

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International Advanced Subsidiary and Advanced Level

MARK SCHEME for the October/November 2014 series

9705 DESIGN AND TECHNOLOGY

9705/13

Paper 1, maximum raw mark 120

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Section A

1	<p>(a) Each appropriate reason 1 mark e.g. reason related to lower cost reason related to it being safer to use more environmentally friendly</p>	[1] [1]	[2]
	<p>(b) (i) Appropriate cutting and smoothing processes described Details of appropriate tools, equipment and safety precautions</p>	[0–3] [0–3]	[6]
	<p>(ii) Appropriate bending process described Details of appropriate tools, equipment and safety precautions</p>	[0–3] [0–3]	[6]
	<p>(iii) Welding process described Details of appropriate tools, equipment and safety precautions</p>	[0–3] [0–3]	[6]
		[Total: 20]	
2	<p>(a) (i) Suitable glue named e.g. PVA, glue stick, glue gun, spray adhesive</p>	[1]	[1]
	<p>(ii) Suitable material named e.g. foamboard, MDF, acrylic</p>	[1]	[1]
	<p>(b) (i) Appropriate marking out process described Appropriate marking out and assembly processes described Details of appropriate tools, equipment and safety precautions</p>	[0–2] [0–2] [0–2]	[6]
	<p>(ii) Appropriate marking out process described Appropriate cutting out and assembly processes described Details of appropriate tools, equipment and safety precautions</p>	[0–2] [0–2] [0–2]	[6]
	<p>(iii) Four pieces drawn Three fins drawn in line close together Four pieces correctly laid out</p>	[1] [2] [3]	[3]
	<p>(iv) Appropriate cutting out process described Some details of appropriate tools</p>	[0–2] [1]	[3]
		[Total: 20]	

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- 3 (a) Appropriate method described [0–2] [2]
e.g. matt black paint and chalk
matt white finish and board marker (felt pen)
- (b) (i) Appropriate cutting and smoothing processes described [0–3]
Details of appropriate tools, equipment and safety precautions [0–3] [6]
- (ii) Appropriate method of making groove described [0–2]
Appropriate method of making sloping sides described [0–2]
Details of appropriate tools, equipment and safety precautions [0–2] [6]
- (iii) Varnishing process described [0–3]
Details of appropriate tools, equipment and safety precautions [0–3] [6]
- [Total: 20]

Section B

- 4 (a) Appropriate explanation of the purpose of feature shown at X [0–2] [2]
e.g. This, along with the other three cut outs, allows the top to fit onto the base. The top is then rotated to lock it in place.
- (b) Problem one identified and described [0–2]
Problem two identified and described [0–2] [4]
e.g. parts A and B will not fit together as the slots are not long enough
the table is not stable as the bottom is too small
- (c) Explanation of how problem one could be overcome [0–3]
Explanation of how problem two could be overcome [0–3] [6]
e.g. length of slots needs to be increased
bottom needs to be wider than the top
- (d) Situation has been analysed and relevant [0–3]
Issues/points identified [0–3]
Clear and appropriate explanations of why issues/points are considered relevant [0–3]
Specific examples/evidence used to support conclusions [0–2] [8]
- [Total: 20]

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- 5 (a) Purpose of piece of paper shown at X clearly explained
e.g. it is glued over the handles onto the bag and reinforces the joining of the handles to the bag [0–2] [2]
- (b) Problem one identified and described [0–2]
Problem two identified and described [0–2] [4]
e.g. some of the fold lines are missing
the bottom of the bag is too small and will not join together
- (c) Explanation of how problem one could be overcome [0–3]
Explanation of how problem two could be overcome [0–3] [6]
e.g. the three missing fold lines need to be added
the 25 mm at the bottom of the development needs to be increased to 55+ mm so that the parts that form the bottom of the bag can be glued together
- (d) Situation has been analysed and relevant issues/points identified [0–3]
Clear and appropriate explanations of why issues/points are considered relevant [0–3]
Specific examples/evidence used to support conclusions [0–2] [8]
- [Total: 20]**
- 6 (a) (i) Dowel is chamfered so it goes in hole easily [1] [1]
- (ii) Groove allows excess glue to squeeze out [1] [1]
- (b) Problem one identified and described [0–2]
Problem two identified and described [0–2] [4]
e.g. no way of attaching jig to the wood
no way of locating position of jig (holes) on wood
- (c) Explanation of how problem one could be overcome [0–3]
Explanation of how problem two could be overcome [0–3] [6]
e.g. show method of attaching jig to wood
show method of locating the position of the jig on the wood
so that holes are drilled in the correct places
- (d) Situation has been analysed and relevant issues/points identified [0–3]
Clear and appropriate explanations of why issues/points are considered relevant [0–3]
Specific examples/evidence used to support conclusions [0–2] [8]
- [Total: 20]**

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Section C

7	<p>(a) One pre-conceived Idea presented [0–4]</p> <p>OR</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>OR</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] [20]</p>
	<p>(b) As for part (a) [20]</p>
	<p>(c) As for part (a) [20]</p>
	<p>(d) The drawing will exhibit a reasonable standard of outcome and show some of the required design features [0–5]</p> <p>OR</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>OR</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>OR</p> <p>Good use has been made of colour and tone to enhance the visual impact of the drawing [3–4]</p> <p>OR</p> <p>Very good use has been made of colour, tone and material representation to enhance the visual impact of the drawing [5–6] [20]</p> <p style="text-align: right;">[Total: 80]</p>

Questions 8 and 9 as for Question 7