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**DESIGN AND TECHNOLOGY**

**9705/13**

Paper 1

**October/November 2017**

MARK SCHEME

Maximum Mark: 120

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**Published**

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This document consists of **5** printed pages.

**Section A**

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
1(a)	Sketch and notes used to show outer and inner layers of blockboard (0–2)	<b>2</b>
1(b)(i)	Appropriate marking out process described (0–2) Appropriate methods of cutting out and smoothing edges described (0–2) Details of appropriate tools, equipment and safety precautions (0–2)	<b>6</b>
1(b)(ii)	Appropriate use of knock-down fitting described (0–3) Details of appropriate tools, equipment and safety precautions (0–3)	<b>6</b>
1(c)(i)	Correct shape including slots drawn (0–3)	<b>3</b>
1(c)(ii)	Correct shape including slots drawn (0–3)	<b>3</b>

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
2(a)	Sketch and notes used to explain that corrugated cardboard is difficult to fold across the corrugations. (0–2)	<b>2</b>
2(b)(i)	Outer shape correct 1 mark (1) 3 slots correctly shown (0–3)	<b>4</b>
2(b)(ii)	Outer shape correct 1 mark (1) 9 folds correctly shown (0–3) 6 slots correctly shown (0–4)	<b>8</b>
2(c)	Limited understanding of how CAM could be used up to 2 marks Good understanding of how CAM could be used up to 4 marks (0–4) Details of appropriate tools, equipment and safety precautions (0–2)	<b>6</b>

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
3(a)	Suitable plastic named 1 mark e.g. acrylic, polystyrene, PVC (polyvinyl chloride) Appropriate reason given 1 mark e.g. available in sheet form, variety of colours available, suitable for vacuum forming (0–2)	<b>2</b>
3(b)(i)	Appropriate method of making pattern described (0–3) Details of appropriate tools, equipment and safety precautions (0–3)	<b>6</b>
3(b)(ii)	Vacuum forming process described (0–3) Details of appropriate tools, equipment and safety precautions (0–3)	<b>6</b>
3(b)(iii)	Appropriate making process described (0–3) Details of appropriate tools, equipment and safety precautions (0–3)	<b>6</b>

**Section B**

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
4(a)	hose to extraction unit is attached here (0–2)	<b>2</b>
4(b)	Problem one identified and described (0–2) Problem two identified and described (0–2) e.g. No safety equipment being worn, work is not secured, hand in front of saw	<b>4</b>
4(c)	Explanation of how problem one could be overcome (0–3) Explanation of how problem two could be overcome (0–3) e.g. Safety goggles, ear defenders, dusk mask being worn Work is secured in an appropriate way, hand move away from saw	<b>6</b>
4(d)(i)	Situation has been analysed and relevant issues/points identified (0–3)	<b>3</b>
4(d)(ii)	Clear and appropriate explanations of why issues/points are considered relevant (0–3)	<b>3</b>
4(d)(iii)	Specific examples/evidence used to support conclusions (0–2)	<b>2</b>

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
5(a)	this feature helps to stop the product being displayed sliding off the front of the display stand (0–2)	<b>2</b>
5(b)	Problem one identified and described (0–2) Problem two identified and described (0–2) e.g. Front of display stand would not slope backwards, missing fold and cut lines, feature <b>X</b> not included	<b>4</b>
5(c)	Explanation of how problem one could be overcome (0–3) Explanation of how problem two could be overcome (0–3) e.g. Development altered so that front slopes backwards, additional fold and cut lines added, feature <b>X</b> added	<b>6</b>
5(d)(i)	Situation has been analysed and relevant issues/points identified (0–3)	<b>3</b>
5(d)(ii)	Clear and appropriate explanations of why issues/points are considered relevant (0–3)	<b>3</b>
5(d)(iii)	Specific examples/evidence used to support conclusions (0–2)	<b>2</b>

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
6(a)	Thin plywood is flexible which makes it suitable for laminating	(0–2) <b>2</b>
6(b)	Problem one identified and described Problem two identified and describe e.g. Chair is not stable, it would fall backwards Two layers of plywood would mean that the chair was too flexible, the seat and back would bend too much when someone sat on the chair	(0–2) (0–2) <b>4</b>
6(c)	Explanation of how problem one could be overcome Explanation of how problem two could be overcome e.g. the base of the chair needs to be made thicker by adding more layers of plywood, this would give the chair more rigidity	(0–3) (0–3) <b>6</b>
6(d)(i)	Situation has been analysed and relevant issues/points identified	(0–3) <b>3</b>
6(d)(ii)	Clear and appropriate explanations of why issues/points are considered relevant	(0–3) <b>3</b>
6(d)(iii)	Specific examples/evidence used to support conclusions	(0–2) <b>2</b>

**Section C**

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
7(a)	<p>One pre-conceived Idea presented (0–4)</p> <p><b>OR</b></p> <p>The development and selection of a range of ideas into a single design proposal which would appear to work but lacks some technical detail (5–8)</p> <p><b>OR</b></p> <p>The development and selection of a range of Ideas into a single design proposal that Includes sufficient technical detail to show that the proposed solution would clearly work (9–12)</p> <p>Clarity and quality of sketching and explanatory notes (0–4)</p> <p>Evaluation (reasons for selection) (0–4)</p>	<b>20</b>
7(b)	As for part (a)	<b>20</b>
7(c)	As for part (a)	<b>20</b>
7(d)	<p>The drawing will exhibit a reasonable standard of outcome and show some of the required design features (0–5)</p> <p><b>OR</b></p> <p>The drawing will exhibit a good standard of outcome and show most of the design features required to make the product function as intended (6–9)</p> <p><b>OR</b></p> <p>The drawing will be completed to a high standard of outcome and fully show the design features required to make the product function as intended (10–14)</p> <p>Some use made of colour and tone to enhance the visual Impact of the drawing (0–2)</p> <p><b>OR</b></p> <p>Good use has been made of colour and tone to enhance the visual impact of the drawing (3–4)</p> <p><b>OR</b></p> <p>Very good use has been made of colour, tone and material representation to enhance the visual impact of the drawing (5–6)</p>	<b>20</b>

**Questions 8 and 9 as for Question 7**