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## **MARK SCHEME for the October/November 2014 series**

### **9705 DESIGN AND TECHNOLOGY**

**9705/13**

Paper 1, maximum raw mark 120

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Page 2	Mark Scheme	Syllabus Paper
	Cambridge International AS/A Level – October/November 2014	970

**Section A**

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

Page 3	Mark Scheme	Syllabus	Paper
	Cambridge International AS/A Level – October/November 2014	970	

- 3 (a) Appropriate method described  
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  
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]

Page 4	Mark Scheme	Syllabus	Paper
	Cambridge International AS/A Level – October/November 2014	970	

- 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
- (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]**

Page 5	Mark Scheme	Syllabus Paper
	Cambridge International AS/A Level – October/November 2014	970

**Section C**

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

Questions 8 and 9 as for Question 7