



Pearson  
Edexcel

## Mark Scheme (Results)

Summer 2023

Pearson Edexcel GCSE  
In Design & Technology (1DT0)  
1F: Timbers

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.



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## Component 1 mark scheme

### Section A – Core content

| Question number | Answer  | Additional guidance                | Mark       |
|-----------------|---|------------------------------------|------------|
| 1 (a) (i)       | Any <b>one</b> property from: <ul style="list-style-type: none"><li>• Electrical insulator / does not conduct electricity (1)</li><li>• Good heat resistance (1)</li><li>• Good chemical resistance (1)</li><li>• Hard (1)</li><li>• Stiffness / rigidity (1)</li></ul> | Do not accept Insulator on its own | <b>(1)</b> |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 1 (a) (ii)      | Any <b>one</b> property from: <ul style="list-style-type: none"><li>• Low density (1)</li><li>• Lightweight / light (1)</li><li>• Soft (1)</li></ul> | <b>(1)</b> |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 1 (a) (iii)     | Any <b>one</b> property from: <ul style="list-style-type: none"><li>• Hard / hardness / scratch resistant (1)</li><li>• Tough / toughness / impact resistant (1)</li><li>• Resistant to corrosion / will not rust (1)</li><li>• Durable (1)</li><li>• Waterproof / water resistant (1)</li></ul> | <b>(1)</b> |

| Question number | Answer   | Additional guidance           | Mark       |
|-----------------|--|-------------------------------|------------|
| 1 (a) (iv)      | Any <b>one</b> property from: <ul style="list-style-type: none"><li>• Rigid / stiffness / hard to bend (1)</li><li>• Absorbent / accepts ink well / printability (1)</li></ul> | Do not accept hard on its own | <b>(1)</b> |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 1 (b) (i)       | <p>Any <b>one</b> advantage of the company being operated as a privately-owned company (1) and a linked justification of that advantage (1).</p> <ul style="list-style-type: none"> <li>• The company can be more flexible in how it works / make / take their own decisions / control the share allocation (1) therefore they can adopt / exploit new technologies without having to consult shareholders / other stakeholders (1)</li> <li>• The company can make changes fast / make quick decisions without having to consult shareholders (1) which means they can respond to market trends / fashions very quickly (1)</li> <li>• Any profits go to the owners rather than shareholders / can be easily re-invested / spent on new and emerging technologies (1) which provides a greater incentive for the company owners to make a success of the business / work hard / more profits (1)</li> <li>• A privately owned company does not need to publish their accounts (1) therefore they can keep their finances more private (1)</li> <li>• The company can close / cease trading / take any money out (1) and start a new company under a new name (1)</li> </ul> | <b>(2)</b> |

| Question number | Answer  | Additional guidance   | Mark       |
|-----------------|---|---|------------|
| 1 (b) (ii)      | <p>A calculation that includes:</p> <ul style="list-style-type: none"> <li>• correct setting out of formula</li> </ul> $\frac{30}{100} \times 150,000$ <p>(1)</p> <ul style="list-style-type: none"> <li>• correct answer</li> </ul> <p>£45,000</p> <p>(1)</p> <p>Alternative method</p> <ul style="list-style-type: none"> <li>• <math>£150,000 \times 1.3 = £195,000</math></li> </ul> <p>(1)</p> <ul style="list-style-type: none"> <li>• <math>£195,000 - £150,000 = £45,000</math></li> </ul> <p>(1)</p> | <p>Award full marks for correct numerical answer without working.</p> <p>Allow for ECF if candidate gets part of transposition wrong.</p> <p>If a candidate shows working out and gives an answer of £195,000 and shows it as an answer, 1 mark can be awarded. If however they just provide an answer of £195,000 without any working out, no marks should be awarded.</p> | <b>(2)</b> |

| Question number | Answer  | Mark |
|-----------------|---|------|
| 2 (a)           | <ul style="list-style-type: none"> <li>• Oblique (1)</li> <li>• Oblique projection (1)</li> <li>• Cavalier oblique (1)</li> <li>• Cabinet oblique (1)</li> <li>• Cavalier projection (1)</li> <li>• Cabinet projection (1)</li> </ul> | (1)  |

| Question number | Answer   | Mark |
|-----------------|--|------|
| 2 (b)           | <p>Any <b>one</b> reason for using concrete (1) and a linked justification of that reason (1).</p> <ul style="list-style-type: none"> <li>• Concrete is fire proof (1) which means if any wax is spilt / drips onto it, it will not burn (1)</li> <li>• Concrete is dense / heavy (1) which means it will be stable / unlikely to be knocked / topple over (1)</li> <li>• The candle holder is cast into shape (1) which means an exact volume can be mixed / minimises waste (1)</li> </ul> | (2)  |

| Question number | Answer   | Mark |
|-----------------|--|------|
| 2 (c)           | <p>Any <b>one</b> reason for manufacturing the concrete candle holder to hold a candle of a standardised size (1) and a linked justification of that reason (1)</p> <ul style="list-style-type: none"> <li>• The candles will be widely available / commonly used (1) which means they can be purchased from many different suppliers / shop around to find the cheapest price / know they can source candles in the future (1)</li> <li>• The candle holder can be sold / manufactured in different countries (1) which means it has much better sales potential / more profits for the company (1)</li> <li>• The candle holder can be mass produced since the candle is a standard sized (1) which minimises production changes / set up costs (1)</li> </ul> | (2)  |



| Question number | Answer  | Additional guidance   | Mark |
|-----------------|---|---|------|
| 2 (d)           | <p>A calculation that includes:</p> <ul style="list-style-type: none"> <li>• Conversion of units at the start or end (1)</li> <li>• Calculation of the volume of the square prism<br/> <math>8 \times 8 \times 3 = 192 \text{ cm}^3</math> or <math>192,000 \text{ mm}^3</math> (1)</li> <li>• Calculation of the volume of the cylindrical hole<br/> <math>3.142 \times 2.5^2 \times 1.5 = 29.45625 \text{ cm}^3</math> or <math>29456.25 \text{ mm}^3</math> (1)</li> <li>• correct answer<br/> <math>192 - 29.45625 = 162.54375 \text{ cm}^3</math> or <math>162548 \text{ mm}^3</math><br/> rounded to <math>163 \text{ cm}^3</math> (1)</li> </ul> | <p>Award full marks for correct numerical answer without working.</p> <p>Allow for ECF if candidate gets part of transposition wrong.</p> <p>If answer is NOT rounded to a whole number do not award full marks</p> | (4)  |

| Question number | Answer   | Mark |
|-----------------|--|------|
| 3 (a)           | <p>Any <b>one</b> softwood from:</p> <ul style="list-style-type: none"> <li>• Pine / pine wood (1)</li> <li>• Cedar (1)</li> <li>• Larch (1)</li> <li>• Redwood (1)</li> <li>• Spruce (1)</li> </ul> | (1)  |

| Question number | Answer  | Mark       |
|-----------------|---|------------|
| 3 (b)           | <p>Any <b>one</b> reason for using a softwood for the frame rather than a hardwood (1) and a linked reason for the use (1)</p> <ul style="list-style-type: none"> <li>• Softwoods are faster / quicker growing (1) which means there will be a greater supply of timber / more sustainable (1)</li> <li>• Softwoods are cheaper (1) which means the overall cost of the frame will be lower / more likely to sell (1)</li> <li>• Softwoods are less dense than hardwoods / have a more open grain (1) therefore they are easier to machine / cut (1)</li> </ul> | <b>(2)</b> |

| Question number | Answer   | Additional guidance   | Mark       |
|-----------------|--|---|------------|
| 3 (c)           | <p>A calculation that includes:</p> <ul style="list-style-type: none"> <li>• correct working out of waste left<br/>300 – 270 = 30 cm<br/>(1)</li> <li>• correct answer<br/>30/300 or 1/10<sup>th</sup> or 10/100<sup>th</sup><br/>(1)</li> </ul> | <p>Award full marks for correct numerical answer without working.</p> <p>Allow for ECF if candidate gets part of calculation wrong.</p> | <b>(2)</b> |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 3 (d)           | <p>Any <b>one</b> disadvantage of using mild steel for the fixing (1) and a linked reason for the disadvantage (1)</p> <ul style="list-style-type: none"> <li>• Mild steel will rust / corrode in the outside conditions / damp soil (1) which means the joint / frame will come apart / fail / become weak (1)</li> <li>• Mild steel has lower tensile strength / shear strength (1) which means the screw could shear / break / snap if overtightened (1)</li> </ul> | <b>(2)</b> |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 3 (e)           | <p>Any <b>two</b> benefits of using corrugated board for the box (1) and a linked justification of the benefits (1).</p> <ul style="list-style-type: none"> <li>• Corrugated board is lightweight (1) therefore it will not add too much cost to the postal delivery charges / will not add unnecessary weight when lifting (1)</li> <li>• Corrugated board has good impact resistance / is fluted (1) therefore it is good at protecting the frame / parts inside / prevents damage to parts during transportation (1)</li> <li>• Corrugated board is widely recyclable / biodegradable / can be made from recycled materials (1) therefore it will not need to go into general waste / landfill / can be recycled and used again / better for the environment (1)</li> <li>• Corrugated board is absorbent / takes ink well / printability (1) therefore the box can be printed with the company's logo / brand / advertising / recyclable logos on it / stack height (1)</li> <li>• Corrugated board is a cheap / readily available materials (1) therefore it helps to keep down the cost of packaging / overall production costs (1)</li> </ul> | <b>(4)</b> |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 4 (a)           | <p>Any <b>one</b> working property of polyester (1) and a linked justification of that property (1).</p> <ul style="list-style-type: none"> <li>• Polyester is waterproof / shrink resistant (1) which means it will protect the laptop inside from being damaged by the rain / liquids (1)</li> <li>• Polyester has good tensile strength (1) which means the strap / bag will support the weight of the laptop inside (1)</li> <li>• Polyester is a durable material (1) which means it will resist wear as the bag rubs against the clothes being worn by the user (1)</li> <li>• Polyester is stain/chemical resistant (1) which means it will not be affected by any liquids / coffee spilt on it (1)</li> <li>• Polyester is stretch resistant (1) which means it will not deform/change shape due to any loading/weight of the laptop inside (1)</li> </ul> | <b>(2)</b> |

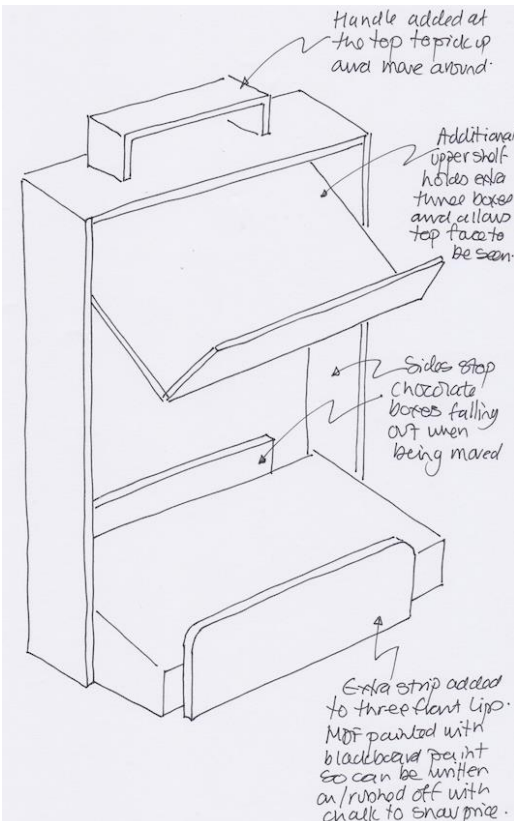
| Question number | Answer   | Additional guidance   | Mark       |
|-----------------|--|---|------------|
| 4 (b)           | <p>A calculation that includes:</p> <ul style="list-style-type: none"> <li>• correct working out of recycled polyester<br/> <math>100\% - 60\% = 40\%</math><br/> (1)</li> <li>• correct working out of grams of recycled polyester<br/> <math>40/100 \times 320 = 128</math> grams<br/> (1)</li> </ul> <p>Alternative method</p> <ul style="list-style-type: none"> <li>• correct working out of new polyester<br/> <math>60/100 \times 320 = 192</math><br/> (1)</li> <li>• correct working out of grams of recycled polyester<br/> <math>320 - 192 = 128</math> grams<br/> (1)</li> </ul> | <p>Award full marks for correct numerical answer without working.</p> <p>Allow for ECF if candidate gets part of calculation wrong.</p> | <b>(2)</b> |

| Question number | Answer  | Mark       |
|-----------------|---|------------|
| 4 (c)           | <p>Any <b>one</b> explanation that references why carrying out a LCA can help to reduce the environmental impact (1) and a linked justification (1).</p> <ul style="list-style-type: none"> <li>• Materials would be sourced from local suppliers (1) which means there would be fewer miles / reduced travel / pollution created by not buying materials from overseas suppliers (1)</li> <li>• More recycled polyester / materials would be used in the bag (1) which will reduce the demand for new materials / impact of drilling for oil / conservation of finite resources (1)</li> <li>• The company would consider the types of vehicles used to distribute their products / use greener transport (1) which would reduce the pollution / greenhouse gas emissions from traditional fuelled vehicles (1)</li> <li>• The company would consider how the bag / customers can recycle the at the end of its useful working life / broken down / separated into different parts (1) which means materials / parts could be recycled / reused rather than being dumped in landfill / incinerated (1)</li> <li>• The company would use more sustainable sources of energy (1) which reduces the carbon footprint in the manufacture of the bag (1)</li> <li>• The company could consider how to adapt the design of the bag (1) which means they could reduce the amount of raw materials used in its manufacture (1)</li> <li>• The company should consider / review the manufacturing processes / techniques used for the manufacture (1) which means they could reduce the number of processes / machines / energy used (1)</li> </ul> | <b>(2)</b> |

| Question number | Indicative content  | Mark       |
|-----------------|---|------------|
| 4 (d)           | <ul style="list-style-type: none"> <li>• Improved battery capability has meant that it is possible to work for longer without the need to be plugged into mains power making it much easier to work on the move rather than needing to be based in an office / home</li> <li>• Laptops have become smaller / lighter which has meant that they have become much more portable due to advances in materials technology / miniaturisation allowing users to take them home / travel with them easier which means they can work anywhere</li> <li>• Many laptops now have built in cameras / speakers which means that remote working / video conference / zoom / teams has meant that the workforce can attend virtual meetings with little additional equipment / can join meetings from anywhere that has a Wi-Fi connection</li> <li>• The processing power / increase in RAM / speeds of modern laptops make them much more capable of handling demanding software such as graphics / CAD based packages</li> <li>• With Wi-Fi / internet ready / enabled laptops more computing can be carried out in 'cloud' based environments reducing the need for bigger more powerful processor based computers / meaning that more people can work without having to be connected to office / work place networks</li> <li>• The ability to connect more devices such as printers / stylus pens / keyboards / mouse / tablets via blue tooth / wireless has reduced the need for USB ports meaning that laptops can be made thinner / tapered / more devices attached</li> <li>• The ability to attach / connect additional screens / use of docking stations / has allowed for greater / improved working capability / office simulations</li> </ul> | <b>(6)</b> |

| Level   | Mark  | Descriptor   |
|---------|-------|--|
|         | 0     |  |
| Level 1 | 1 - 2 | <ul style="list-style-type: none"> <li>• Attempts to interrogate and deconstruct information but connections and logical chains of reasoning are flawed.</li> <li>• An unbalanced appraisal of the information/issues, containing judgements that show a limited awareness of the interrelationships between factors or competing arguments.</li> </ul>  |
| Level 2 | 3 – 4 | <ul style="list-style-type: none"> <li>• Interrogates and deconstructs information and provides some connections and logical chains of reasoning.</li> <li>• A balanced appraisal of the information/issues, containing judgements that show an awareness of the interrelationships between factors or competing arguments.</li> </ul>                   |
| Level 3 | 5 - 6 | <ul style="list-style-type: none"> <li>• Interrogates and deconstructs information and provides sustained connections and logical chains of reasoning.</li> <li>• A well-balanced appraisal of the information/issues, containing judgements that show a thorough awareness of the interrelationships between factors or competing arguments.</li> </ul> |

## Section B – Timbers

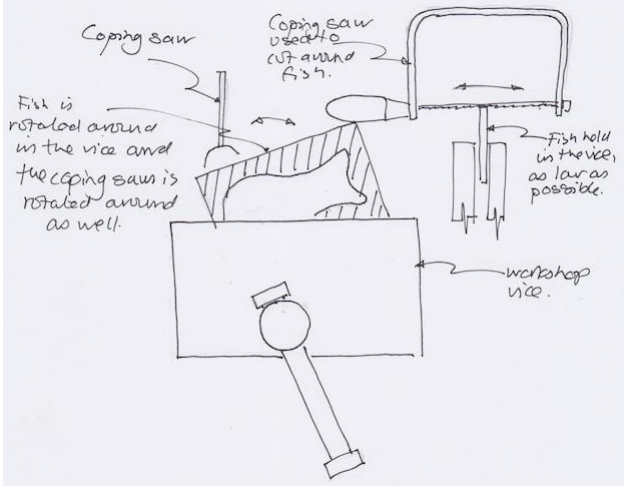
| Question number | Answer  | Mark       |
|-----------------|---|------------|
| 5 (a)           | <p><b>Marks will be awarded for understanding of design and technology, not graphical skills.</b></p> <p>Notes and/or sketches that include:</p> <ul style="list-style-type: none"> <li>• be able to hold an additional three boxes of chocolates (1) and allow the top face of each individual chocolate box to be seen (1)<br/>e.g. shelf / longer / wider base / with clear sight lines to be able to see EACH box (no stacking boxes on top of each other)</li> <li>• include a method to show the price of a box of chocolates (1) that allows the price to be changed (1)<br/>e.g. blackboard / chalkboard / dry wipe board that allows prices to be written on and cleaned / wiped / slots for sliding numbers / cards in and out / technology based options</li> <li>• be portable (1) so that it can be moved to another place without the chocolate boxes falling off (1)<br/>e.g. handle(s) / wheels / strap / lips around the edges</li> </ul> <p>Example of candidate response.</p>  | <b>(6)</b> |



|  |   |  |
|--|---|--|
|  | <p>Annotated notes:</p> <p>Handle added at the top to pick up and move around.</p> <p>Additional upper shelf holds extra three boxes and allows top face to be seen.</p> <p>Sides stop chocolate boxes falling out when being moved.</p> <p>Extra strip added to three front lips.</p> <p>MDF painted with blackboard paint so can be written on / rubbed off with chalk to show price.</p> |  |
|--|---|--|

| Question number | Answer  | Mark       |
|-----------------|---|------------|
| 5(b)            | <p>Any <b>two</b> explanations that include a way the wooden puzzle meets or fails to meet the requirement (1) and a linked justification of that way (1).</p> <ul style="list-style-type: none"> <li>• The steel balls need to be moved from the start to the finish via the grooves (1) which the young children need to tilt and turn the puzzle to control the direction of the steel balls (1)</li> <li>• The children can see the steel balls through the acrylic screen (1) which means they can see where the balls are / where they need to move to (1)</li> <li>• The puzzle has a clear lid on it to stop the steel balls falling out (1) which means the steel balls can only travel in the grooves / cannot go anywhere else so not that difficult / stops the balls getting lost rendering the game useless / stops cheating (1)</li> <li>• The start / finish is not marked as such on the puzzle (1) therefore there is no clear indication / point / focus to the game and the children might not see any point in playing / using it (1)</li> <li>• The steel balls can only travel in the grooves / slots (1) therefore there is very little control needed since the balls can only travel in straight lines up / down / across (1)</li> <li>• There are multiple steel balls to be moved (1) therefore the game is more challenging / makes it more demanding / difficult (1)</li> </ul> | <b>(4)</b> |

| Question number | Answer  | Mark       |
|-----------------|---|------------|
| 6 (a)           | <p>Any <b>two</b> explanations of characteristics of jelutong (1) and a linked justification (1)</p> <ul style="list-style-type: none"> <li>• Jelutong has an even grain / fine texture (1) which means that it is a safe timber to use / turns well / sands well to a fine finish / minimises risk of splinters (1)</li> <li>• Jelutong is a lightweight material (1) which means that it will not be too heavy / difficult for the child to move / manoeuvre (1)</li> <li>• Jelutong is good at absorbing / taking a finish / takes stain / varnish well (1) which means it will be easy to wipe / keep clean after / during use by young children (1)</li> </ul> | <b>(4)</b> |

| Question number | Answer   | Additional Guidance  | Mark       |
|-----------------|--|--|------------|
| 6 (b)           | <p><b>Marks will be awarded for understanding of design and technology, not graphical skills.</b></p> <p>Notes and/or sketches that include:</p> <ul style="list-style-type: none"> <li>• Work held in vice / clamped down (1)</li> <li>• Work should be as low as possible in the vice to reduce vibrations (1)</li> <li>• Starting with small strokes of the saw (1)</li> <li>• Coping saw used to cut into the waste and to start cutting around the shape (1)</li> <li>• Work continues to be rotated in the vice / coping saw rotated in hand to follow curve / blade rotated in the frame so as not to interfere when cutting (1)</li> </ul> <p>Example of candidate response:</p>  <p>Annotated notes:</p> <ul style="list-style-type: none"> <li>• Fish is rotated around in the vice and the coping saw is also rotated around as well.</li> <li>• Coping saw is used to cut around the fish</li> <li>• Fish is held in the vice as low as possible</li> <li>• Coping saw</li> <li>• Workshop vice</li> </ul> | Cap at three marks if no sketches or all sketches and no notes | <b>(4)</b> |

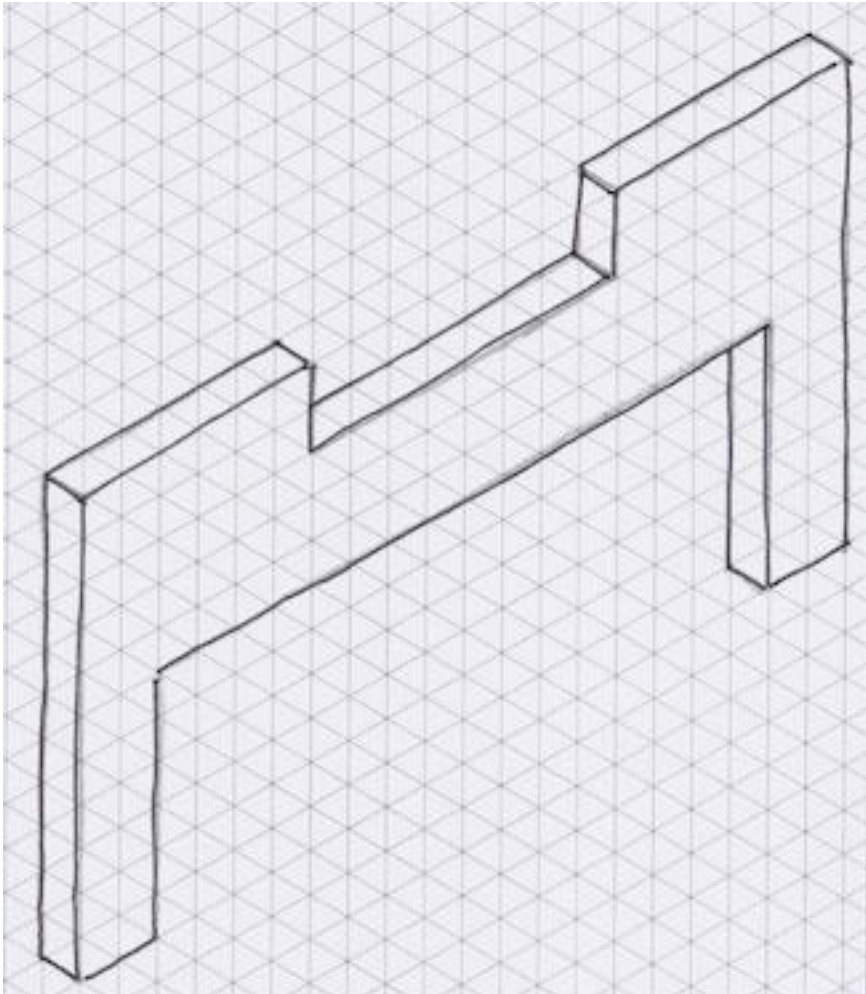
| Question | Answer | Mark |
|----------|--------|------|
|----------|--------|------|

| number |  |            |
|--------|--|------------|
| 6 (c)  | <p>Any <b>one</b> explanation that includes a way of avoiding offence to potential buyers (1) and a linked justification for that way (1)</p> <ul style="list-style-type: none"><li>• Careful consideration must be given to the choice of colours used (1) as different colours are used to represent different things in some countries / bring bad luck / have different connotations (1)</li><li>• The use / choice of language / images must be considered (1) as some words / images when interpreted / seen have very different meanings / use / range of different languages / fonts (1)</li></ul> | <b>(2)</b> |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 6 (d)           | <p>Any <b>two</b> manufacturing methods (1), plus <b>two</b> linked justifications of that manufacturing method (1) + (1)</p> <p>Method</p> <ul style="list-style-type: none"> <li>• Turned on a lathe / turning (1)</li> </ul> <p>Explanation</p> <ul style="list-style-type: none"> <li>• The handle can be turned round / cylindrical on the lathe (1) which means that any other processing / holes / chamfer / sanding can all be done at the same time / concentrically / on the same machine (1)</li> </ul> <p>Method</p> <ul style="list-style-type: none"> <li>• Planed / rasp / surform (1)</li> </ul> <p>Explanation</p> <ul style="list-style-type: none"> <li>• The handle can be held in a vice and turned (1) which means the corners / square edges can be removed to make a cylindrical shape (1)</li> </ul> <p>Method</p> <ul style="list-style-type: none"> <li>• Sanding on a belt sander / sanding (1)</li> </ul> <p>Explanation</p> <ul style="list-style-type: none"> <li>• The timber can be rotated against the moving belt (1) which means a fine / smooth / rounded surface can be achieved (1)</li> </ul> <p>Method</p> <ul style="list-style-type: none"> <li>• Produced on CNC 4 axis mill / router (1)</li> </ul> <p>Explanation</p> <ul style="list-style-type: none"> <li>• The timber is held in a chuck (1) which means the work piece can be rotated as the mill head moves along the axis to machine the profile (1)</li> </ul> | <b>(6)</b> |

| Question number | Answer  | Mark       |
|-----------------|---|------------|
| 7 (a)           | <p>Any <b>one</b> screw head type from:</p> <ul style="list-style-type: none"> <li>• Round head (1)</li> <li>• Domed head (1)</li> <li>• Slotted head (1)</li> <li>• Round (1)</li> <li>• Domed (1)</li> <li>• Slotted (1)</li> </ul> | <b>(1)</b> |

| Question number | Answer   | Additional guidance   | Mark       |
|-----------------|--|---|------------|
| 7 (b)           | <p>Any <b>two</b> explanations that include an advantage of using CAM (1) plus a linked justification for the advantage (1).</p> <ul style="list-style-type: none"> <li>• The centre hole will be accurately placed / machined in the centre (1) which means that the axle will be concentric to the outside edge (1)</li> <li>• The wheel will be perfectly round / clean edge / smooth cut (1) which means it will roll without any deviation (1)</li> <li>• All the wheels will be the same size / identical (1) which means that when they fit onto the axle the toy will be at the right height (1)</li> <li>• The file / wheel can be nested / lay planned using the CAD software used to draw the wheel (1) which results in the most efficient use of the plywood / minimising waste (1)</li> <li>• Cutting speed / feed rates can be set to produce a perfect finish (1) which means there will be less secondary finishing required / burning (1)</li> </ul> | Do not accept any responses related to 24/7 manufacture or comparisons to being hand made | <b>(4)</b> |

| Question number | Answer   | Mark |
|-----------------|--|------|
| 7 (c)           | <p>A drawing that includes:</p> <ul style="list-style-type: none"> <li>• Correct overall length at 100mm (1)</li> <li>• Correct overall height at 55mm (1)</li> <li>• Correct overall thickness at 5mm (1)</li> <li>• Position of the top cut out (1)</li> <li>• Position of the bottom cut out (1)</li> </ul> <p>Example of candidate response</p>  | (5)  |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 7 (d)           | <p>Any <b>two</b> explanations that includes a disadvantage (1), plus <b>two</b> linked justifications of that disadvantage (1) + (1).</p> <ul style="list-style-type: none"> <li>• The template could be the wrong size to start with (1) which means any parts marked out using it would be wrong (1) therefore the parts would not fit the rest of the toy (1)</li> <li>• There is a chance it could get lost (1) which means that any other front pieces would need to be marked out by hand (1) therefore they could be the wrong size / different sizes (1)</li> <li>• The template could wear / get damaged as it is used (1) which means the longer it is used the smaller each of the parts get (1) therefore resulting in parts that will not fit / be the right size (1)</li> <li>• The template needs to be located correctly in the first place (1) which means initial errors can be compounded / template might slip / move during marking out (1) therefore resulting in parts that may be the same shape but a different size / meaning material is wasted (1)</li> </ul> | <b>(6)</b> |

| Question number | Answer  | Mark       |
|-----------------|---|------------|
| 8 (a)           | <p>Any <b>one</b> explanation that includes a benefit of using birch (1) and a linked justification of that benefit (1).</p> <ul style="list-style-type: none"> <li>• Birch has a regular / close / even grain (1) which means it is not likely to splinter / cause any injury to the users hands (1)</li> <li>• Although birch is a hardwood, it is not that hard / quite soft (1) which means that if you bite on it you are unlikely to break / damage your teeth (1)</li> <li>• Birch is non-toxic (1) which means it is safe to use with food (1)</li> </ul> | <b>(2)</b> |



| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 8 (b)           | <p>Any <b>one</b> explanation of a cost factor (1), plus <b>one</b> linked justification of that cost factor (1) + (1).</p> <ul style="list-style-type: none"> <li>• The quality / grade of the timber will have a bearing on the cost of the material (1) which means lesser grades will be cheaper / lower grade timber (1) which may result in splinters getting into hands / mouth (1)</li> <li>• The availability / location of birch will be a factor (1) which means the prices may vary (1) therefore resulting in higher cost prices (1)</li> <li>• The levels of supply / demand for birch will vary (1) due to its other uses within the timber industry / birch faced plywood / veneers (1) therefore resulting in higher cost prices (1)</li> </ul> | <b>(3)</b> |

| Question number | Answer   | Mark       |
|-----------------|--|------------|
| 8 (c)           | <p>Any <b>two</b> explanations of quality control checks (1) and a linked justification of those checks (1).</p> <ul style="list-style-type: none"> <li>• The quality of the surface finish would be checked (1) which means that any defects / rough surface / splintered surfaced chopsticks would be removed / not be sent out causing potential harm to users (1)</li> <li>• The length / diameter / trueness of the chopsticks would be checked (1) therefore ensuring that they are within a certain tolerance / able to make up a pair (1)</li> <li>• The quality of the timber would be checked (1) therefore any wood that contained knots / defects would be removed from circulation / remove any potential risk of bits falling out into food (1)</li> </ul> | <b>(4)</b> |

| Question number | Indicative content  | Mark       |
|-----------------|---|------------|
| 8 (d)           | <p><b>AO3 (9 marks)</b></p> <ul style="list-style-type: none"> <li>• Chopsticks are a very common method / tool used to eat food in Asia</li> <li>• Chopstick design has evolved for different markets and some are now hinged / joined at the top so that they can be used by people who are not that familiar with them / do not use them much</li> <li>• Chopsticks are provided in restaurants all around the world</li> <li>• More Asian food restaurants are opening / street food / pop up restaurants / food markets / food festivals selling and promoting food that is eaten with chopsticks</li> <li>• Some chopsticks are highly decorative / fashion / culture reflective</li> <li>• Some restaurants actively promote the recycling of chopsticks as a trend / statement to improve their business credentials</li> <li>• With increasing home delivery food services offering a wide range of food types / more food is on offer that would be eaten with chopsticks</li> <li>• Huge numbers of chopsticks are required / used hence the need for continuous manufacture</li> <li>• Trends / fashions / growing concerns around the use of wooden chopsticks given the negative environmental impact of transporting the birch from Europe to China</li> </ul> | <b>(9)</b> |

| Level   | Mark  | Descriptor   |
|---------|-------|--|
|         | 0     |  |
| Level 1 | 1 - 3 | <ul style="list-style-type: none"> <li>• Attempts to interrogate and deconstruct information but connections and logical chains of reasoning are flawed.</li> <li>• An unbalanced appraisal of the information/issues, containing judgements that show a limited awareness of the interrelationships between factors or competing arguments.</li> <li>• A conclusion may be presented but it is likely to be generic assertions rather than supported by relevant judgements.</li> </ul> |
| Level 2 | 4 – 6 | <ul style="list-style-type: none"> <li>• Interrogates and deconstructs information and provides some connections and logical chains of reasoning.</li> <li>• A balanced appraisal of the information/issues, containing judgements that show an awareness of the interrelationships between factors or competing arguments.</li> <li>• A conclusion is presented that is partially supported by relevant judgements.</li> </ul>  |
| Level 3 | 7 - 9 | <ul style="list-style-type: none"> <li>• Interrogates and deconstructs information and provides sustained connections and logical chains of reasoning.</li> <li>• A well-balanced appraisal of the information/issues, containing judgements that show a thorough awareness of the interrelationships between factors or competing arguments.</li> <li>• A conclusion is presented that is fully supported by relevant judgements.</li> </ul>  |