

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International Advanced Subsidiary and Advanced Level

## **MARK SCHEME for the October/November 2015 series**

### **9705 DESIGN AND TECHNOLOGY**

**9705/12**

Paper 1, maximum raw mark 120

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### Section A

1	(a) Manufacture of a set number (1 mark) of identical products (1 mark)	[2]	[2]
	(b) Size and proportion of outer rectangle	[0–2]	
	Cut out section	[0–2]	
	1 mark for each correct cut line	[2]	[6]
	(c) (i) Appropriate laminating process described	[0–3]	
	Details of appropriate tools, equipment and safety precautions	[0–3]	[6]
	(iii) Appropriate threading process described	[0–3]	
	Details of appropriate tools, equipment and safety precautions	[0–3]	[6]
			<b>[Total: 20]</b>
2	(a) (i) Side flaps folded over	[0–2]	
	Large flap folded over	[0–2]	
	Securing flap folded and inserted into slot in large flap	[0–2]	[6]
	(ii) Side flaps folded over	[0–2]	
	Large flaps folded over and securely locked together	[0–4]	[6]
	(iii) Correct development (net) drawn	[0–3]	
	Making and use of templates appropriately described	[0–3]	[6]
	(b) 1 mark for each suitable reason given		
	e.g. will last longer	[1]	
	easier to draw round because it is rigid	[1]	[2]
			<b>[Total: 20]</b>
3	(a) (i) Appropriate cutting out and smoothing processes described	[0–3]	
	Details of appropriate tools, equipment and safety precautions	[0–3]	[6]
	(ii) Appropriate cutting and rounding processes described	[0–3]	
	Appropriate method for angling top at 15 degrees described	[0–2]	
	Details of appropriate tools, equipment and safety precautions	[0–2]	[6]
	(iii) Hinges shown in appropriate position	[0–2]	
	Appropriate method for fixing hinges described	[0–2]	
	Details of appropriate tools, equipment and safety precautions	[0–2]	[6]
	(b) 1 mark for each suitable reason given		
	e.g. improves appearance	[1]	
	easier to clean	[1]	[2]
			<b>[Total: 20]</b>

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### Section B

<b>4</b>	<p><b>(a)</b> Notes and a sketch used to explain that the blade goes in slot and the peg on the blade fits in the groove</p>	[0–2]	<b>[2]</b>
	<p><b>(b)</b> Problem one identified and described          Problem two identified and described          e.g. nothing to hold the metal bar in place while first bend is made          not possible to bend metal bar around all of the pegs if they are all fixed.</p>	[0–2] [0–2]	<b>[4]</b>
	<p><b>(c)</b> Explanation of how problem one could be overcome          Explanation of how problem two could be overcome          e.g. add an additional peg or other method of securing end of rod while first bend is made          make at least two of the pegs removable so that rod can be bent          pegs can be replaced to allow further bending to take place</p>	[0–3] [0–3]	<b>[6]</b>
	<p><b>(d)</b> Situation has been analysed and relevant issues/points identified          Clear and appropriate explanations of why issues/points are considered relevant          Specific examples/evidence used to support conclusions</p>	[0–3] [0–3] [0–2]	<b>[8]</b>
			<b>[Total: 20]</b>
<b>5</b>	<p><b>(a)</b> Appropriate explanation of the sticker’s function          e.g. holds the packaging together and improves security</p>	[0–2]	<b>[2]</b>
	<p><b>(b)</b> Problem one identified and described          Problem two identified and described          e.g. development it too small it will not fit over the insert          there is no top to lid it will slide too far down the insert</p>	[0–2] [0–2]	<b>[4]</b>
	<p><b>(c)</b> Explanation of how problem one could be overcome          Explanation of how problem two could be overcome          e.g. 124 is increased to between 125 and 127 and 12 to between 13 and 15          An appropriate top and glue tabs are added to the development</p>	[0–3] [0–3]	<b>[6]</b>
	<p><b>(d)</b> Situation has been analysed and relevant issues/points identified          Clear and appropriate explanations of why issues/points are considered relevant          Specific examples/evidence used to support conclusions</p>	[0–3] [0–3] [0–2]	<b>[8]</b>
			<b>[Total: 20]</b>

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6	<p>(a) Appropriate explanation of the purpose of the pipes e.g. pipes are used to heat the die which makes forming the plastic easier</p>	[0–2]	[2]
	<p>(b) Problem one identified and described Problem two identified and described e.g. shape of die is not complete there is no screw thread there is no way of getting the bottle out of the die</p>	[0–2] [0–2]	[4]
	<p>(c) Explanation of how problem one could be overcome Explanation of how problem two could be overcome e.g. appropriate screw thread has been added die is clearly shown as a split die</p>	[0–3] [0–3]	[6]
	<p>(d) Situation has been analysed and relevant issues/points identified Clear and appropriate explanations of why issues/points are considered relevant Specific examples/evidence used to support conclusions</p>	[0–3] [0–3] [0–2]	[8]
			<b>[Total: 20]</b>
7	<p>(a) One pre-conceived idea presented <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 <b>OR</b> The development and selection of a range of ideas into a single design proposal which would appear to technical detail to show that the proposed solution would clearly work Clarity and quality of sketching and explanatory notes Evaluation (reasons for selection)</p>	[0–4]  [5–8]  [9–12] [0–4] [0–4]	[20]
	<p>(b) As for part (a)</p>		[20]
	<p>(c) As for part (a)</p>		[20]
	<p>(d) The drawing will exhibit a reasonable standard of outcome and show some of the required design features <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 <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  Some use made of colour and tone to enhance the visual impact of the drawing <b>OR</b></p>	[0–5]  [6–9]  [10–14]  [0–2]	

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Good use has been made of colour and tone to enhance the visual impact of the drawing

[3–4]

**OR**

Very good use has been made of colour, tone and material representation to enhance the visual impact of the drawing

[5–6]

**[20]**

**[Total: 80]**

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