

- A** cold ☐
- B** warmth ☐
- C** nature ☐

Q6. Aesthetics relates to a product's?

- A** Looks ☐
- B** Cost ☐
- C** carbon footprint ☐

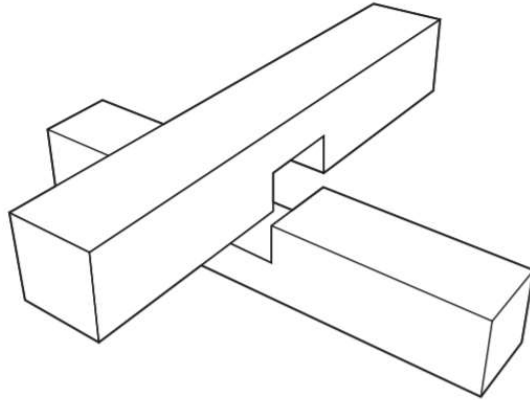
Q7a. Explain why surface finishes are applied to material and fabrics for aesthetic reasons

Give examples in your answer **(3 marks)**

Q7b. Explain why surface finishes are applied to material and fabrics for functional reasons

Give examples in your answer **(3 marks)**

Q8. A cross halving joint is used to join 2 pieces of pine together



8a. Name 3 hand tools that would be used to mark out and make the cross halving **(3 marks)**

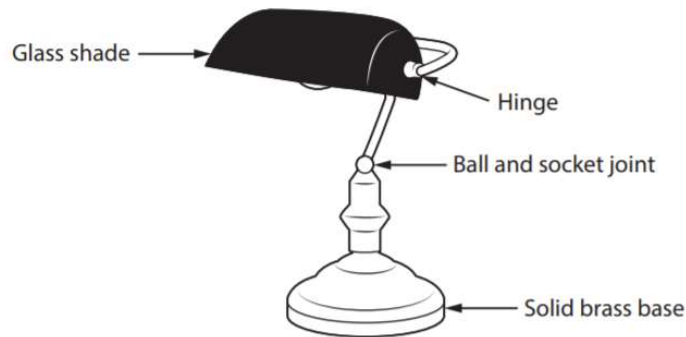
1. _____

2. _____

3. _____

8b. Explain 2 advantages of using pine to make the frame rather than MDF **(4 marks)**

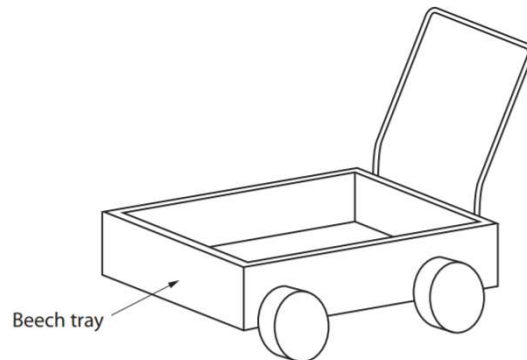
Q9. The image below shows a desk lamp



9a. Give 1 reason why brass is a better choice of material than acrylic for the base of the desk lamp **(2 marks)**

9b. the electric cable is coated with a thin layer of PVC
Explain 1 reason why the electric cable is coated with a thin layer of PVC **(2 marks)**

Q10. The drawing below shows a baby-walking aid



Explain 1 reason for applying a finish to the beech tray **(2 marks)**

Q11. The figure below shows a coat rack for use in a primary school



Before it was made, a detailed design specification was written for the coat rack. Explain how the finished product has achieved the following specification points. (One example has been given). **(3 marks)** – WJEC 2016

Processes

The coat rack should be designed to be sold in flatpack form:

Temporary fixings such as bolts and screws have been used to hold

the coat rack together so it can be assembled and disassembled easily

Aesthetic

The coat rack should be suitable for a primary school environment:

Function

The coat rack should be portable and suitable for use by children of primary school age (7-11 years old):

Safety considerations

The coat rack must be stable when heavily loaded with coats and bags:

Answers

Q1. C

Q2. B

Q3. A

Q4. C

Q5. A

Q6. A

Q6. A

Q6. C

Q7a.

Indicative content:

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

Q7b.

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.

Q8a.

Any three tools listed from:

- Pencil (1)
- Ruler / tape measure (1)
- Marking knife / knife (1)
- Try square/combination square (1)
- Gauge/marking gauge (1)
- Tenon/Dovetail/Back/Coping saw/Gentleman's saw (only accept 1 type of saw but DO NOT ACCEPT saw on its own)(1)
- Chisel (1)
- Mallet (1)
- Bench hook / G clamp (1)
- Vice (1)
- G-Clamp/Cramp

3 x 1

8b.

Two advantages explained from:

- More durable (1) therefore pine will last longer (1)
- Tougher (1) therefore will withstand any knocks and bumps better (1)
- Better resistance to water/moisture (1) whereas MDF will soak up / expand / become useless (1)
- Pine is more aesthetic / looks better (1) whereas MDF is plain and has no grain / structure (1)
- Easier to cut joints in (1) whereas MDF will crumble because it has no grain / made from fibres (1)
- MDF will be significantly weaker than pine (1) when cut into to make the joint (1)
- Pine is less dangerous / safer to use than MDF (1) because MDF contains harmful chemicals / gives off fine dust when cut (1)

2 x 1

2 x 1

Q9a.

One reason explained from:

- Brass is heavier (1) therefore the base will be more stable / less likely to fall over (1)
- It is an attractive colour / aesthetic appeal / traditional style lamp (1) whereas acrylic is a more modern material / will not suit style of lamp (1)
- Brass is tougher (1) therefore will withstand knocks and bumps better
- (1)

2 x 1

9b.

One reason explained from:

- PVC is an electrical insulator (1) and so will protect the user against any electric shock / electrocution / safe to touch (1)
- There are 3 separate wires in the cable (1) so the PVC sleeve will hold all 3 separate wires together/insulate them from each other (1)
- PVC is quite flexible (1) and so it will not crack/break down/crumble as it is moved around (1)
- PVC can be coloured (1) and increase/match aesthetically / identify the wire inside (live, neutral/earth) (1)

2 x 1

Q10.

One reason described from:

- To make it look nicer / improve the aesthetics (1) so that more people will buy it/ marketability (1)
 - To protect the surface (1) so that it lasts longer / more durable / will not soak up any water/ delays rotting (1)
 - To provide a smooth surface (1) so that children do not get splinters / makes it easier to clean / dust (1)
- 2 x 1

Q11.

Aesthetic:

Appropriate explanation but lacking detail AWARD 1 mark

E.g. Finished in primary colours.

Appropriate explanation well detailed AWARD 2 marks

E.g. Finished in primary colours which create a bright, cheery school environment.

Answers related to:

Textures are smooth

Function:

Appropriate explanation but lacking detail. AWARD 1 mark

E.g. The coat rack is a suitable size for primary school children.

Appropriate explanation well detailed. AWARD 2 marks

E.g. Anthropometric data has been used to ensure that the coat rack is a suitable size for primary school children.

Answers related to:

There are castors on the coat rack so it can be moved. Colour coated hooks help children to remember location of coats/bags.

Safety considerations:

Appropriate explanation but lacking detail AWARD 1 mark

E.g. The coat rack has a wide base.

Appropriate explanation well detailed AWARD 2 marks

E.g. The wide base of coat rack improves its balance so it will not topple over easily.

Answers related to:

No sharp edges. Steel is a durable material so it can hold lots of bags and coats.

Sturdy construction of coat rack. Locks on castors – rack can be held in place, lessen danger of falling over if pushed